DEVELOPMENTAL OUTCOMES OF MARITAL AND PARENTING VARIABLES FOR CHILDREN WITH CONDUCT PROBLEMS

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Abstract

Developmental Outcomes of Marital and Parenting Variables
for Children with Conduct Problems

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For a sample of 70 clinic-referred children with conduct problems (CP), and their families, family interaction variables measured at post-treatment were used to predict child problem behaviors one year later. Structural Equation Modeling (SEM) was utilized to identify factors for the child outcome, and for the marital and parenting processes. It was hypothesized that positive and negative factors for parenting and marital processes would emerge, and that all four factors would predict child outcome. Two child outcome factors were developed: one for child social competence and one for child negative/immature emotion. The child outcome factors utilized measures from three informants, parent, teacher and objective observer. Positive and negative marital behavior factors were constructed from observations of marital interaction, as well as a third marital factor based on self-report of marital consensus. Parent observation variables were employed as single-indicator factors, one negative and one positive. Positive and negative marital and parenting factors

provided a model of how family processes affect child social competence and child management of negative emotion. Models showed that marriage has both direct and indirect effects on child outcome, and that positive marriage in particular directly effects child social competence. Parenting has effects on both child social competence and child emotion management: mother inappropriate parenting predicted less social skill, and father praise predicted better management of negative, immature emotionality for the child. The finding for indirect effects showed that mothers' parenting practices (inappropriate parenting) mediate the effects of negative marital processes. This exploratory study has clinical implications for prevention and intervention work for children with CP. It appears that increasing particular interaction skills in the home can help these children: increasing positive marital communication, increasing father praise and decreasing inappropriate discipline practices can separately and independently contribute to child improvement. Furthermore, for young children with CP it is important to focus on their regulation of a range of negative emotions, as well as their developing social competence.

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Acknowledgments

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CHAPTER 1

INTRODUCTION

Currently there is a great deal of interest in the developmental course of children and youth with conduct problems. To the degree that at-risk children with conduct problems, referred to as CP in this study, develop full blown conduct disorder, or later anti-social personality disorder, they cause major disruption in society. Studies have established the association between events in the home, primarily marital discord and negative parenting practices, and the development of conduct problems. However, little research attention has been directed to positive marital and positive parenting behaviors that also occur in families of children with conduct problems and scant attention has been focused on how these variables may moderate or mediate the impact of the negative interactions.

The purpose of this dissertation research is to examine the relationship among a) CP child variables b) marital variables, and c) parenting variables. Thus, the theoretical framework underlying the research considers both the individual child and family system variables that impact the child -- relationships between parents and relationships between parents and children. The potential contribution of this research is that both positive and negative marital and parenting variables are being considered. By considering both the positive and negative variables, we may be able to predict more accurately the mediating influences that lead to healthy behavioral outcomes for children.

CHAPTER 2

CHILDREN WITH CONDUCT PROBLEMS

Among youth, the highest rate of referral for mental health services involves aggressive and disruptive behavior issues (Quay, 1986), a trend that has increased over the last two decades (Achenbach & Howell, 1993). Depending upon populations sampled, and diagnostic criteria used, conduct problems affect between two and 10% of children, mostly boys (Quay, 1986; Hinshaw & Anderson, 1994). Children with conduct problems will display a number of "acting out" behaviors, ranging from the less severe whining and irritability to more serious acts of aggression and stealing (Este & McMahon, 1996). Singly, some of these behaviors may not indicate pathology, but clustered as a syndrome, and persisting over time, conduct problems indicate severe deficits in social-emotional functioning.

Conduct problems (CP) include the behaviors listed under separate, narrower DSM-IV (American Psychiatric Association, 1994) categories: Oppositional Defiant Disorder (ODD) and Conduct Disorder (CD). The behaviors in these syndromes appear to be developmentally linked, with ODD appearing earlier; therefore from a developmental perspective it is useful to refer to a general class of problematic disruptive behaviors called conduct problems. Specific CP behaviors may differ over development, depending on the age and gender of child, particular developmental trajectory and the social risk-factors operating, but the presence of conduct problems in general shows a pattern of stability. In this report, the term CP designates a cluster of disruptive behaviors, and the CD and ODD labels are used only when diagnoses

are specified by cited research reports.

Characteristic behaviors of children with CP are noticeable. Verbal and physical aggression are prominent features (Lytton, 1990; Quay, 1986), especially when the syndrome begins early in life. Children with aggressive conduct problems may display behaviors such as argumentativeness, noncompliance, defiance, temper tantrums, fighting and stealing. There may be noticeable competitiveness, self-centeredness and insensitivity to others. There also can be failures to establish affection, empathy and positive relations with others (Kazdin, 1987). CP is often associated with poor peer relations, social rejection and difficulty managing emotions, as well as poor academic achievement, particularly in language areas (Moffitt, 1990; Moffitt, 1993; Patterson, Capaldi, & Bank, 1991).

Definitional Issues

Definitional issues have plagued CP research literature as well as our understanding of the disorder. One controversy is whether the disruptive behavior disorders should be called a mental disorder at all, a controversy still alive in our educational and legal systems. Moral and social frameworks are used to question whether we can call CP behavior an intrapersonal impairment rather than a moral choice, and whether a disorder with such close connections to social context can truly be called psychological rather than social. Furthermore, some forty years of documented CP research can be difficult to interpret and link together because of the variety of labels and descriptors used in research reports, most of which are non-diagnostic. It is difficult to know on what basis the youth in many studies can be

compared to one another. Study population samples include youth designated as delinquent, refractory, behavior disordered, disruptive and psychopathic. Some descriptors are legal, some are psychological, and some are plainly pejorative.

The heterogeneity of the disorder is one of our greatest current challenges. Over the last twenty years three or four important approaches for categorizing and tracking conduct disorder/antisocial behavior have emerged. The distinctive characteristics of these systems rely on 1) whether problems began in childhood versus adolescence or early-onset versus late-onset CP (Hinshaw, Lacey, & Hart, 1993; Moffitt, 1993); 2) whether deviant behaviors involve primarily overt behaviors (defiance, aggression, tantrums, fighting) or covert behaviors (lying, stealing, cheating) (Loeber & Schmalling, 1985); 3) whether aggression is involved or is not involved; and 4) whether an undersocialized versus socialized personality orientation is noted (Quay, 1986). Out of these four approaches characterizing CP behaviors, two general categories of CP have emerged. Early-onset CP is linked with aggression and unsocialized behavior. Later-onset CP, usually emerging in adolescence, is linked with more covert deviant behavior that is often performed in the company of fellow deviant peers. This form of CP can be difficult to distinguish from the extreme end of normal adolescent rebellion, and the prognosis is less dire. It is the early onset conduct problem child, who engages in overt and aggressive activities, and who presents an undersocialized interaction pattern, with whom we are most concerned.

Many have noted the research limitations of DSM-IV classification of

Conduct Disorder (CD) and Oppositional Defiant Disorder (ODD). The two are classified as separate disorders, with irritable, argumentative, oppositional and defiant behaviors, often more characteristic of younger CP children, the hallmark of ODD. ODD can be difficult to diagnose, and often is not diagnosed, because ODD behaviors can be limited to the home, and because many of the behaviors are normal to some degree in young children. More deliberate acts such as truancy, theft, destruction of property (including fire-setting), and cruelty to people or animals, behaviors more probable and more characteristic of older children, are defined as CD behavior. Diagnoses of both syndromes require a specified number of symptoms that have persisted for six or more months. There are a number of problems with limiting oneself to the DSM system. First of all, the two syndromes are often not distinct, especially in the young school-age child. Characteristics of both disorders are often present in the same person (Hinshaw & Anderson, 1996; Lahey, Loeber, Quay, et al., 1992) who then receives a CD diagnosis only. ODD may be present but missed because it is difficult to distinguish from normal behavior. In addition, researchers have not always been careful to specify whether their CD label accurately reflects a CD diagnosis, or whether CD is being used broadly to describe problems with externalizing behavior. The term Conduct Problem (CP) avoids some of the problems with the constraints, categorization and assumptions of the DSM system. Conduct Problem (CP) is a more general term applied to children who have exhibited a cluster of these problem behaviors, which have persisted over time and are having a detrimental effect on the child's social functioning.

Developmental Pattern from Preschool to Middle Elementary Years

CP can begin as early as between the first and fifth birthday (Loeber, 1991). The 'early starter' CP child has been identified as being on a separate developmental trajectory from the child who develops CP later in life (Moffitt, 1993; Patterson et al., 1991), and is at greater risk for lifelong mental illness. In fact, the early starter type of CP carries a poorer prognosis for adulthood than any other disorder except psychosis (Quay, 1986). When conduct disorder develops early, it develops in the home, often becoming entrenched in relationship patterns and failures. From home, aggressive and offensive behaviors tend to generalize out into the school and peer system, and then from there into the community (Patterson, DeBarysche & Ramsey, 1989; Patterson et al., 1991). The spread of behavior problems to new and larger settings has implications for the severity and prognosis of the disorder. It is not the kinds of CP behaviors but the number of behaviors and the number of settings in which they engage in these behaviors that promise the worst outcome for CP children (Kazdin, 1987; Patterson, Reid & Dishion, 1992).

A developmental pattern is often apparent with early-onset CP, with a high degree of continuity present in these children (McMahon, 1994; Moffit 1993; Rose, Rose, & Feldman, 1989). Older children most likely to be chronically antisocial are those who first showed the less severe ODD behavior in preschool, followed by the early onset of the more severe CD symptoms during elementary school years (Webster-Stratton, 1993).

A typical progression of behavior problems may occur as follows. If a child's

early temperamental difficulties, including poor emotion management, is met with parental incompetence, due to personal limitations and/or life stresses, there is a good chance the child's behavior will be poorly managed. Parenting failures may result in the child's defiant, noncompliant, angry and aggressive behavior, and may further exacerbate parenting problems. The child's social-cognitive skills may be adversely affected by years of coercive interactions with his parents (McMahon, 1994). The CP child enters school with massive social skills deficits, poor emotion regulation and a tendency to commit aggressive acts, finding himself rejected by peers during early school years (Patterson et al., 1991). Fighting behavior may emerge, which can indicate the further development of CP (Patterson et al., 1992). The majority of aggressive boys with CP are rejected by their peers in school (Patterson et al., 1991). Rejection and isolation, punctuated by episodes of social inappropriateness and fighting, may persist through early school years, leading to internalizing disorders, particularly depression (Patterson et al., 1989). In addition, many CP children show academic deficits, due to either innate learning problems (Moffitt, 1993) or failures to master on-task behavior (Patterson et al., 1989). Sometime during adolescence the formerly rejected child may find a deviant peer group who accepts him when few others have, further encouraging and rewarding antisocial behavior (Coie, Lochman, Terry, & Hyman, 1992; Dishion, Patterson, Stoolmiler, & Skinner, 1991).

Current thinking about child psychopathology in general, and CD in particular, suggests that the development of a disorder is a complex, transactional process involving a number of factors (Hinshaw & Anderson, 1996). Risk factors for

the development of antisocial behavior have been identified. These factors include child characteristics such as neurological deficits or temperamental difficulties, parent psychopathology, family interaction patterns and a stressful, unsupportive social environment. Researchers agree that the interplay of these biological, social and cultural factors is bi-directional and transactional; it is not the sum of a certain number of predictors, but the way risk factors exacerbate their influence on each other and on the outcome event that predicts antisocial adulthood (Hinshaw & Anderson, 1996). Furthermore, this interplay of risks is particularly potent for the early-onset type of CP, whose course leads to the more serious, versatile, "covert and overt", or undersocialized aggression (Quay, 1986).

Importance of Early Identification and Monitoring

Conduct disorder is almost universally preceded by less severe ODD behaviors (Campbell, 1991; Lahey et al, 1992) although the reverse is not necessarily the case. From half to as many as three-quarters of ODD children will not go on to engage in antisocial behavior (Campbell, 1991; Lahey et al., 1992). Although many difficult preschoolers will not develop severe conduct problems, it is nonetheless important to attend to the early presence of oppositional behavior. Persistent opposition and defiance indicate a child is at risk. As ODD is detected two to three years earlier than CD, it may be the only clue that CD will later develop. Yet there are a number of reasons why it may be difficult to predict antisocial behavior from the defiance and temper tantrums of a preschooler. One reason may have to do with the developmental pattern of conduct problems, whereby the same child's specific

conduct problem behaviors often vary greatly over the developmental course. It is often difficult to untangle the 'extreme but still normal' defiant behaviors of early childhood from those that indicate pathology, and the need to attend to a child's development. Then again, the fact that many very noncompliant young children do not go on to evidence conduct disorders may be a tribute to the plasticity of human development, particularly when under the influence of changing and improving social circumstances. The importance of researching the development of CD, and especially the social and familial factors which put an early-onset CP child at risk for developing CD, has never been more apparent. If we do not successfully intervene with these at-risk children while they are young, the costs to the child and to society as a whole may be enormous (Moffitt, 1993). Successful intervention will depend, in part, however, on knowing which variables early in development are most predictive of later behavioral outcomes.

CHAPTER 3

FAMILIES WITH CONDUCT PROBLEM CHILDREN

Family Characteristics

Aversive interactions in the home have been implicated in numerous studies of the development of conduct problems. Negative interaction patterns in the home have been identified as key to the development of CP, with the most conclusive research on the etiology of CP focused on aversive parent-child interaction. However, those aversive interactions are not limited to parent-child interaction; they tend to permeate the whole family system. More recently it has been observed that parent-parent relationships in such families are also often aversive and reflect some of the same kinds of maladaptive interactions as those involving the CP child (Webster-Stratton & Hammond, 1999). Specifically, parallels in aversive control practices as well as negative affectivity have been identified in families where there is marital discord or problems with aggressive or noncompliant children (Biglan, Lewin, & Hops, 1990; Patterson, Capaldi & Banks, 1991). Negative behaviors apparent in the marital relationship may generalize to parenting practices, with difficulties in the marriage driving the development of parenting, sibling and child problems. Ultimately, negative interactions among family members may signal a system-wide lack of communication skills among individuals.

Emotionally negative, hostile and aggressive interactions between parent and child have been targeted as the key feature in developing conduct disorder in the home (Campbell, 1991; Capaldi & Patterson, 1994; Dishion, Patterson, Kavanaugh,

1992; Patterson, 1982; Patterson, et al.,1992). The mutually coercive cycles that have been observed in some homes have been called a "training ground for CP". Parents and children have been found to be locked into interaction styles that depend upon escalating punishment and hostile behavior as the way to end mutual mistreatment. Indeed, research has found that children high in negative, aggressive behavior live in environments that foster, model and reward aggression and coercion (Patterson, 1986). Families with CP children have been found to differ from non-CP families in that the whole family system is disrupted (Patterson et. al., 1992). Only recently has the relationship between the marital and parenting variables been examined in relationship to developmental outcomes for conduct problem children. These marital variables are best understood in the context of parenting practices in these families. Two important aspects of the parenting practices are parent management and negative parent-child relationships.

Parenting Practices

Parent Management. Parents of anti-social children have been found to be unsuccessful disciplinarians who use inconsistent and ineffective discipline strategies, and demonstrate harsh, intrusive and punitive parenting practices (Patterson, 1982; Patterson et al., 1992). These parents frequently also show poor monitoring of their children's whereabouts and behavior. It is the parents' failure to teach a reasonable level of compliance that sets the coercive cycle in motion, and which Patterson hypothesizes, teaches children to be aggressive and antisocial (Patterson, 1982; 1986). Patterson's 'coercion hypothesis' suggests that children

learn aggressive, negative behavior in those frequent coercive interactions with their parents; in fact he calls coercive cycles a "training ground" for antisocial behavior.

Social learning theory posits that behavior is learned directly from the family via modeling and reinforcement. In the case of the CP child, learning occurs primarily in negative interactions with family members who are often focused on gaining compliance from a noncompliant child. Children learn aggressive, coercive behavior not only because that is the behavior they see modeled, but also because they are rewarded for aggression and coercion (Patterson, 1982; Patterson et al., 1992). The mechanism at work is negative reinforcement, the removal of an unpleasant event or demand. For instance, when a parent commands a child to do a chore, and the child refuses, and the parent threatens, and the child has a tantrum, both parent and child are rewarded in the short term if the parent backs down from the command. The child does not have to do the chore, and the parent gains peace and quiet. Mothers of CP children initiate aversive demands two to three times more often than mothers of non-CP children (Patterson, 1982; Patterson et al., 1992), supporting Patterson's claim that the child's behavior serves the function of removing the parental demands. During home visits observers noticed that the child's negative behavior often ceased immediately when the parent demands ceased.

One reason CP families repeatedly fall into and fail to extricate themselves successfully from coercive interchanges is poor parent management practices. In addition to initiating more aversive interactions, parents (in this case, mothers) of CP children fail to parent consistently: they do not persist when they command, and they

do not follow up with discipline (Patterson, 1982). They tend to punish harshly and intrusively when they do punish, as though to make up for a lack of consistency. Mothers are more likely to be indiscriminate in their responses to their children (Patterson, 1976). Gardner (1989) found that parents of CP children were eight times more likely than parents of non-CP children to back down on commands to their child. Furthermore these mothers were more likely to back down on a parent-command than a child-demand, again suggesting that aversive behavior is a counter to and means of escape from parental commands. Patterson and his colleagues (1992) found clinic-referred conduct problem children were as likely to win power-struggles as were their parents, unlike the normal families they studied where parents usually prevailed. They found an irritable style of parenting in CP families, reactively negative rather than planful and effective.

Negative Parent-Child Relationship. Emotionally negative parent-child relations have been observed in conduct problem households (Patterson et al., 1992; Gardner, 1992). Negative parental behaviors such as coldness, intrusiveness, hostility and lack of response to child cues have been consistently related to poor child outcomes (Denham, 1989; Gottman & Katz, 1989; Tronick, 1989). Parenting in CP families is characterized as harsh, critical, and negative (Campbell, 1991; Patterson, 1982; Patterson et al., 1992; Webster-Stratton, 1985; Webster-Stratton & Hammond, 1999), with a more negative emotional climate permeating the home. Mothers are more likely to be indiscriminately negative to their CP child, extending at times to negative responses for children's appropriate behavior (Patterson, 1976). Parent-

child interactions in CP homes differ from non-CP homes when the number, duration and intensity of angry, negative interactions are examined (Patterson et al., 1992). The CP child is more likely to persist at reacting negatively (Patterson, 1982); the angry sequences are longer, occur more frequently, and parents are more likely to react negatively (Patterson, 1982; Patterson et al., 1992).

Effective management of such negative emotion episodes is an important aspect of parenting a CP child (Greenberg, Speltz & DeKlyen, 1993). The behaviorally disordered child is often overwhelmed by negative affect. Parental availability and acceptance of negative emotion can be particularly salient for the CP child (Greenberg et al., 1993). A parent who can maintain a relationship with a difficult child, and help the child learn appropriate regulation, is one who does not become agitated or disorganized by the child's display of strong affect. If the parent is able to accept the preschoolers' expression of affect, while also modeling appropriate control and expression, the child is more likely to learn to regulate anger. The regulation of anger is associated with a parent's neutral acceptance of the emotion (Malatesta, Culver, Tesman et al., 1989), as is the regulation of distress with the maternal acceptance of that emotion (Denham, 1989; Hooven & Katz, 1993).

For CP children, the child's intense negative affect is often seen as overwhelming by parent and child, especially when it initiates coercive cycles. Negative interaction with parent and child has been observed to be mutual and bi-directional (Hinshaw & Anderson, 1996) in CP households. However, Patterson and colleagues (1992) found that even when controlling for the child's negativity,

parental negativity was significantly higher in CP homes. The importance of parental control of the negative affect is suggested. In one study, parental assistance with actual anger episodes was found to predict better regulation of anger in several contexts, including informal play sessions, and classroom interactions (Hooven, Gottman, & Katz, 1994). This latter study supported work by Roberts and Strayer (1987) which suggested that both proactive engagement in a child's negative affect displays and the proactive teaching of emotion strategies when children are emotional, help children accept and regulate their own emotion more effectively.

As children get older, connections emerge between poor parental management, mutual negative affectivity and the child's controlling behavior. Speculations from a number of theoretical frameworks suggest some children will strive to exert control over parents who have been unpredictable and inconsistent. Studies adapting Ainsworth's Strange Situation to older children noted the emergence of control tactics by six-year-old children (Main & Solomon, 1990): When there was a history of unusually inconsistent parenting, the child's reunion behavior was domineering and directive toward the parent. Similar notions regarding the function of mutual negative affect come from both the attachment literature (Speltz, 1988) and continuity theory (Wahler & Dumas, 1986). Because the CP parent is less responsive, available and predictable, the child's angry aversive behavior exerts some control over the unpredictable parent. It may be that the child's aversive behavior serves his need for predictability and safety. The parent's harsh, angry response to negative behavior may be the most predictable response the child

can achieve, and may serve the needs for proximity and predictability.

Marital Discord and Parenting

Marital dissatisfaction and discord have been implicated in a number of child adjustment problems, particularly children's conduct problems. These effects are especially important for the pre-school and early school age child (Gottman & Katz, 1989; Maccoby, 1980) whose emotion-regulation abilities are developing. A child this age is at greatest risk to become the "early starter" type CP. At this age a child is often aware of conflict, and even drawn into it, but his rudimentary coping abilities often cannot meet the demands of such emotionally arousing and threatening activity. Several studies have demonstrated that it is the child with externalizing problems who is most aroused, and most aggressive, when exposed to expressed interadult conflict (Cummings, 1994). Given the toll that child conduct problems exert on family, school and societal functioning, understanding the components of marital discord that lead to or exacerbate child conduct problems is imperative. This understanding is particularly important for the population of children already identified as having serious conduct problems.

In the last decade research has focused on specifying how marital dissatisfaction is expressed (Christensen, 1988; Gottman, 1993; Gottman & Levenson, 1992; Katz & Gottman, 1994). Maritally dissatisfied couples, especially those heading for divorce, express a great deal of negative affect (Gottman & Levensen, 1992) as well as difficulty resolving disagreements, and children in the home are often exposed to those emotions. When couples experiencing marital

distress do not expose their children to their conflict (the so- called "encapsulated" marital conflict, Hetherington, Cox & Cox, 1982), there are fewer negative effects. However, intense disagreements, poor communication skills, repeated failure to come to resolution, and finally, marital disintegration, may make it difficult if not impossible to hide conflict. Couples who repeatedly disagree and fail to come to resolution often find over time that they more easily anger each other, and that anger is more strongly felt (Cummings, 1994). In spite of better intentions, unhappy, couples with unresolved conflicts find that they cannot shield their children from their unhappiness and anger. Furthermore, conflicts that extend over a long period of time may lead to more corrosive and derogatory styles of interacting, exposing children to ever more uncontrolled and negative episodes.

Studies have attempted to specify what aspects of interparental conflict are most detrimental to child adjustment. Cummings and his colleagues, in a series of studies (Cummings, 1987; Cummings, Vogel, Cummings & El-Sheikh, 1989; Cummings, Pellegrinia, Notarius & Cummings, 1989; El-Sheikh, Cummings & Goetsch, 1989), demonstrated that exposure to interadult anger is related to children's distress, physical aggression and constricted play behavior immediately afterwards. On the other hand, exposure to anger alone has not necessarily been detrimental for children. Katz and Gottman (1994) found that it is not exposure to angry conflict, but specific kinds of emotion combinations that were harmful for children. Hostile, derogatory and disparaging attitudes predicted externalizing behavior in children, and angry wives and withdrawn husbands predicted

internalizing behavior in children three years later. Both patterns reflected breakdowns in marital communication, and failures to resolve differences, resulting in overt conflict. Both the emotional and the content aspects of conflict relate to the child's response. Exposure to conflict that is resolved emotionally as well as logically has been found to be less disturbing than unresolved conflict. Frequency and intensity of quarrels relate to externalizing problems (Jenkins & Smith, 1990), as does fighting about the children themselves (Grych & Fincham, 1990). Such fights about the child are more problematic for children (Block, Block & Morrison, 1981) than fights about other topics.

Direct effect theories posit that maladjusted children have been directly affected by being exposed to marital conflicts as they occur. One of these theories, the social learning theory, posits that children can learn angry argumentative behavior directly from their parents because their parents model failure to resolve conflict and offer no alternate model for peaceful conflict resolution (Easterbrook & Emde, 1988). In families where conflict is frequent and aversive, children may learn that their own angry defiant behavior is an effective way to distract their parents. Children who intervene by misbehaving, and are rewarded by having their parents cease fighting, are reinforced for misbehaving, albeit at a cost. The family system perspective suggests that the child who misbehaves to get his parents to stop fighting is being 'scapegoated'. That child's behavior distracts the family from the parents' marriage, and unites the conflicted parents in blaming the child for their problems (Christensen & Margolin, 1988). Intervening in any manner in parental quarrels can

be dangerous for children. Jenkins (1989) found that children who attempt to intervene in parental conflicts show more behavioral problems than children who do not, even when the severity of frequency of the quarrel is controlled.

Physiological measures have been used to support a biological model of the transfer of marital discord. Gottman and Katz (1989) suggest that the direct effects of marital conflict stress the young child's emerging emotion-regulation skills. Angry verbal exchanges are experienced as an assault on the child's developing, and hence, vulnerable, coping skills, and disrupt and overwhelm controls over physiological responses to emotion. Cumming's work (1994) on exposure to anger suggests a kind of emotional contagion transfers anger from marriage to child. Children in emotionally negative environments are more predisposed to negative, irritable affect, a kind of on-going arousal. This arousal is a particularly powerful effect for aggressive children.

Relationship of Marital and Parenting Variables

Theory and research support the contention that the quality of marital and parent-child systems are interdependent (Easterbrooks and Emde, 1988) and positively related (Erel & Burman, 1995); that is, marital and parenting valence will correlate positively, and marital quality will drive parenting quality (Belsky, 1981; Erel & Burman, 1995; Katz & Gottman, 1993). When parents are dissatisfied and conflicted maritally, they will parent less consistently and sensitively (Easterbrook & Emde, 1988). The relation of marital discord to parenting perturbation is well established (Belsky et al., 1991; Brody et al., 1986; Cowan, Cowan & Kerig, 1993;

Emery, 1984; Erel & Burman, 1995; Kerig, Cowan & Cowan, 1993;), but the precise way it works is less well known. Fauber and Long (1991) suggest that marital conflict has an effect on children only when parenting is disrupted. With adolescents, Fauber and colleagues (Fauber, Forehand, Thomas & Wierson, 1990) found that a model that included parenting accounted for most effects. Maritally dissatisfied parents used lax control, and parental rejection and withdrawal were evident. In another study of preschool children, negative parenting related to marital dissatisfaction (Gottman & Katz, 1989) and consisted of coldness and lack of structure during a teaching task.

The effects of marital dissatisfaction can be different for fathers than for mothers. A number of studies have found the father's parenting related more to the quality of marriage than did the mother's. Marital conflict has been found to be related to lax, inconsistent parenting practices by fathers (Stoneman, Brody & Burke, 1989) as well as to their harsh discipline (Cowan et al., 1993). Belsky, Youngblade, Roving and Volling (1991) found a stronger association between marital change patterns and father-child interaction than between marital change patterns and mother-child interaction. Unhappy fathers were more intrusive, and negative, as were their children while interacting with them. Mann and MacKenzie (1996) found that a self-report (Porter O'Leary) of overt marital conflict was related to inept discipline practices only by mothers. In contrast, marital dissatisfaction alone disrupted paternal parenting in the areas of paternal affection and connection. Fathers who were maritally dissatisfied were more rejecting of their children.

There is some speculation that fathers tend to be less differentiated in their relationships with family members than are mothers. Brody, Arias and Fincham (1996) found that fathers' attributions about their conflicted marriage were more likely to permeate their attributions about the entire family, while wives' attributions about their husbands appeared to be specific to the husband and distinct from other family members. Fincham and Linfield (1997) found that wives were more able to see both positive and negative dimensions of their marriage than were their husbands. For husbands, negative feelings about one aspect of the marriage seemed to influence feelings about other areas. Findings such as these suggest that for a husband the feelings about his partner tend to generalize to other family members, and that his feelings about a single member may be less complex as well.

A number of findings suggest that maritally distressed fathers tend to withdraw from their children (Dickstein & Parke, 1988; Mann & MacKenzie, 1996) and be less available for emotional support when their children are upset (Hooven, Gottman & Katz, 1995). In this latter study fathers who had lower marital satisfaction, and showed more contempt for their spouse, were also significantly less likely to become involved in their child's emotion episodes. Observational studies show fathers less available, less attuned and less emotionally connected to their children when they are maritally distressed. Katz and Gottman (1996), studying a range of typically developing children, observed that the father's intrusive behavior (which they labeled rejection) mediated marital hostility and children's aggression. In other studies maritally distressed fathers were more harsh and controlling (Cowan et

al., 1993) and intrusive (Brody, Pelligreni & Segal, 1986) with their children. Both withdrawal and rejection emerge as parenting themes for maritally distressed fathers, and may mean much the same thing. The emotional behavior we see as critical or hostile may be an index of general withdrawal from the role of parenting. If fathers who are less involved in parenting, and therefore less adept than mothers, are required to participate in a structured teaching task, it is not surprising that they appear unattuned to their children. Their behavior may indicate their usual withdrawal more than an active campaign of hostile rejection.

A number of researchers have demonstrated the importance of fathers for children's emotion management, particularly for children's anger management (Hooven, Gottman & Katz, 1995; Parke, Cassidy, Burks, et al., 1992; Parke, MacDonald, Burks, et al., 1989; Settlage, Silver, Afterman et al., 1993). The studies cited so far suggest a maritally distressed father is less available for emotional assistance and support. Such paternal lack of availability has deleterious implications for a child's management of anger and aggression. In addition, when that father is present, he is likely to use harsh, inept discipline practices.

There has been evidence, and speculation, that maritally distressed mothers, on the other hand, may make an effort to be more positive and engaged in parenting, attempting to buffer the marital distress and fathers' disengagement (Brody, Pellegrini, Sigal, 1986). Perhaps they seek to compensate for a father's lack of interest, or compensate for their own marital disappointment. Belsky et al. (1991) found that wives whose love for their husband had declined were more likely to be

positive and facilitative with their children during a free play exercise. However, and importantly, when marital conflict determined the groupings rather than marital unhappiness, children were more negative with both parents, particularly during structured tasks. Hence, it is possible that failure in love, and dissatisfaction with marriage, negatively affects a father's parenting. Nevertheless, some kinds of expressed conflict affects both parents.

Although more global coding systems have found fathers' parenting more affected by marital distress than mothers' (Dickstein & Parke, 1988; Cowan, Cowan & Kerig, 1993; Belsky et al., 1991; Brody et al., 1989; Stoneman et al., 1986) evidence is emerging that the maternal parenting is not impervious to marital distress when more microanalytic and emotion-based observations are used. The Berkeley studies (Cowan & Cowan, 1990; Cowan et al., 1993) were initially coded with a global rating system, but were re-examined and re-coded for microanalytic behaviors (Kerig, Cowan & Cowan, 1993). The new coding found distressed mothers more guilty of negative interactions, particularly with sons, than had been formerly captured. Distressed mothers were more likely than nondistressed to reciprocate a son's negative affect. Katz and Gottman (1996) also found that marital conflict had a negative affect on mothers' parenting. Using a coding system that counts actual time spent exhibiting discrete parenting behaviors, they found that a fathers' withdrawal from the marriage may have direct effects on mothers' parenting competence and engagement as well. Father's marital withdrawal (stonewalling when listening to his wife's response) was associated with his wife's rejection (maternal intrusiveness and

criticism) of child while all three played together; this pattern of response was one pathway to child internalizing problems. Marital hostility was mediated by father's rejection (in this case, intrusiveness only) while the three learned a video game together. Also, a differential score regarding positive engagement found each parent significantly more positive when the other parent was rejecting; however their level of positive behavior was never significant, or in one case, even in a positive direction.

In addition, in a meta-analysis of ten marital conflict studies Crockenberg and Covey (1991) found that mothers in distressed marriages may compensate for their husbands' rejection of the child by relaxing the limits placed on the child, when the father was present. This may mean that mothers contribute to child difficulties by mismanaging their child's behavior, or relinquishing management duties, when faced with a father's negative affect. In that review the relationship between marital quality and children's externalizing behavior was more mediated by father's than mother's negative parenting. Finally, parenting attempts to compensate for an unhappy marriage is fraught with problems, and is not necessarily to the advantage of the child (Kerig, 1995). Children "triangulated" in difficult marriages may be exposed to high amounts of conflict at the same time that they are parented inconsistently and with lax control. In addition, although they enjoy a strong bond with one parent, triangulated children are likely to experience a more conflictual relationship with the other parent (Erel & Burman, 1995).

Overall, although there may be differences in how two parents respond to

marital conflict, it does not appear that a satisfactory compensatory mechanism operates. In other words, although theoretically it could happen, the general effect of marital discord is not that one parent parents better while the other withdraws and/or parents worse. It appears that to some degree, both parents parent worse. Erel and Berman (1995) examined 68 studies of marriage and parenting relations and concluded that the mechanism for a transfer of marital discord appeared to be positive (in the same direction, negative marriage = negative parenting) rather than compensatory for either parent. If attempts are made to compensate, those attempts do not appear to buffer the child completely from the effects of marital discord.

Positive Parenting

Some believe disrupted or even negative parenting may be too simple an explanation for CP (Gardner, 1987; Gardner, 1989; Dishion, French & Patterson, 1995). The relationship of ineffective parenting to observed negative interactions (Patterson, 1982), and of more effective parent management to fewer negative interactions, fostered the notion that the quality of parent-child relationships can be assumed, and rightly subsumed, within the purview of effective parent management (Dishion et al., 1995). Negative parenting has been seen as the "dark side" of positive parenting, and the contribution of positive parenting has been given scant attention. This thinking suggests that the lack of a positive relationship is an artifact of the negative relationship, and is directly in proportion to negative parenting.

The contribution positive relationship activities make to a CP child's social-emotional development bears examination. Even in very conflictual homes, counts of

negative behavior account for less than 20% of interactions (Gardner, 1987; Patterson et al, 1992). It is likely that the other 80% of interactions, when parent and children are not in conflict, have an effect on whether or how conduct problems develop.

The positive parenting literature is not extensive, and what there is has shown mixed results (Patterson et al., 1992; Chamberlain & Patterson, 1995). Positive parenting has been more difficult to operationalize, measure and observe in a laboratory than has negative parenting (Greenberg et al., 1993; Darling and Steinberg, 1991). One measurement difficulty has been how to define positive parenting. Positive parenting has been called a style, attitude or climate (Baumrind, 1971) rather than a measurable parenting practice. If positive parenting is pervasive and fundamental rather than a sum of practices, what do we measure? Furthermore, what can we even assume from a count of positive behaviors about a child's overall relationship with his parent?

Positive interactions may be particularly important for CP children, for whom negative behaviors are so easily elicited and so often inadvertently reinforced. Gardner (1987) investigated the way CP and non-CP families spent time together. The study showed that typically developing children spent three times more time in joint play with their mothers than did CP children and twice as much time in joint conversation. Those CP children spent more conflict-free time alone, watching TV or wandering aimlessly. Children, particularly children with massive social skills deficits, need to learn how to interact positively. The most at-risk children - the early

starter CP - show very early social deficits. Further, because they are often rejected, they lack opportunities to learn social skills.

Positive Emotion Interaction. Theories of parent management in general, and for antisocial children in particular, have acknowledged that behavior management is enhanced by the positive relationship between parent and child. Over thirty years ago, positive features of the mother-child relationship were found to be associated with general compliance and a willingness to comply (Baumrind, 1971). Children with warm contingent interactions early in life are more likely to comply (Sroufe & Fleeson, 1988) and antisocial children are found to have less warm and accepting relations with their parents (Kazdin, 1987). Pettit and Bates (1989) found that mothers who initiated more positive verbal interaction and physical proximity and affection had children who were rated as less aggressive and withdrawn on the CBCL (Achenbach, 1991). Moreover, a positive relationship with parents was as important as the lack of a negative one. They found that "positive involvement with parents, or its absence, is more clearly associated with early social development than is amount of conflictual involvement". Even children with other CP risk factors have been found to be at an advantage in the presence of a warm relationship with a parent. For instance, rejected first-graders with warm mother-child relationships showed significantly fewer behavior problems than those whose relationships with their mother were less warm (Patterson, Cohn & Kao, 1989).

Finally, one would presume children are learning something about positive emotion exchanges when they have the opportunity to engage in positive emotion

interactions with their parents. Parents are teaching their children emotion skills when they express emotion appropriately and responsively within the parent-child relationship. Denham and colleagues (Denham, Casey, Grout & Alban, 1991) and Butkovsky (1991) found that frequency and appropriateness of affective exchanges with parents were implicated in children's greater ability to regulate affect during play with peers. Parents who responded "optimally" (calmly, contingently) to their child's emotion had more socially successful children (Denham, 1989). MacDonald and Parke (1984) and MacDonald (1987) suggest that parent-child play is an opportunity for children to experience and practice frequent arousal and regulation of emotion. Children gain emotional regulations skills from those interactions when their parents are able to tolerate some of their excitement, but also assist them in modulating emotion when they need help. Those children who engaged in "rough and tumble" play with parents were found more able to regulate overarousal later with their peers, than were children who did not.

Attachment Theory and Positive Parenting. Attachment status has been utilized as a way of describing the parent-child emotional relationship and how it relates to child outcomes. Attachment status is especially useful for describing positive parent-child relationships. Positive parenting behaviors, particularly parental sensitivity and warmth, are associated with successful infant attachment behavior, which is then associated with later child adjustment. The social and emotional correlates and outcomes of secure attachment status to a parent have been examined in a number of studies of children. Secure attachment as a toddler was found to be

related to concurrent positive affect sharing between parent and child (Waters, Wippman, Sroufe, 1979), to two-year-olds' greater enthusiasm, persistence and cooperation (Matas, Arend & Sroufe, 1978), three-year olds' readiness to play (Lieberman, 1977), and to three-and-a-half, four- and five-year-old pre-schoolers' social competence and popularity (La Freniere & Sroufe; Erikson, Egeland & Sroufe, 1985; Waters, Wippmen & Sroufe, 1979). In addition, Main and her colleagues (1985) found that six-year olds who were rated as secure when they were infants showed an easy and coherent expression of affect at the later age.

Positive Parenting and Marital Interaction

Positive parent-child interaction has been identified as having a protective effect on children by reducing the risk for psychiatric disorder from marital discord (Rutter, 1987), and as increasing social and emotional competence in typically developing children. Opportunities to gain social competence are particularly important for young children with CP, who are distinguished by their early lack of social-emotional skill. Although so far this dissertation has focused on parenting within the context of marital discord, we know that positive parenting appears to be difficult to achieve when a marriage is conflictual. Positive parenting is less likely to occur in discordant homes, or at least less likely to occur as often (Erel & Burman, 1995), and more likely to occur when a couple shares a warm, supportive marriage (Easterbrook & Emde, 1988; Sroufe & Fleeson, 1986). Nonetheless, most homes are not composed of only negative, or only positive interactions among family members. In spite of marital difficulties in the home, parents and researchers need to know

what aspects of marital problems make positive parenting easier as well as more difficult, and what aspects of positive as well as negative marital and parent functioning affect child development. Examining the qualities of marital interaction that define marriages as more harmonious may help us define the qualities that support more positive, and less negative parenting, as well foster a more positive emotional climate in the home.

Positive Marital Quality

The emotional communication of married couples is indicative of marital quality (Easterbrook & Emde, 1988; Gottman & Levenson, 1992; Gottman, 1994). Harmonious interactions have been defined as ones where couples show more affection, positive affect and listening to one another (Easterbrook & Emde, 1988). However, observations of couples during the everyday business of life have yielded surprisingly little information about what distinguishes happy from unhappy marriages (Gottman, 1994). Observing couples during conflict resolution tasks has provided the best picture of how happily married differ from unhappily married couples. Gottman found that happily and unhappily married couples are distinguished by their ratio of positive to negative affect, rather than by the base rates of those affects. Simply stated, happy couples display more positive compared to negative behavior than unhappy couples. When couples are dissatisfied with their marriage, one sees more disagreement, criticism and put-downs and less validation, empathy, humor and repair of misunderstanding.

Predictability of behavior is an important way that happy and unhappy

couples differ. Happy couples are less likely to be locked into predictable sequences of responding, giving their interactions more freedom and randomness. It is less likely that a negative comment will be followed by a negative comment with happier couples, as it is less likely that a fight about one issue will set off fights about other issues. Maritally satisfied partners are more likely to focus on positive statements from their partner, while dissatisfied partners hone in on the negative. They are more able to ignore negative comments by their partner, or to focus on what was positive instead of the negative comment. Unhappy couples appear to be locked into chains of negative response to one another.

When marital relations are harmonious, children appear to benefit. Children whose parents were observed to be more harmonious received more approval and physical affection and were more compliant (Easterbrook, & Emde, 1988). In the same study, fathers who stated they had happier marriages were observed to be warmer and less aggravated by children. In a related study, harmonious marital interaction related to paternal (and not to maternal) emotional support with a 20 month-old toddler, and was also associated with better paternal assistance, less paternal aggravation, and less strictness with the child. There is also more secure attachment of children to parents who have higher marital adjustment (Goldberg and Easterbrook, 1984). Sroufe and Fleeson (1986) claim that the marital bond provides the emotional support that is helpful for nurturing children.

Marriages are often a combination of positive and negative qualities. For many years the tendency in marital research had been to think of couples as falling

somewhere along a single continuum of happiness-unhappiness. A number of researchers have moved beyond unidimensional thinking and have defined more complex ways to look at marital functioning (Fitzpatrick, 1988; Gottman & Levenson, 1992) acknowledging that married couples may have both negative and positive aspects to their marriage that are not captured in a single score. This trend has been apparent in both observation and questionnaire-based research. Questionnaire measures of marital satisfaction have typically yielded one overall score of marital satisfaction, high indicating more happiness, and low indicating less. Fincham and Linfield (1997) found support for the view that positive and negative dimensions are separate aspects of marriage, and only moderately negatively correlated. They advocated a four-factor marital typology based upon the two dimensions (i.e. high-high, low-low, high-low, low-high). Although observations of marital interaction often find a negative correlation between positive and negative affect during observed interaction, that has not been true for assessments of marital affect that include longer time frames. Diener & Emmons (1985) found positive and negative feelings about the marriage or partner to be relatively independent when assessed generally over a longer period of time. The importance of looking at the separate contributions of positive and negative aspects of the marital relationship are supported by these findings.

CHAPTER 4

THEORETICAL BACKGROUND

Three theoretical frameworks will be used to explain how interactions in the family affect the development of conduct problems in children. A fourth perspective will be presented, which comes from recent empirical literature based on observations of family interactions. Finally, an integration of theory and research literature is suggested as the best approach for understanding the influence of family interaction on the development of CP.

Social Learning Theory

Social learning theory explains how children learn to be aggressive and defiant from interactions they experience in the home. Reiss and Schulterbrandt (1990) explain that a "major transformation of field (of learning theory) occurred when social stimuli — the behavior of other individuals — was recognized as reinforcing. This perspective has become expanded and transformed in the study of the family, particularly study of child psychopathology and marital conflict". The central finding in this tradition is that sequences of family behavior include reinforcers, so that negative behaviors are reinforced by subsequent responses in the family. A stressful or conflictual environment may elicit, and then manage to maintain aversive behaviors. In this way negative behavioral patterns can become firmly embedded in the texture of family life. Social learning theory posits that aggression is learned through the direct consequences of aggressive and non-aggressive acts, as well as through the observation of aggressive acts and their

consequences. Models are particularly potent when they are persons of higher social status, such as parents, teachers and older peers and siblings, and when their acts of aggression are perceived to be rewarded or accepted (Bandura, 1977).

The seminal application of social learning theory in the development of conduct disorder is Gerald Patterson's work at the Oregon Social Learning Center. From Patterson's perspective, the child's behavior is learned in parent-child interactions. This is a micro-analytic theory, based on observing and coding minute and discrete behavior sequences that occur between parents and their noncompliant children. There are two important ways coercive cycles contribute to the continuation of antisocial behavior: each time a partner wins by being aversive, that aversive behavior is rewarded. Furthermore, when one or the other wins by being aversive, he or she is likely to intensify the aversive behavior in the next interaction in hopes of again winning that round. Children in an aggression-accepting environment are reinforced for using aggression in the same environment that elicits (via numerous intrusive and aggressive acts perpetuated in general as well as towards the child) and then rewards the use of aggression. Thus, in an environment replete with negative, aggressive interaction, children are offered opportunities to learn aggressive strategies by witnessing the advantages of aggression and practicing aggression themselves.

Attachment Theory

Less researched, but gaining ground, is the broader, less microanalytically conceptualized area of relationship and attachment, or in this case, flawed

attachments and relationships as source of anxiety, negative affect and poor emotion management in the quest for proximity and safety (Greenberg & Speltz, 1988). In this theory children are motivated by a biological system, residing in themselves, to seek closeness and consistency from their caregiver. When attempts to gain security have repeatedly failed, children may resort to negative behavior to manage their feelings, or gain engagement from their parents. Insecurely attached children have been observed withdrawing from the parent and then showing inconsolable distress and controlling behaviors when reunited with a parent. Parents of insecurely attached children have been observed to be less sensitive to their child's signals, and more harsh and intrusive when interacting with them. Furthermore, from these early interactions the child will carry forth an internal template, or working model, of how relationships function. Although there is not an established relationship between attachment classification and any particular psychopathology, there is a tendency for insecurely attached children to show more disruptive, externalizing behaviors than securely attached children.

Longitudinal studies have found relations between attachment status in toddlerhood (as measured in the Strange Situations paradigm) and later social and emotional competence of the child. Attachment behavior represents an expectation, based on early relationship experience, that one can trust and turn to others to meet emotional needs, and this expectation is internalized, carried forth and increasingly crystallized, as an "internal working model" of what one can expect in future relationships (Bowlby, 1973).

The relations of insecure status in infancy to negative childhood outcomes are more complex to discern, partly due to methodological difficulties in early studies of insecure status (Spieker & Booth, 1988), and partly due to the number of other risk factors included in the samples used for longitudinal studies. Children rated as insecure in infancy have been found to show more difficult behaviors at later assessments (Matas et. al., 1978); but despite evidence of increased negative affect in some situations, attachment status on its own, and as it has been measured thus far, does not directly relate to conduct disorder or any other specific psychological disorder. However, differences in child outcomes between studies utilizing high and low risk samples suggest that infant attachment may operate in conjunction with other factors to predict later, pre-school externalizing behaviors. In a review of the attachment literature, Greenberg and his colleagues (Greenberg et. al., 1993) found that in high-risk samples of pre-schoolers attachment status alone was a moderately significant predictor of behavior problems. For high-risk samples insecure attachment was related to observed disruptive behaviors, negative attributional biases, and lack of motivation to comply, while in normal, or low risk samples, attachment status was not directly related to behavior problems. In sum, insecure status is related to a) a tendency toward negative behaviors, b) being a more challenging child to parent effectively, and c) being less socially competent than secure peers. All three characteristics place children in danger of developing externalizing disorders. However, attachment appears to be only one piece of the antisocial puzzle, and may be more important as a protective factor than a causal

factor in antisocial behavior (Dishion et al., 1995).

Cognitive Theory

The focus on negative interaction has meant increased attention to and confidence in observation of interactions, at both the global (Cowan et al., 1993) and microanalytic levels (Kerig et al., 1993; Patterson, 1982; Katz & Gottman, 1996). Recent research has found substantial evidence that the effects of observations are best understood when we understand their meaning to family members, that is when events are contextualized in the larger family plot. The child filters actual events through a "lens" shaped by past experience, and by present fears and preoccupations. Based on information the child has taken in, as well as how he has processed it, he has made meaning of the events in his home. Interactions that occur in the home, whether positive or negative, become confirmations of the way a child sees and explains his world.

In cognitive theory, which is an extension of social learning theory, it is cognitions (outcomes of experience) that account for the difficulty in changing negative behavior, and that carry behavior forward so that it is generalized to new, even initially unaversive, environments. Meichenbaum's initial metaphor suggests that covert cognitions are subject to the same laws as overt behaviors. That is, if a child behaves in ways that elicit coercive behavior, this behavior confirms his outlook and his appraisals of his self and others, and his outlook about power and self-worth. Thus, a child who has witnessed and been involved in using aversive techniques to achieve goals at home, will use those techniques at school and with

peers. This view of relationships will fuel angry interactions outside the home, which again confirms a hostile bias toward others. Indeed, in clinical practice, angry clients have been shown to have hostile attribution biases toward social situations, and to fail to generate and implement socially acceptable solutions (Meichenbaum, 1993).

Cognitions also explain the generalization of attachment status at home to interactions outside the home. Bowlby calls the internalization of attachment "working models", which are internal scripts for how to behave and what to expect from emotional interactions. In our working models of relationships we encode a model of how we should act with others and our expectations of how others will react to us. Our working models are also related to our awareness and understanding of emotional events, restricting our perceptions of events to those which confirm prior experience.

Perhaps the most important mediator of family discord and child outcomes is the child's cognitions, or perceptions (Grych & Fincham, 1993) of events in the home. Children's previous experience with conflict affects their sensitivity to conflict, and their expectations of how conflict will proceed. If a child believes his security is threatened by eminent divorce, s/he may react more strongly to marital conflict., Cummings and Davies (1994) have reported that whether or not fights actually involve children, verbal aggression and hostility increase children's negative affect, self-blame, and expectation that the conflict will involve them and escalate. When the content was child-related it led to even greater self-blame, shame and child involvement. For children who are already suffering from conduct problems, fights

between parents about their behavior are not uncommon. Being the subject of arguments can be very threatening, and may elicit more negative response, as well as disruptive demands that fights cease. Studies find typically developing children in the pre-school to early school years tending to blame themselves for fights in the best of circumstances (Covell & Abrahmovich, 1987) and to have egocentric notions about events around them. CP children, who are prone to 'thinking errors' about conflict (Dodge, Pettit, McClaskey et al., 1986), are even more likely to see fights as about and threatening to themselves. Parent's explanations about conflict are important because of children's' tendency to blame themselves. Davies and Cummings (1994) offer a specific mechanism to explain the deleterious effects of marital discord. Marital discord undermines the child's felt emotional security. Felt emotional security is related to the confidence that life as the child knows it will not change. These relationships suggest that measures of marital satisfaction, including items related to disagreement about child issues and plans for divorce or separation, are important components of variables meant to capture the child's experience marital conflict.

Family Interaction Research

Recent evidence suggests that understanding how social and emotional competence develops in young children may be critical to understanding the link between family socialization practices and children's social problems outside the home. Emotion regulation and display is an important skill required for successful play with preschool peers. Peer competence is the ability to initiate and sustain

coordinated and connected interaction with a friend (Gottman, 1983). Concomitant with coordinated play is the ability to flexibly regulate that play via positive affect, and to modulate negative affect sufficiently to maintain the connection and succeed at the negotiation necessary to sustain play. Children who are unable to regulate negative affect, and are unable to express positive affect, are in danger of being rejected by their peers.

The situation-appropriate expression of emotion during play is important for children's success with peers (Butkovsky, 1991). Sroufe (1979) found positive affect and moderate levels of negative affect crucial to popularity in preschool. Children who were able to express both positive and negative emotion appropriately were liked by friends. These children were found to have a tendency to initiate encounters with positive expressions and to respond positively to the overtures of others. Children who were unable to express emotion, who became disorganized when aroused or who expressed excessive amounts of negative affect, were not assessed as socially competent by teachers and classmates (Sroufe et al., 1984; Denham, 1989). The primary task of preschool years is to learn to manage emotion during social interaction (Parker & Gottman, 1986).

Various researchers have proposed a number of routes, both direct and indirect, from parent-child interactions to child-child interactions. Direct routes include parental modeling of appropriate positive and negative emotion, as well as conversations and teaching about emotions (Denham, McKinley, Couchoud et al., 1990; Denham, Zoller & Couchoud, 1994). Parents teach their children to regulate

and use emotion during appropriate and positive emotion exchanges between parent and child (Denham et al, 1991; Butkovsky, 1991). Indirect routes include family emotion atmosphere, family tolerance for emotion, and playful, emotion-arousing interactions such as rough-and- tumble play (MacDonald & Parke, 1984) where children practice regulating emotion with their parents. The key to learning appropriate emotion expression and regulation according to the general body of family interaction research appears to be experiencing positive emotion interactions as well as appropriate responses to negative emotions while interacting with family members. These parents are sensitive and responsive to their children's emotional signals, and help them manage environmental stimulation, as well as their emotional arousal when stimulated.

Integration of Perspectives

The four preceding perspectives are included because considered together they provide a better framework for explaining the transfer of marital and parenting variables to child outcomes, than does any one approach alone. Rather than alternative viewpoints, the four approaches provide insights that complement each other, and each approach adds to the explanatory power of each of the others. The theories vary in the kinds of behaviors they have typically been applied to, their levels of specificity and the kinds of populations which have been involved in study samples. Social learning theory, and particularly coercion theory, has been used to explain how specific negative interactions teach negative interactions, and has been noticeably used in the study of CP households. On its own, it does not describe the

meaning or emotions attached to those events, nor has it been used much to explore the effects of positive events. Cognitive theory and Attachment theory on their own do not specify pathways from parent behaviors to child behaviors, but offer general explanations about why events are construed the way that they are, and typically moderate the direct effects of parent behaviors. Again, it is negative outcomes which have received the most attention from these theories. In family interaction research a growing body of observational research has sought theoretical grounding, often utilizing various theories of development in a piecemeal fashion. This work often utilizes typically developing children in typical families, and presents more exploration of positive processes. Indeed, from this body of work are emerging some tentative notions that early affective processes in the home underlie positive and negative outcomes in children's social-emotional development, and that by observing those early parent-child interactions we may learn the key to optimal emotional development.

CHAPTER 5

STATEMENT OF PROBLEM AND HYPOTHESES TO BE TESTED

The communication between individuals in a family has implications for the entire family system. This is particularly apparent with the families of young children with conduct problems (CP), where emotionally negative interactions between parent-parent pairs or parent-child pairs may permeate the family. The young child with CP is more at risk for a lifetime of antisocial problems than any other child. Patterns of research findings suggest that emotional communication in the family is one of the important pathways contributing the continuing development of CP, with the role of negative pathways from parenting and marriage well-established in the literature (Crockenberg & Covey, 1991; Erel & Burman, 1995; Katz & Gottman, 1993; Patterson et al., 1992). Indeed, for the younger child it is the family and child characteristics that are most predictive of the continued development of CP. Hence, in this study future child CP will be predicted by marital and parenting variables. What have been less clearly established in research are the specific aspects of marital and parent-child conflict that are deleterious, and the precise mechanism by which they are linked to child conduct problems. Marital conflict research has not been unanimous when it comes to answering the question of how marital conflict is transferred to the child. One research approach has been to focus on the indirect effects marital conflict exerts on children through negative parenting (e.g. Fauber et al., 1990; Fauber & Long, 1991; Mann & MacKenzie, 1996). However, other researchers, particularly those using more microanalytic

observational coding systems, suggest there are both direct and indirect pathways from marital conflict to child conduct problems (Katz & Gottman, 1996; Webster-Stratton & Hammond, 1999). Observational research also offers an opportunity to note the specific behaviors involved in marital and parent-child interaction, both positive and negative, so that actual parent behavior can be examined for its effects on children.

The effects of positive interaction have not been sufficiently examined in previous research. The focus in family research in general, but with CP children in particular, has been on the powerful effects that negative experiences have on the child, with scant regard for the existence or influence of positive interactions. The independence of positive and negative behaviors, as well as the influence of positive interactions on the development of CP, are emerging areas of research. Households with CP children will vary in the amount of positive interaction that occurs. A complete explanatory model requires that we examine both the positive (or lack thereof) and negative family factors that influence the progression of CP behavior. For instance, it is likely that both negative parenting and the lack of positive parenting contribute to the development of behavior problems (e.g. Pettit & Bates, 1989) rather than negative practices alone. Furthermore, positive interaction may moderate the effects of negative interactions, as well as separately contribute to prosocial development.

Finally, Structural Equation Modeling (SEM) was selected as the best way to analyze the effects of family interaction on the child's development. It allows us to

define the family and child behaviors of interest, with a number of measurement methods, but also to jointly consider positive and negative behavior in the home as they affect a child.

In this dissertation, the effects of both positive and negative interactions in the home were examined for a clinical sample of children identified with Conduct Problems. Positive and negative marital and parenting behavior at Time-1 were measured by latent factors that include observations of behaviors with spouses in problem-solving situations and in natural situations at home, as well as observations of parents interacting with children at home. Additionally, parent reports concerning how the marital and parent-child relationships are viewed were included. Marital and parenting behaviors were hypothesized to predict child CP behavior one year later, as measured by child observation and teacher and parent reports of externalizing and social behaviors. Effects of the marital interaction were hypothesized to be both direct and indirect; in other words, they will exert their effects independent of parent factors but also will exert their effects as mediated by parent factors. The model that includes both positive and negative parenting behaviors, and positive and negative marital behaviors were hypothesized to best fit the data, and were therefore the best explanation for the development of CP.

Hypothesis 1: **Both Negative Marital practices and Positive Marital practices at Time 1 will predict child behavioral outcomes at Time 2.**

Hypothesis 2: **Both Negative Parenting variables and Positive Parenting variables at Time 1 will predict child outcomes at Time 2.**

Hypothesis 3: **A model combining parenting and marital factors is a better predictor than either parenting or marital alone.**

Hypothesis 4: **The effects of marital interaction on child behavior will be both direct from marriage to child, and indirect via its impact on positive and negative parenting practices.**

Whether positive and negative marital and positive and negative parenting were considered for the final model depended on the results for the tests of Hypotheses 1 and 2; however, it was predicted that the best fit would include positive and negative parenting and positive and negative marital factors.

CHAPTER 6

MEASUREMENT

The Parenting Clinic at the University of Washington has served families with conduct problem children since 1984. The purpose of this clinic is to develop and evaluate intervention programs for preventing and reducing noncompliant/ aggressive behavior in young children, and for helping children who are at risk for later behavioral difficulties become socially competent, succeed in school behavior and reach their full potential as they grow up. The focus is on four to seven-year-old children who are at risk because of difficult temperaments, aggressive or oppositional behaviors, or because of their family circumstances. Families typically come to the clinic out of concern for their child's current behavior and the impact this is having on overall family and social functioning. Upon acceptance and initial assessment, families are randomly assigned to treatment groups. Most treatment interventions are six-months in length. Families are re-assessed at the termination of groups, and at one and two year follow-up.

Sample

The study subjects were 70 four to seven year-old children who had been referred to the clinic for behavior problems, and their parents.[1] Children are referred by doctors, nurses, teachers and psychologists, but are also referred informally or

[1]Many thanks to Dr. Carolyn Webster-Stratton for graciously providing this data, and for my experience at the Parenting Clinic that provided the framework for designing and interpreting this study.

may find the clinic on their own. All children must meet clinic criteria for child behavior problems. Criteria for clinic involvement specified that: a) the child was 4 to 7 years old; b) the child had no debilitating physical impairment or intellectual deficits; c) the primary referral problem was child misconduct (noncompliance, aggression and/or oppositional behavior) which had been occurring for more than 6 months; d) mothers' reports of their child's behavior on the Eyberg Child Behavior Inventory (Robinson, Eyberg, & Ross, 1980) showed a clinically significant number of behavior problems (greater than two standard deviations above the norm for the child's age); e) neither the family nor child was currently receiving any treatment; and f) the parents agreed they would accept random assignment to a treatment group. The children selected for this study were all of the children from six consecutive clinic cohorts who lived in two parent households, who participated in a treatment group and for whom at least one follow-up assessment was obtained.

Of the 70 households who qualified and who were retained for this sample, 55 families had a boy and 15 had a girl who participated in the program. This ratio is in line with research-established boy-to-girl ratios in the CP literature which are around, or just less than, 4:1 (Hinshaw & Anderson, 1996). The average age of the children at intake was 5 years, 7 months, with a standard deviation of 13 months, and their ages ranged from exactly 48 months to just 96 months in age. 67% were first-born children, and 28% were only children. The average age at the follow-up assessment, the point where the child outcome measures were obtained, was 6 years 8 months (this number does not accurately represent the time that had passed since

intake because the follow-up is reported in years, not months). Because of the small number of girls in this sample, boys and girls were combined. Girl's average age was 6 years 1 month, boy's 6 years 6 months, a non-significant difference ($p<.24$). A number of demographic variables, including child age, parent age, parent education and parent income were examined for differences between boys and girls, and no significant differences were found. Post treatment CBCL scores (Table 6.1) from both parents were examined for child behavior differences between boys and girls, and none were significant.

Table 6.1: Post-treatment CBCL Scores: Boys versus Girls

	Mother Internalizing	Father Internalizing	Mother Social Problems	Father Social Problems	Mother Aggression
Boys	52.30	47.45	58.80	56.20	60.70
Girls	52.00	49.27	57.20	56.20	65.00
Total	52.25	47.80	58.46	56.20	61.60
ANOVA	ns	ns	ns	ns	ns

Average age of mothers was 35.9, and of fathers was 38.7. All parents were partnered, and 80% (56) were married to and living with their spouse. It was a first marriage for 47 parents.

The three treatment options were: child group, parent group, and a combined parent and child group (Table 6.2). A fourth option was a wait-list control, but since control parents were subsequently assigned to a treatment group, they are considered assigned to their eventual treatment condition. After all families in each cohort had completed their intake assessment, the families were randomly assigned to treatment.

The 15 control families were assigned as follows: six to a combined parent and child training (pt/ct); two to child training (ct) only; and seven to parent training (pt) only.

Table 6.2: Assignments to Study Condition by Gender

	All	Girls	Boys
Child Group Only	21	6	15
Parent Group Only	26	4	22
Parent and Child Group	23	5	18
Total	70	15	55

As all parents and children are examined post-treatment and one year later, this dissertation does not purport to examine treatment effects. However, as some questions may arise about the contribution of those treatments, some examination of the distribution of families across groups is in order. One-way ANOVA's tested the distribution of demographic variables across treatment groups: Demographic variables, such as child's age, birth order, length of parent's marriage, mother's and father's age are presented below in Table 6.3.

Table 6.3: Demographic Variables Across Study Conditions

	Child Age in months	# of Children in Family	Years Married	Mother Age	Father Age
Child group only	70.73	2.18	9.45	34.14	37.05
Parent group only	61.62	1.77	9.60	37.12	40.70
Child and Parent Group	70.52	2.09	9.13	36.30	38.00
Total	67.30	2.00	9.40	35.90	38.70
ANOVA for group differences	P<.023*	ns	ns	ns	ns

The only between-groups difference was child's age. Children whose parents were assigned the parent group-only were on average nine months younger than children in the other two groups, coming in at just over five years of age compared to the others' average age of just under six years. ANOVA's with demographic variables indicated that there were also no significant differences based upon group for either parent's education by group (averaging 2.6 for both parents, or halfway between partial college and finishing college) or birth order. In addition, Table 6.4 presents parent assessment of child problem behaviors at post-treatment, organized by treatment option. The only significant treatment effect for parent report was for mother's assessment of social problems at posttest. The lowest ratings were reported for the child-and-parent and parent treatments.

Table 6.4: Parent CBCL Scores Across Conditions at Post-Treatment

	Mother Internalizing	Father Internalizing	Mother Social Problems	Father Social Problems	Mother Aggression
Child Only	54.70	48.90	62.70	58.00	64.05
Parent Only	50.77	47.20	57.04	54.70	59.96
Child and Parent	51.57	47.50	56.00	56.14	61.13
Total	52.25	47.80	58.46	56.80	61.60
ANOVA	ns	ns	.004	ns	ns

ANOVA's were also run for independent variables of interest, such as marital satisfaction, marital behavior and parenting stress (Table 6.5). While condition assignment did not affect marital or parenting satisfaction, it did affect marital and parenting behavior. Specific marital and parenting behaviors differed according to

group assignment. There was more positive marital behavior, less negative marital behavior and more parental praise from groups where there had been a parent-training component. Those group differences were expected, and speak to the positive effects of the intervention. Those differences do not compromise the usefulness of the post-treatment (termination) time point for Time-1 in predicting outcome. Indeed, it is more useful to predict from a post-change time point to later behavior when it comes to predicting long-term outcome after an intervention (Patterson et al., 1992).

Table 6.5: Post-Treatment Marital and Parenting Differences by Groups

	Mother Total DAS	Father Total DAS	PS-I CARE 'solicit'	PS-I CARE 'para-phrase'	PS-I CARE Fault-find/ defensive	Mother PSI (parent stress)	Father PSI (parent stress)	Father Praise DPICS	Mother Praise DPICS
Child Only	104.90	107.18	2.48	1.27	8.30	132.40	127.30	4.25	4.59
Parent Only	111.00	111.20	2.90	2.56	4.25	123.30	117.76	7.65	8.46
Child and Parent	103.57	104.60	2.37	2.33	6.38	130.00	122.29	5.30	7.80
Total	106.60	107.80	2.60	2.10	6.17	128.40	122.25	5.80	7.06
ANOVA	ns	ns	ns	.004	.013	ns	ns	.08	.038

Procedures

Families received 18-22 weeks treatment using the Webster-Stratton program, and immediately after treatment (T-1) all families were assessed by means of parent questionnaire reports of marital satisfaction (DAS) and parenting stress (PSI), interview reports of child discipline (DDI) and observations of marital and parenting interactions. This includes "control" families as well. One year later (T-2)

children's adjustment was assessed by means of parent report of children's behavior (CBCL), observations of the child's social skills (DPICS) and teacher reports of behavior problems and prosocial skills (TRF and TASB).

Marital Interaction. Parents participated in a 15-minute problem-solving task at the clinic. They were told to spend the time working on any problem of their choice, and then left alone in a room to work on the problem. They sat together on a small couch. Their conversation was videotaped, and later coded with PS-I-CARE.

Home Visits. Two home visits were conducted at each time point, and in two-parent families the visits were one hour long, a half hour each visit per parent. Typically, visits were scheduled before and during dinner, when all family members were at home. Families were asked to turn off the television, not answer the phone or entertain visitors. Otherwise they were to go about their normal activities. There were no imposed tasks or activities for the families during the home visit. Coders spent the visit in the room with the family, coding with a paper and pencil protocol. They did not interact with the families and were blind to the study condition the families had participated in. The visits were coded with DPICS-R.

Telephone Interview. Only mothers participated in the telephone interview, and this occurred four times over the course of one week. Mothers were asked if specific behaviors (behaviors they had indicated at intake were a problem for their child) had occurred in the last week, and how they had responded to the behavior. The interviews were coded with the DDI.

Parent Questionnaires. Parents filled out questionnaires alone, at home, and brought or sent them into the clinic.

Teacher Questionnaires. Classroom teachers were contacted individually, and asked to participate in the study by filling out four questionnaires on the target child. They were under no obligation to do so, but the majority of teachers filled out the questionnaires. They were paid a small amount for their time.

Measures

The measures that were used for indicators, and how they are organized as latent variables, are described in this section. Constructs for marital and parenting behavior, as well as child outcome, are composed of questionnaire, interview and observational data in order to best discriminate and specify the behaviors of interest. Constructs consist of multi-informant, multi-method measures, as is considered best practice (Patterson et al., 1992; Rutter, 1994).

Marital Reports and Observations of Interactions

Marital satisfaction and marital communication were assessed by mother and father reports of satisfaction, and observations of marital interactions during a problem-solving discussion as well as at home. Hence constructs included both expressed emotion and communication behavior at specific times, and self-reported feelings about the marriage in general.

Questionnaire

Dyadic Marital Adjustment Scale (DAS). The DAS (Spanier, 1976) is a self-report measure of marital adjustment, and was completed by each spouse

separately. It has good internal reliability, Cronbach's alpha .93-.96, discriminates married from divorced adults and significantly correlates with other marital scales (Cohen, 1985). In order to maintain the independence of the positive and negative marital constructs, the total score was not used. Instead, subscales tapping into positive aspects of the marriage were used for the Positive Marital construct, and subscales reflecting extreme dissatisfaction with the marriage were used in the Negative Marital construct (for instance, items 16, 10 and 31 that are in the Satisfaction subscale).

Observations

Problem-Solving-Interaction Communication-Affect Rating-Engagement Coding System (PS-I CARE). PS-I CARE was developed by Webster-Stratton, King and Hollinsworth (1991b) to code both affect and conflict management skills that were exhibited by married couples during a problem-solving task. Affect and behavior during the problem-solving task were rated on 21 communication behaviors, eight positive and thirteen negative, for each separate incident where the behavior occurred. Totals were tallied for discrete incidents of all of the behaviors. Training for three coders consisted of extensive training by experienced coders. A reliability of 80% with at least two precoded videotapes was required before coders began actual coding. Previously reported reliability for this coding system is good, with interrater reliabilities (intraclass correlation coefficients) reported as ranging from .80 for total positive communication and .93 for total negative communication (Webster-Stratton & Hammond, 1999). Reliability for coding this sample is similar,

ranging from .89 for total positive communication to .85 for total negative communication.

Parent communication affect and behavior is counted on the Communication Checklist of the PS-I CARE coding system. Codes of particular interest in this study are those that either demonstrate skills a child would learn from their parents, or those that are so negative, and unskilled, they would be detrimental to observe. Codes were defined precisely and behaviors are coded and counted each separate time it is observed. For example, Validation is defined as "a statement in response to a partner, in which the speaker expresses what he or she understands the partner to be experiencing, feeling or wanting". When a validating comment is made ("it sounds like you're feeling neglected") a single count for validation is noted. The total instances of Validation are counted for each partner, over the course of the fifteen-minute conversation. Some other examples of coded marital behaviors are "solicit", "paraphrase", "fault find" and "defensive". The code "solicit" refers to instances when a partner is asked directly for their input: "What do you think about this?"

"Paraphrase" is used when a summary statement is made about the partner's viewpoint, or the joint viewpoint of the married pair. For instance "we seem to be disagreeing about how to spend the overtime money" is a paraphrase, while "you want to spend the money on a lot of junk" is a fault-find. Fault-finding is coded when one partner criticizes the other, or the other's actions. An example of Fault-finding is "You never worry about what goes on around here". If a partner answered

with "Yes I do" that would be coded as "Defensive", and if that same partner added: "All you do is complain about me" an additional Fault-find would be coded.

Parenting Reports and Observations

Parenting variables were derived from parent-child observations, telephone interviews regarding parenting behavior, and a questionnaire about parenting stress.

Questionnaire

The Parenting Stress Index (PSI). The PSI has 120 items regarding how the parent feels about the parent-child relationship. Each item is answered on a 5-point scale ("strongly agree" to strongly disagree"). The PSI has been shown to have acceptable content, concurrent and construct validity. Alpha reliability coefficients were reported to be .95, and test-re-test reliabilities ranged from .82 to .71 (Abidin, 1983). The Parenting Scales were of interest in this study. The Parenting Domain includes seven subscales: Depression, Attachment, Restriction of Role, Competence, Social Isolation, Health and Life Stress. The Total Parenting Scale was also used.

Parent Interview

The Daily Telephone Discipline Interview (DDI). Mothers were telephoned four times over the course of a week, regarding a number of positive and negative behaviors they had previously endorsed as areas of difficulty. On the second and fourth phone call the Daily Telephone Discipline Interview (DDI; Webster-Stratton & Spitzer, 1991) was conducted also, and mothers were asked how they had responded to those same behaviors. The mother was asked the open-ended question "How did you handle this problem?" Responses to the child behaviors were initially

sorted into 66 codes, which comprise eight general discipline categories. A ninth category is a global category, Inappropriate Parenting, and includes codes from the other categories. Two of the first eight categories reflect negative/critical parental responses, three categories neutral limit-setting strategies and two categories positive responses (verbal and nonverbal). The eighth category is lack of parental response. Total responses in each category are divided by the total number of behavior episodes the mother reports, so that the number in each category reflects the proportion of times that strategy was endorsed by the parent. The DDI has been found to correlate with direct observations of parent behavior during home observations (Webster-Stratton & Spitzer, 1991).

Inappropriate Parenting, the ninth category, is a composite of negative strategies from the other categories. It is a combination of generally inappropriate strategies, and strategies that are inappropriate because they are a poor response to a specific child behavior (for example, "ignore" is an inappropriate response to abusing animals or biting others). The strategies range from harsh, rejecting punitive responses to a lack of parental discipline when discipline was called for.

Parenting Observations

Parents were observed interacting with their children at home for two thirty-minute sessions. Their behavior was coded using the Dyadic Parent-Child Interactive Coding System-Revised (DPICS-R). The DPICS was originally developed by Robinson and Eyberg (1981) and revised by Webster-Stratton (1985) and is a widely used observational measure. Scores for individual positive and

negative parenting behaviors were computed, and included 1) positive behaviors (praise, descriptive commenting, physical positives, acknowledging statements) and positive emotional valence, and 2) negative or critical comments (criticisms, negative commands). Those behaviors were counted as they occurred, and tallied every five minutes. A single parent emotional valence score was also coded every five minutes, and this score indicated the coder's assessment of a parent's affect rated on a single continuum from "exuberant affect" (1) to "unrestrained negative affect" (5). The valence score was computed separately from the behavior tallies. A number of parenting composite scores were computed from the parent behavior tallies. Praise is the sum of labeled ("you are so patient, you are using one block at a time") and unlabeled ("good job") praise. Criticals are the sum of negative commands ("don't run") and criticisms. Total Communication is a sum of questions, statements and descriptive comments. It is thought to be a measure of involvement with the child.

Child Outcomes

Child outcome data was obtained one year after the assessments of marital and parenting behavior. Questionnaire and observational data regarding child behavior were utilized. Behaviors of interest were difficulties managing emotions and difficulties managing social interactions. This data consists of teacher reports, parent report and child observation. The usefulness of teacher report of child conduct problems has been established (Patterson et al., 1992), and is predictive of later delinquent behavior. Two teacher measures of social functioning were selected for the one-year follow-up, two of which focus on emotion management and related

behaviors (i.e. destructive, argumentative, aggressive behaviors) and social competence (i.e. social skills, cooperativeness, successful interactions with peers), tapping into two distinct areas of vulnerability for children with or at-risk for CP. In addition, the parent questionnaire yielded measures of behavioral and social difficulties, while an observation of the child at home measures social-emotional skills and behaviors along a number of items.

Teacher Questionnaires

The Teacher Report Form of the Child Behavior Checklist (TRF). The TRF (Achenbach & Edelbrock, 1986) consists of teachers' ratings of academic performance, four general adaptive characteristics, and 112 behavior problems. In addition to individual subscales, scores are also grouped into Externalizing and Internalizing factors according to age and gender norms. T-scores for scales (externalizing and internalizing) and subscales were used for analyses.

Teacher Assessment of Social Behavior (TASB). On the TASB (Cassidy & Asher, 1992) teachers rated items that tap into four behavior dimensions: prosocial, aggressive, shy/withdrawn, and aggressive/disruptive. Each dimension is assessed by three items, for a total of twelve items. On this questionnaire, behaviors are described and teachers rate the child on the behavior using a 5-point Likert scale, where "1" means very uncharacteristic, and "5" means very characteristic. The Prosocial Scale asks for ratings of cooperativeness (shares and takes turns), friendliness (friendly and nice), and helpfulness to other children. The TASB

controls for teacher rating bias by having the teacher complete questions for each same-sex child in the class, resulting in a z-score for the target child.

Parent Questionnaire

The Child Behavior Checklist (CBCL). Parents completed the parent form of the CBCL (Achenbach & Edelbrock, 1991), consisting of 118 items dealing with behavior problems. Each item is rated on a three-point scale. The scales form two broad-band areas of child problems, internalizing and externalizing problems, and eight specific problem subscales. The CBCL has established interclass correlations of .98 for interparent agreement, and .84 for test-retest reliability.

Child Observation

The hour long home visit at one-year post treatment (T-2) was coded with DPICS-R for a number of child behaviors that tap into child compliance, social skill and emotion management in the home. Specific behaviors of interest were child's positive and negative affect, compliance, noncompliance and deviant behavior. A single child emotional valence score was also coded every five minutes, and this score indicated the coder's assessment of the child's affect rated on a single continuum from "exuberant affect" (1) to "unrestrained negative affect" (5). The valence score was computed separately from the behavior tallies.

Descriptives for Variables of Interest

Table 6.6 shows means, standard deviations and ranges for some selected variables of interest for the child outcome, marital and parenting factors.

Table 6.6: Means and Standard Deviations for Variables of Interest

		Mean	Standard deviation	Range
Child Outcome	Mother Social Problems (CBCL)	42.70	9.09	13-50
	Father Social Problems (CBCL)	44.00	7.67	20-50
Marital Variables	Marital Solicit	4.80	3.33	0-15
	Marital Paraphrase	3.68	3.73	0-22
	Marital Praise	2.04	2.54	0-13
	Marital FaultFind	11.70	14.30	0-74
	Marital Defense	5.65	8.78	0-49
	Mother Consensus (DAS)	48.16	7.46	32-65
	Father Consensus (DAS)	47.30	6.26	29-65
Parenting Variables	Parent Praise (mother)	7.10	5.60	0-21.5
	Parent Praise (father)	5.90	5.40	0-25.5
	Parent Criticals (mother)	7.87	7.04	0-31.5
	Parent Criticals (father)	5.76	5.90	0-35.5

For the PS-I-CARE coding of marital interactions for this sample, the number of counted behaviors for each code was not normally distributed across couples. The majority of scores reported for the marital coding system categories were the first few increments (0,1,2), while a few had as many as 40 or more incidents of one behavior. In order to normalize data, the square root value was used for mother, father and couple total marital behaviors. When marital observation data was transformed, descriptive statistics came within normal range (there was no significantly large skew or kurtosis).

Missing Data

Missing data was scattered across items at the two time points. Missing data values were imputed with multiple regression equations. Independent variables for the regression equations were demographic and family history data, as well as other same time-point data available. The strategy used to replace missing-data was to ascertain a single equation for each missing value. This means that particular items

were selected for the equations that were complete for all families requiring data imputations. For instance, if father CBCL data were missing for two fathers, the independent variables in the regressions would be all demographic and same time-point data that was complete for the two fathers. The minimum R value sought for each equation was .70.

Seven families had some T-1 data missing, but data was missing on no more than one measure. At Time-2 (follow-up) 11 families had some missing data. There are six follow-up measures for each family and total missing data for that time-point amounted to 4%. Only two families had some part missing at both time points. The two families with missing data at the two time points were missing one item only at each time point. This is a small amount of missing items compared to the overall data set (4% of total follow up data and 1.5% of T-1 data).

Data Analysis Overview

This study is a secondary analysis of data supported by the National Center for Nursing Research Grant 5 RO1 NR01075-11 from the National Institutes of Health and Research Scientist Development Award MH00988-04 from the National Institute of Mental Health. The principal investigator is Dr. Carolyn Webster-Stratton (see Webster-Stratton & Hammond, 1997).

Data from three sources (parent, teacher, observer), from two time periods (post-treatment and approximately one year later), are organized as indicators of latent variables for parenting practices, marital practices and later child outcome behavior. Latent factors rather than aggregate or scaled variables were selected for

this analysis in order to maximize the shared variance of the measures and reduce measurement error, thus increasing the reliability of the measures. The factors thus reflect shared information from parent and teacher report, and observational measures. Latent factors reflect the underlying child and family processes that are captured by the actual measurements. Structural equation modeling version 5.5 (SEM; Bentler, 1995) is utilized to explain the relations between the latent family factors and the specific child outcomes one year later. Structural equation modeling of the data allows us to not only examine and measure family behavior, but also to jointly consider positive and negative, marital and parenting behavior in the home as it affects a child. A number of latent exogenous variables are constructed from questionnaire, interview and observational data for the parenting and marital behaviors. Marital behaviors are combined for mothers and fathers. Parenting factors are tested for the whether combined or separate parent variables determine the best factors. The factors are organized around measures of Positive Marital behavior, Negative Marital behavior and Positive Parenting and Negative Parenting. Following correlational analysis of all variables, Confirmatory Factor Analysis (CFA) is utilized a priori to estimate the loadings of the relevant indicators on each factor. CFA analysis will confirm that indicators provide strong measurement models of the marital and parenting constructs. In addition, those tests are to validate that positive and negative behaviors load best on separate factors.

The latent variables, identified as constructs from marital, parenting and child measures, are also utilized to construct competing models, comparing marital-only,

parent-only and marital and parent variables together on child outcome. Furthermore, the constructs identify, for purposes of subsequent tests, the contributions of separate positive and negative practices, and how the two work together to affect child outcomes.

CHAPTER 7

FACTOR DEVELOPMENT

Structural Equations Modeling (SEM) was employed to model the predictors of Child Conduct Problems. SEM allows all paths to be tested simultaneously, and permits the use of more than one indicator for the family and child processes of interest. The steps taken in the analyses were 1) confirmatory factor analysis of Marital, Parenting and Child Outcome dimensions to determine the components of factors for the three dimensions, and the loadings of the indicators; 2) and testing the structural models as hypothesized in Chapter 4.

The Child Outcome Factor

Preliminary Analyses

Using the outcome (T-2) data for the 70 children in the sample, the appropriate indicators and their loadings for the child outcome factor(s) were determined using confirmatory factor (CFA) analysis. The initial hypothesis proposed a single child outcome, Conduct Problems, derived from four child outcome measures: two teacher reports (TRF and TASB), one parent report (mother and father CBCL), and an observation of the child interacting with others in the home. Child behaviors that are pervasive across settings are the most consistent, persistent, serious, type of Conduct Problems (Kazdin, 1997; Patterson, 1991; Patterson et al., 1992)

The following considerations led to the selection of the indicators for the outcome factor. The goal was to select measures that indicated how well a child was functioning one year post-treatment, particularly in the areas of social behavior and

emotion management. Parent-report for aggression and social skills were selected from CBCL subscales scores for their specificity, in addition to the broadband Internalizing factor score. The aggression subscale of the CBCL was selected over the externalizing scale as it tapped into behaviors more characteristic of early onset CD, often identified as ODD, whereas the delinquent scale which is included in the externalizing scale relates to behaviors more likely seen with older, CD children (Achenbach & Edlebrock, 1991). Furthermore, the aggression subscale relies on behaviors that are more observable by teachers ("argues", "brags", "teases", etc.) and require less interpretation than some items in the delinquency subscale (such as "no guilt" and "bad companions"). Teacher subscales for social skill and aggression were selected in the same manner, with particular interest in the TASB subscale that measured the child's prosocial skills with classmates. Teacher report afforded a unique opportunity to tap into how the child was assessed by another important adult in his or her life (the teacher), and to gain information about social skills. The child's social interaction in a group of peers was something teachers had more opportunity to assess than parents. Finally, variables selected from the home observations were those measures that tap into social skill and emotion management, and include variables important to the parent child relationship such as positive affect, control of negative affect, and compliance to parental control.

Exploratory correlational analyses were conducted in order to examine relations among the parent, teacher, and home observation data. It was initially hypothesized that three general child behavioral areas would be included in the child

Table 7.1: Structure of Child Outcome Data

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Mother Social Competence[a]														
2. Father Social Competence[b]	.69													
3. Mother Internalize[c]	-55	-.38												
4. Father Internalize[d]	-.37	-.59	.54											
5. Mother Aggression[e]	-.56	-.39	.44	*.23*										
6. Father Aggression[f]	-.37	-.51	.20	.55	.55									
7. Teacher Prosocial[g]	.34	.32	-.07	.07	-.13	-.13								
8. Teacher Social Competence[h]	*.23*	.09	.09	*.22*	-.14	.03	-.69							
9. Teacher Aggression[i]	-.22	-.22	.01	-.20	.32	.04	-.65	-.69						
10.Teacher Internalize[j]	-.20	-.02	.10	-.15	-.09	-.3	-.39	-.67	.47					
11. DPICS Deviance Noncomp[k]	-.25	-.39	.23	.29	.14	.14	-.04	-.004	.14	.01				
12. DPICS Compliance[l]	.07	. 08	-.34	-.17	-.13	-.11	-.07	-.03	.12	-.03	-.03			
13. DPICS Positive Affect[m]	.12	.21	-.16	-.16	-.18	-.13	-.03	-.01	-.07	-.03	-.16	*.23*		
14. DPICS Child Valence[n]	-.13	-.18	*.23*	.19	.17	.15	-.02	-.04	.12	-.08	.36	-.09	-.65	
SD	9.09	7.67	*10.98*	10.94	9.54	7.95	1.01	8.02	11.15	11.57	11.42	6.86	18.94	.52

bold indicates p<.05 __ indicate p<.10

Note. [a,b] =Mother and Father CBCL Social Problems Scales (reversed); [c,d] =Mother and Father CBCL Internalizing Scales; [e,f] = Mother and Father CBCL Aggression Scales; [g] = TASB Prosocial Scale; [h] = TRF Social Problems Scale (reversed); [i] = TRF Aggression Scale; [j] = TRF Internalizing Scale; [k] = Observation of Deviance/noncompliance; [l] = Observation of Compliance; [m] = child positive affect; [n] = Observation of Child Valence (negative emotionality).

outcome factor: social competence, aggression and internalizing. Examination of relations was planned to identify those variables from across settings that appeared to hold together best, or be in agreement with each other.

Correlations among variables (Table 7.1) showed that almost all significant bivariate relations are between measures from the same-informant, that is, parent with parent-measure, teacher with teacher-measure, and home observations to each other (i.e. for mother and father social competence r =.69; for mother and teacher social competence r =.23; for father and teacher social competence r =.09). Of the three informants, parent measures had the most relations to other measures. Parent variables related to cross-informant variables more than did variables from the other two informants, that is, parent variables related to more observations and teacher measures than teacher measures and home observations related to each other. The subscales that lined up best from home to school were the social competence subscales: both mother and father Social Competence (a reversal of the CBCL Social Problem subscales) correlated significantly with a teacher measure of social behavior, the TASB Prosocial scale. There were also differences between how mother versus father reports related to the teacher reports and observations. Only the mother rating of Social Problems related to the teacher rating of Social Problems (a trend) on the TRF. Father ratings did not line up with teacher ratings as well as mother ratings: Fathers seemed to be seeing problems when the teacher did, but defined them differently. For instance, while mother and teacher ratings of aggression correlated significantly (r =.32), father rating of aggression did not

(r =.04). Instead, father internalizing showed a mild, but insignificant relation to teacher aggression (r =-.20, ns), and showed a positive trend of correlation with teacher ratings of social competence (r =.22, p<.10). Father's likelihood to endorse items on the Internalizing Scale related somewhat to the teacher's lower likelihood of reporting aggression, and greater likelihood of seeing fewer social problems.

Development of the Outcome Factor

Initially, a single factor for child outcome was hypothesized, and that factor was to include two separate domains of child behavior (home and school), from three perspectives (parent, teacher, observer), for three skill areas (social skill, managing angry emotions and managing sad emotions). Following this line of thinking, a single factor, with all the listed variables, was tested. It was intended as an initial baseline factor. This factor turned out to be a very poor fit for the data (a CFI of .26). To develop a better model of those measures, a sequence of single-factor CFA's were tested by employing a strategy of eliminating indicators that were a bad fit, while still retaining measures from all of the informants.

A number of criteria guided this sequence of tests. One criterion was to retain measures of social competence and of emotion management, positive and negative. Another goal was to retain some measures from each informant, particularly those unique to a particular informant. For instance, a teacher measure of social competence with peers was important to retain, because teachers have a unique window on that realm of social function. Observations of child behavior and emotion were important to retain, because counts of skills-related behaviors have

been shown to be important to an accurate picture of overall functioning (Patterson et al., 1992), and observations are the best way to obtain those counts. Furthermore, those behaviors had been the problematic CP behaviors that brought the child to the clinic to begin with. Finally, the bivariate relations of variables were examined to determine how factors came together best (see Table 7.1). From the examination of the relations between measures, it was apparent that some measures were likely to hold together as a factor better than others. For instance, Teacher Internalizing from the TRF and Father Aggression from the CBCL had weak, and not always sensible, relations to other variables, while Mother and Father Social Competence related to many of the other variables in an interesting and useful manner. Child positive affect was initially considered an important index of social skill, but it only related to other variables when the affect during father observation was considered. When the child's observed affect with both mother and father are combined, and all observed variables are a combination of mother and father observations, relations were minuscule to non-existent.

Processes of elimination left nine variables: mother and father CBCL Social Competence subscale, mother and father CBCL Internalizing scale, mother CBCL Aggression subscale, teacher TASB Prosocial scale, and three observations: compliance, deviance/noncompliance and negative emotion (valence). A single child outcome factor did not hold together as well as a two-factor solution. A two-factor model converged easily with 25 iterations and all indicators had significant loadings on their designated factor. The first factor focused on social behaviors, with six

indicators that include mother and father Social Problem Scales from the CBCL, the mother Aggression scale from the CBCL, the Prosocial Scale from the TASB, and home observations of child deviance and noncompliance. The second factor includes four indicators: the mother and father Internalizing Scales from the CBCL, an observation of (lack of) child compliance and child negative emotion, the last two from the home visit DPICs coding. The 'low compliance' variable that loaded on this factor may be a measure of low energy, passivity and a lack of organized, directed behavior. To make sure compliance was indeed saying something about the child (and was not an artifact of parent total commands), relations between variables were tested while controlling for parent total command. Relations held between compliance and mother and father internalizing.

Table 7.2: The Two-Factor Model with Unstandardized and Standardized Solutions

	Social Competence Factor			Negative/Immature Emotion Factor		
	Unstandardized Value	Standardized Value	Z	Unstandardized Value	Standardized Value	Z
M-CBCL Aggression	-.85	-.54	-3.8			
M-CBCL Social Comp	1.29	.86	5.2			
F-CBCL Social Comp	1.00 (referent)	.80				
T-TASB Prosocial	.07	.40	3.1			
Observation Dev/Noncom	-.69	-.36	-2.9			
M-CBCL Internalize				1.40	.88	3.2
F-CBCL Internalize				1.00 (referent)	.60	
Observation Compliance				-.39	-.37	2.7
Observation Emotion Valence				.017	.215	1.8

The CFA statistics for this two-factor model are shown in Table 7.3. The fit is a CFI 1.0; χ^2 (22, N = 70[2]) = 21, p< .51 The factors have a moderate relationship (r = -.56) to each other, supporting the discriminant validity of the two-factor model. Convergent validity is modest. The proportion of variance explained by its factor is greater than 50% for only three of nine indicators. For the remaining five indicators the explained variance ranges from 16% to 30%. However, all factor loadings are significant at p < .05. Furthermore, it was initially clear from the bivariate relations that there would be some sacrifice of convergent validity when factors were created from multiple informants. The two-factor approach was tested against a one-factor approach by constraining the factors to correlate (correlation of f1, f2 = 1): the result was an inferior one-factor model, $\chi^2(23)$ = 38, p<.02,with a CFI of .90 This fit is significantly poorer than the preferred two-factor model (chi square difference statistic is χ^2 difference (1) = 17.7).

Table 7.3 Comparison of One and Two-Factor Solutions

	χ^2	*df*	χ^2/df	χ^2difference	df difference	CFI
One-factor	38.9	23	1.69			.90
Two-factor	21.2	22	.95	17.7	1	1.00

Thus, the two-factor model is a reasonable and better fit for the observed relations (correlations) in the data. One factor is centered on social competence measures along with a lack of aggressive and deviant behavior, and the other, second

[2]All tests are on a sample of 70

factor, on immature emotional behaviors. The second factor was something of a "default" factor, formed with what was left over after a theoretically solid social competence factor was taken into account. This default factor appeared to include internalizing, passive, immature and negative behaviors. Although internalizing behaviors are not typically described as conduct problem behavior, they were of interest because of their frequent association with conduct problem behavior, their impact on social behavior, and as a measure of emotion development. It is interesting that although the children in this sample were all identified as having Conduct Problems, neither aggression nor anger factors alone emerged [3]. Social Competence and Immature Emotional Functioning are two aspects of interest because many treatment programs have identified those two areas as the key ones needing to be addressed with conduct problem children. Furthermore, although there were moderate relations between social skills at home and school, the immature/ internalizing emotion factor did not seem to be consistent across home and school settings. Hence this second factor was not benefiting from classroom- derived indicators. In fact, in some cases there was direct disagreement between parents' experiences of internalizing behavior and what their child's teacher saw.

The Predictor Factors

Preliminary Examination and Analyses of Marital Data

Initially, two separate marital constructs, one positive and one negative, were

[3]Interestingly, aggression seems to load on both factors almost equally well, but is a slightly better fit on the Social Competence factor. A double-loading (mother aggression on both factors), while not the best fit, is also a decent fit for the data.

proposed, reflecting a number of important aspects of marriage (see Chapter 4). The marital measures in this study are observations of marital behaviors, coded with PS-I-CARE, and the subscales of the Dyadic Adjustment Scale (DAS), as reported individually by each parent. It was also proposed that mother and father behaviors for the factors be combined, 1) given that the behaviors of interest are how parents act when they are together, and 2) in order to examine the effects of the overall marriage the child is exposed to rather than the behavior of one parent or the other. However, in order to more fully understand the marital process (both for analysis as well as for later conclusions) the individual contributions of mother and father behavior will be examined as well.

The following considerations were taken into account in selecting indicators for a marital factor. The first consideration was identifying the PS-I-CARE items that were sufficiently endorsed by coders, and that clearly identified behaviors of interest. Of 21 items on the Communication Style Check List (ten positive and eleven negative), five positive behaviors and two negative behaviors were selected for retention. In addition, a composite of three negative behaviors, called Negative Marital, was also retained (this is a combination of the most negative coded behaviors, and includes "negative affect", "mixed messages" and an adamant disagreement called "disagreement/closed"). In other words, initially five total negative behaviors were retained (although three were combined as one) along with five positive behaviors. Of the five positive behaviors eliminated, four were eliminated because of low endorsement. Less than 50% of couples in this sample

were observed using those behaviors ("compromise", "positive request", "accept responsibility", etc.) The fifth, "expression of feeling", did not appear to distinguish positive versus negative processes in this sample (i.e. for mothers this code was negatively correlated with marital satisfaction on the DAS). Of the six negative marital behaviors that were eliminated, five were eliminated because of low endorsement, and one because it was not clearly positive or negative ("yes...but").

The second consideration was to select PS-I-CARE codes for positive and/or negative processes that were both descriptive of important behaviors, and that were able to operate separately from their opposites (positive from negative, and vice verse).

Table 7.4: Correlations Among PS-I-CARE Marital Codes

	Validate	Solicit	Paraphrase	Praise	Humor	Fault	Defensive
Validate							
Solicit	.09						
Paraphrase	**.29***	**.45***					
Praise	.13	**.30***	**.25***				
Humor	.03	.09	.19	**.25***			
Faultfind	**-.39****	-.07	-.16	-.16	-.10		
Defensive	**-.37****	-.13	**-.30***	-.16	-.13	**.87****	
Negative Marital[a]	**-.38****	-.03	-.18	-.08	-.09	**.78****	**.71****

[a] Negative Marital is a combination of negative affect, "mixed message" and "disagreement/closed".
*p < .05. **p<.01. __ p<.10

For instance, in Table 7.4 correlational analyses of PS-I-CARE codes only suggested that a number of positive marital behaviors were operating independently of negative behaviors (e.g. observed positive behaviors "solicit", "paraphrase" and "praise" have no relation to "fault finding,") and only a moderate relation existed between "defensiveness" and "paraphrase." Hence, there was a greater likelihood those

variables could define positive marital behavior as contributing to the marital climate separately from the amount of negative behavior, than could the positive marital code "validate". Finally, it appeared that a limited number of codes would hold together as a factor, given the parsimonious relations between variables (i.e. no one positive variable related to more than two others). Validate and Humor were eliminated at this point. Validate was more related to negative processes than the other codes, and Humor was seen as an artifact of nervousness as often, if not more often, than joint pleasure. The positive codes that were retained to be tested in the model were actual marital skills: solicit (the partner's opinion), paraphrase and praise.

The next step was to select variables from the Dyadic Adjustment Scale (DAS) as additional measures for the marital factors. The DAS marital subscales were selected for this analysis rather than the DAS total scores. This is in line with the purpose of the dissertation, which is to be as specific as possible about the actual behaviors and processes that are occurring in the home, and how they affect child behavior. It was apparent (see Table 7.5) that more subscale scores related to negative than positive marital behavior, and this is especially apparent for the marital satisfaction subscale.

Of the four subscales (Cohesion, Affection, Consensus and Satisfaction) Cohesion and Consensus had more relations to positive marital behavior than did Satisfaction or Affection. Subsequently, separate mother and father DAS scores and separate mother and father marital behaviors were inspected in order to further understand the relations of the DAS dyadic adjustment scores and the observed

marital behaviors. At the individual level, the greater number of relations between DAS scores and negative marital behavior was still apparent. In addition, the analysis also revealed an interesting, and perhaps important, difference between mothers and fathers and the way dyadic adjustment related to marital behavior.

Table 7.5: Relations Between DAS Subscales and Marital Behavior Composites

		PS-I-CARE Observed Marital Behaviors (Couple Behavior Combined)				
		Solicit	Paraphrase	Praise	Fault Find	Defensive
DAS Marital Subscales	Mother consensus	.20	**.24***	.20	**-.38****	**-.27***
	Mother cohesion	.16	-.04	**.34****	-.17	-.03
	Mother satisfaction	.05	.13	.23	**-.47**	**-.50****
	Mother affection	.10	-.13	.07	**-.26***	-.18
	Father consensus	.07	.16	.10	**-.36***	**-.29***
	Father cohesion	.16	.14	**.24***	**-.27**	**-.26***
	Father satisfaction	.08	.10	.09	**-.37**	**-.42****
	Father affection	.04	.005	.02	**-.36****	**-.33****

*p < .05. **p<.01 __ p<.10

The fathers' positive behavior and positive DAS scores (his or his wife's) tended to be consistent from his satisfaction to his behavior, whereas mother positive behavior was less linked to either her own or her partner's marital satisfaction (see Table 7.6).

Table 7.6: Relations Between Individual DAS Subscales & Individual Marital Behaviors

		PS-I-CARE Individual Observed Marital Behaviors									
		Mother Positive			Mother Negative		Father Positive			Father Negative	
DAS Marital Subscales		M solicit	M para-phrase	M praise	M fault find	M defense	F solicit	F para-phrase	F praise	F fault find	F defense
	Mother consensus	.08	.11	-.03	**-.29***	**-.39****	.19	**.28***	**.36***	**-.41****	-.14
	Mother cohesion	.04	-.11	.19	-.10	-.1	.18	.03	**.35***	-.22	.03
	Mother satisfaction	.05	.06	.06	**-.44****	**-.38****	.03	.15	**.30***	**-.43****	**-.30***
	Mother affection	.09	-.17	-.05	**.29***	**-.29***	.12	-.05	.16	-.17	-.15
	Father consensus	-.02	.16	-.08	**-.30***	**-.41****	.11	.13	**.25***	**-.37****	-.15
	Father cohesion	-.07	-.04	.09	**-.23***	**-.32***	**.28***	**.25***	**.29***	**-.28***	-.17
	Father satisfaction	-.02	.003	.06	**-.43****	**-.50****	.13	.15	.17	**-.50****	**-.28***
	Father affection	.20	-.002	.10	**-.29***	**-.30***	.04	.005	.02	**-.36****	**-.33****

*p < .05. **p<.01 __ p<.10

It is apparent that father positive behavior is far more linked to underlying marital adjustment than is mother's. In order to examine that relationship more fully, the eight DAS subscales and five positive PS-I-CARE (validation and humor are reinserted for this analysis) were correlated. In Table 7.7, a count of significant ($p<.05$) correlational relations between the five positive behavior codes (rows) and the eight DAS subscales (columns) reveal that 11 of mom's DAS scales, and nine of dad's scales related to positive marital behavior, mostly behavior by dad. Mom's higher DAS scores relate to 9 dad, and 2 of her own positive behaviors. Dad's higher DAS scores relate to no (0) mother behaviors, and 9 of his own positive behaviors.

Table 7.7: Significant Relations between DAS Subscales and Positive Behavior

		DAS	
		Mother	**Father**
Positive Behavior	**Mother**	**2**	**0**
	Father	**9**	**9**

Note. A count of significant ($p<.05$) correlations between 5 positive PS-I-CARE codes (validation, solicit, paraphrase, praise and humor) and 8 DAS scales, for each parent.

Fathers were likely to behave positively if either parent was maritally satisfied, while mother marital satisfaction scores relate to father positive behavior as much as his own. As we see in Table 7.5, mother DAS ratings are linked to joint marital behavior, but upon inspection of the individual behavior (Table 7.6), most links are to father behavior. When it comes to negative marital behavior and negative DAS scores, mothers and fathers were fairly even. Both displayed negative behaviors in their marital interaction when DAS scores were low. There was more

consistent association between DAS scores and PS-I-CARE behaviors for negative behavior, and this link was strongest for the satisfaction subscale.

Overall, it appears from the bivariate relations that negative behaviors and dyadic adjustment are more highly correlated than are positive behaviors and dyadic adjustment. In addition, this difference in relations between DAS scores and positive versus negative behaviors is more apparent for mothers, whose positive behaviors tend to be less linked to their dyadic adjustment than is fathers.

Finally, the bivariate relations between the marital measures and the outcome measures were examined (Table 7.8). There were few relations between the marital measures and child outcome measures, and the variables which did have relations with outcome were DAS consensus subscales and two marital behaviors, "paraphrasing" and "defensiveness".

Summary of Preliminary Examination and Analyses of Marital Data

This series of bivariate analyses, between the marital codes themselves, between the marital codes and the DAS subscales, and finally, between the marital variables and child outcome data, indicated the marital variables best suited to test the study hypotheses. The DAS subscales Consensus and Cohesion, as well as the marital codes "solicit", "paraphrase", "faultfind" and "defensive" emerged as having significant relations to other variables of interest. Consensus, paraphrasing and defensiveness had relations to outcomes, and had relations to each other that suggested they could indicate positive process separate from negative process, and that the construct they represented would have effects on child outcome.

The Marital Factors

The initial plan had been to construct one positive and one negative marital factor, testing whether the marital data did indeed organize into separate positive and negative factors, indicating that positive processes were not the "flip side" of negative processes. After the preliminary examination and correlational analyses of marital data, CFA tests were conducted to determine the best factors. The only Marital Measurement Model with a reasonable fit included three martial factors, two positive and one negative. Two positive factors were formed, one using the DAS data, and the other comprised solely of positive behaviors from PS-I-CARE. Although the DAS subscales could be considered either positive or negative (they are a continuum), the Consensus subscale will be considered a kind of positive scale, indicating agreement rather than disagreement on key marital issues. As for the Negative Marital factor, the DAS Satisfaction subscale was linked most highly and consistently to negative marital behavior, and was the only subscale with a reasonable fit to a factor. That scale asks the most evaluative questions about the state of the marriage, that is, how "happy" is the marriage, how hard will a partner work to maintain the marriage, how often does the couple quarrel, and whether divorce has ever been considered. Hence, it was used and indeed provided the best fit on the negative marital factor. Thus the Consensus and Satisfaction subscales of the DAS were thus utilized in initial factor development, and they are also the two subscales with the highest reliability estimates (alphas) of the four subscales (.90 and

Table 7.8: Correlations between Marital and Child Outcome Measures

	Marital Measures								
Child Outcome Variables	DAS Subscales				PS-I-CARE Observed Marital Behaviors				
	Mother Cons[o]	Father Cons[p]	Mother Cohes[q]	Father Cohes[r]	Solict[s]	Para-Phrase[u]	Praise[v]	Fault Find[w]	Defensive[x]
Mother Social Competence[a]	.06	.10	-.11	.06	.01	**.26***	-.04	.02	-.01
Father Social Competence[b]	.02	.14	-.16	.04	-.04	.08	-.14	-.09	-.08
Mother Internalize[c]	**-.35****	*-.22*	-.21	-.13	-.05	-.05	-.06	-.17	**-.24***
Father Internalize[d]	**-.27***	-.17	-.18	-.06	-.07	-.03	.05	.06	-.01
Mother Aggression[e]	.08	.07	.11	.07	-.17	.06	.03	-.05	-.04
Father Aggression[f]	.03	-.13	.10	.03	-.11	-.08	.10	.13	.16
Teacher Prosocial[g]	-.10	.11	-.17	.00	-.11	.04	.15	-.03	-.07
Teacher Social Competence[h]	.10	.14	**-.30***	-.17	.10	.09	-.01	.07	.03
Teacher Aggression[i]	.14	.12	**.38****	**.28***	-.02	.00	-.01	-.13	-.12
Teacher Internalize[j]	-.04	-.03	.04	.04	.09	-.10	-.04	-.07	-.12
DPICS Deviance Noncomp[k]	.04	.01	.03	.10	.09	.02	.09	.00	-.07
DPICS Compliance [l]	-.04	.02	.01	.12	-.10	-.02	-.04	.10	.14
DPICS Child Valence[n]	.08	.07	-.02	-.03	-.15	**-.31***	-.13	-.14	-.11
SD	7.46	6.26	3.83	3.62	1.17	1.44	1.23	2.81	2.15

*p < .05. **p<.01 __ p<.10

Note. [a,b] =Mother and Father CBCL Social Problems Scales (reversed); [c,d] =Mother and Father CBCL Internalizing Scales; [e,f] = Mother and Father CBCL Aggression Scales; [g] = TASB Prosocial Scale; [h] = TRF Social Problems Scale (reversed); [i] = TRF Aggression Scale; [j] = TRF Internalizing Scale; [k] = Observation of Deviance/noncompliance; [l] = Observation of Compliance; [m] = child positive affect; [n] = Observation of Child Valence (negative emotionality); [o,p]=Mother and Father DAS Consensus Subscales; [q,r]=Mother and Father DAS Cohesion Subscales;[s]=PS-I-CARE Solicit; [t]=PS-I-CARE Paraphrase; [u]=PS-I-CARE Praise; [v]=PS-I-CARE Fault-find;[w]=PS-I-CARE Defensive.

.94, respectively). They also had the most items, 13 and 10, compared to five and four items for the Cohesion and Affection subscales (Spanier, 1976).

This model provided the best, although only a modest, fit for the marital data. Statistics are: $\chi^2(28, \underline{N} = 70) = 53.6$, $p<.02$, with a CFI of .93. There is moderate discriminant validity between factor 1 (Consensus) and the other two factors (.41 with positive marital behavior and -.65 with negative marital behavior). There is less relationship between positive marital behavior and negative marital, a correlation of -.24.

Although the Cohesion subscale had the lowest correlations to the negative marital behaviors, it did not work as well as Consensus in forming a factor ($\chi^2(28)=63$ for Cohesion; χ^2 (28)=53 for Consensus) in the measurement model (marital CFA). Furthermore, Consensus has held up well when tested with the child outcome factors and parenting variables.

Although there were some dissimilarities in how mother and father DAS scores related to the marital observational variables, separate mother and father factors were not a good fit for the data. The fit was better when factors were made out of both mother and father DAS scores combined. Models utilizing mother-father combination scores rather than single DAS scores were tested across all four subscales, and were the better in each case. Measurement models did not converge for separate scales. In addition, when mother and father DAS Consensus scores were

Table 7.9: Confirmatory Factor Analysis of Marital Factors

	Factor 1 Consensus (DAS)		Factor 2 Positive Marital Behavior		Factor 3 Negative Marital	
	Stand value	Z	Stand Value	Z	Stand Value	Z
Father Consensus	.51	2.9				
Mother Consensus	.66	ref.				
Mother Satisfaction					-.50	-4.5
Father Satisfaction					-.49	-4.5
Marital Solicit			.59	2.5		
Marital Paraphrase			.70	ref.		
Marital Praise			.40	2.3		
Marital Faultfind					.98	12.7
Marital Defensive					.88	ref.
Negative Behavior					.79	8.7

tested as single factors on the outcome data, the fit was a CFI of .85, $\chi^2(38) = 69$, $p<.001$, versus a fit statistic CFI of 98, $\chi^2(38) = 39$, $p<.356$, when a combined mother and father Consensus factor was tested on the child outcome. It was presumed that combining parent marital data, around positive and negative behaviors, would relate best to child outcome.

The three-factor model is a significantly better fit for the marital data than the two-factor model. While three degrees of freedom are lost in the three-factor model, the gain in fit is statistically significant (difference χ^2 (3) = 25, $p < .05$).

Finally, the usefulness of the three factor versus the two factor approach was tested, and the results are as follows:

Table 7.10 Comparison of Two and Three-Factor Solutions for Marital Data

	χ^2	df	$\chi^{2/df}$	χ^2 difference	df difference	CFI
Two-factor	78.6	31	2.5			.86
Three-factor	53.6	28	1.9	25	3	.93

Although Table 7.9 presents a very modest fit for the data, it was the best fit when marital-data only was considered. It is also a theoretically interesting and logical organization of data. Ultimately, it was a better fit for the marital factors to separate marital behavior data from DAS subscales. When the Satisfaction subscale was removed from the Negative Marital Factor, the fit improved ($\chi^2(11) = 6, p<.86, CFI = 1.0$). Although the initial intention had been to combine DAS subscale scores and marital behavior measures to create multi-faceted factors, it appeared that was not possible to do for this sample. The relations and the initial models were intriguing, and suggest further exploration of positive and negative marital processes, perhaps with larger data sets, is in order. Given the small size of the data set, and the large number of total indicators on the marital factors, a best fit for the total model of marital and parenting predictors on child outcome is presumed to require further trimming of indicators for positive and negative marital factors, retaining only those with the greatest load on the factors.

The Parenting Factors

Two separate parent constructs were hypothesized, one with positive behaviors and another with negative. Positive parenting behaviors included observed praise, positive affect and total communication (i.e. involvement). Negative

parenting indicators included observed critical parenting (parent criticals), and negative emotionality while parenting (parenting valence). In addition, negative strategies such as parent report of negative and inappropriate strategies (DDI) were proposed for the negative parenting construct, while empathy and teaching were proposed as appropriate for the positive construct. Parenting stress was hypothesized to load as a negative indicator.

Table 7.11 shows the correlational relations of combined parenting (mother plus father) variables to each other. Many variables are not significantly related to each other, especially those derived from different methods. Observed parenting

Table 7.11: Correlations Among Parenting Variables (Mother and Father Parenting Combined)

	1	2	3	4	5	6	7	8	9	10
1. Positive affect[a]	–									
2. Praise[b]	.23*	–								
3. Empath[c]	-.09	.06	–							
4. Teach[d]	.02	-.18	.26*	–						
5. Total Comm[e]	.46**	.44**	-.02	-.08	–					
6. Critical[h]	-.01	-.08	-.05	-.25*	.08	–				
7. Valence[f]	-.67**	-.39**	-.03	-.00	-.46**	.09	–			
8. Inappro[g]	.11	-.09	.09	.29*	.001	-.10	.02	–		
9. Father Stress[i]	.03	-.12	-.20	.02	.08	-.09	.03	-.02	–	
10. Mother Stress[j]	-.07	-.29*	-.10	.10	-.05	-.06	.06	.01	.36**	–
SD	10.87	9.50	.11	.35	64.62	10.97	.463	.43	22.10	26.29

*p < .05. **p<.01 __ p<.10

Note: [a]=DPICS parent positive affect; [b]=DPICS parent praise;[c]=DDI mother report of empathy; [c]=DDI mother report of teaching; [e]=DPICS parent total communication; [f]=DPICS parent valence (negative emotion; [g]=DDI mother report of inappropriate strategies; [h]=DPICs parent critical statements; [I]=PSI ; [j]=PSI.

behaviors were not strongly related to self-reports of parenting stress. The only parenting behavior significantly related to personal stress was mother's stress, and it related to joint parental praise of child (i.e. the higher the mother's reported parenting stress, the less praise the child received from the parents). Further examination of parent praise variables revealed that it was mother's own praise, and not father's, that held a significant relation to her stress.

Given the tenuous relations between the variables, particularly those derived from separate methods, it was apparent that a parent factor, whether positive or negative, was unlikely to hold together. In addition, the relationship between parenting variables and child outcome variables (Table 7.12) cast doubt about the usefulness of many of those parenting variables as an explanation for child outcome. Most significant relations between parenting and outcome are in the wrong direction, that is, total communication, praise and positive affect relate to more social problems as reported by mother on the CBCL; praise relates to father CBCL report of social problems.

Consequently, parent variables were selected to be single-variable indicators, and to be used in a later test of parenting on the two outcome factors, as well as in combination with the three marital factors. Those variables were selected based upon their reasonable relations with outcome as well as with other parent variables. Selected were parent praise, parent valence, parent critical statements, and inappropriate parenting. Their relations to marital behaviors are presented in Table 7.13.

Table 7.12: Correlations Between Parent Variables and Outcome Variables

			Child Outcome Variables							
			Father Social Comp[a].	Mother Social Comp.[b]	Father Inter-nalize[c]	Mother Inter-nalize[d]	Mother Aggress[e]	Deviance Noncomp[f]	Teacher Pro-Social[g]	Child Valence[h]
Parenting Variables	Positive Parent Variables	Positive Affect[i]	-.12	**-.22**	.13	.15	-.01	.15	-.13	-.06
		Praise[j]	**-.22**	**-.22**	-.04	-.11	-.14	.10	.03	-.04
		Empathy[k]	.02	-.02	.12	**.25**	-.12	.05	.10	.03
		Teach[l]	.04	-.06	.09	.20	-.13	-.17	.04	-.04
		Total Communication[m]	-.17	**-.26**	-.05	-.01	.02	.13	-.05	-.08
	Negative Parent Variables	Critical Behaviors[n]	.09	.12	-.11	-.16	.006	-.02	-.19	.025
		Valence (Parent Emotion)[o]	.18	.20	-.15	-.13	-.08	-.18	.10	-.06
		Inappropriate Parenting[p]	-.03	-.21	.05	.00	.04	-.02	.02	-.17

*p < .05. **p<.01 __ p<.10

Note. [a,b]=Mother and Father CBCL Social Problems Scales (reversed); [c,d]=Mother and Father CBCL Internalizing Scales; [e]= Mother CBCL Aggression Scales; [f]= Observation of Deviance/noncompliance; [g] = TASB Prosocial Scale; [h] = Observation of Child Valence (negative emotionality); [i]=DPICS observation of parent positive affect; [j]=DPICS observation of parent praise; [k] = DDI parent empathy; [l] = DDI teaching strategies; m= DPICS observation of parent total communication [n]=DPICs parent critical statements; [o]=DPICS parent valence (negative emotion) ; [p]=DDI mother report of inappropriate strategies.

Table 7.13 Correlations Between Marital and Parenting Variables

	Positive Behaviors			Negative Behaviors		
	Solicit	Paraphrase	Praise	Faultfind	Defensive	Neg.Affect
Inappropriate (DDI)	-.13	-.21~	.02	.22	**.28***	.17
Praise (DPICS)	.15	.18	**.26***	-.08	-.07	-.10
Parent Valence (DPICS)	**-.28***	-.07	-.15	.06	.08	.11
Parent Criticals (DPICS)	-.16	-.13	-.11	.10	-.001	.07

*p < .05. **p<.01 __ p<.10

The value of using of individual parent variables (mother versus father) instead of or in addition to composites is briefly explored via bivariate relations between marital behavior and individual parenting behavior (Table 7.14).

Table 7.14 Correlations Between Marital Behavior and Individual Parenting Behavior

		Marital				
		Solict	Paraphrase	Praise	Faultfind	Defensive
Individual	Fpraise	.19	.19	.20~	.00	-.03
	Mpraise	.07	.13	**.25***	-.13	-.09
	Fvalence	**-.38****	-.09	**-.23***	.04	.06
	Mvalence	-.08	-.03	-.02	.06	.07
	Fcriticals	-.14	-.02	-.21~	.09	.03
	Mcriticals	-.14	-.19	-.002	.06	.07

*p < .05. **p<.01 __ p<.10

Indeed, there are some differences in how mothers' and fathers' parenting behaviors link to their behavior in their marriage. Father parenting behavior shows a few more links to the general positive interactions in the marriage than does mother parenting. Father praise of his child is (barely) linked to the amount of praise, "soliciting" and paraphrasing going on in the marriage. Father emotional valence and critical comments while parenting are also related to marital behavior. Mother praise of her child is linked only to the general praising going on in the marital interaction. Again, father behavior appears to be less domain-specific than is mother behavior. This makes a case for looking at separate parent behaviors as well as parent composites when testing an overall family model.

Chapter 8

RESULTS: THE MODELS

Three marital factors and two child outcome factors were developed, and are described, in Chapter 7. In addition, a number of single-indicator parent factors were identified, and proposed for testing the effects of parent behavior on child outcome. In this chapter, those three marital and the single-indicator parenting factors will be tested on the two child outcome factors, social development, and negative, immature emotionality, and a best "full family" model will be presented.

Marital Factors on Child Outcome

The first models tested are the marital-only models, testing whether marital factors, both positive and negative, singly or in combination, directly impact child outcome. The three marital factors have two indicators each, those with the highest loadings from the marital CFA (see Table 7.9). Positive Marital Behavior includes "paraphrasing" and "soliciting", and Negative Marital Behavior includes "fault-finding" and "defensiveness". The Consensus factor is mother and father report of consensus from the DAS.

Two positive marital factors, the self-report of marital agreement (Factor 1), and the Positive Marital Behaviors (Factor 2), were tested as contributors to two child outcomes, Negative Emotionality and Social Competence. Parameter estimates show that indeed marital factors have a significant and direct influence on child outcomes. The model was a good fit for the data, with a CFI of 1.0, and Chi square

statistic of 52.7 with 55 degrees of freedom ($\chi^2(55) = 52.7$). Table 8.1 shows that positive marital behavior and marital consensus predict specific child outcomes.

Table 8.1: Positive Marital Factors on Child Outcome

	Child Outcome					
	Child Negative Emotion Factor			Child Social Competence Factor		
	Unstandardized Value	Standardized Value	Z	Unstandardized Value	Standardized Value	Z
Factor 1 Consensus (DAS)	-.31	-.37**	-3.47			
Factor 2 Positive Marital Behavior				.96	.27**	2.7
Statistics	CFI 1.0 x^2 52.7 (df) 55 p<.56					
Correlation	Factor 1, Factor 2 = .30					

*p < .05. **p<.01 ~ p<.10

The positive marital behavior factor, a combination of soliciting input and summarizing/paraphrasing the partner's response, had a significant effect on the child social competence outcome. In addition, a marriage characterized by more consensus led to less child internalizing/negative emotionality.

The effects of specific marital factors on their specific child outcomes were compared to a model where both marital factors were tested on both child outcomes (Table 8.2). This test allows a specific fit to be compared to a somewhat less specific situation where everything affects everything, that is, the marital variables are allowed to have effects on both outcome factors. However, the marital factors retained their primary relations to the hypothesized child outcomes (Table 8.1).

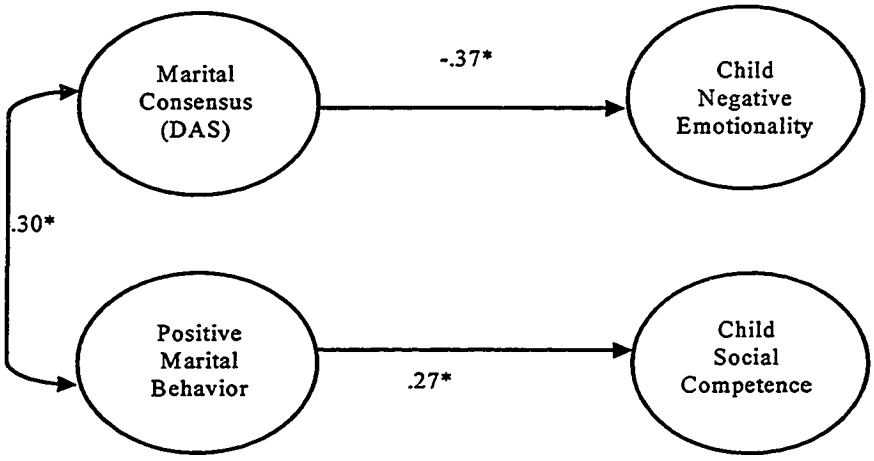

Figure 1: Testing the Effects of Positive Marital Factors on Aspects of Child Outcome

Table 8.2: Positive Marital Factors on Child Outcome (saturated model)

	Child Outcome					
	Child Negative Emotion Factor			Child Social Competence Factor		
	Unstandardized Value	Standardized Value	Z	Unstandardized Value	Standardized Value	Z
Factor 1 Consensus (DAS)	-.30	-.37**	-2.7	.02	-.02	.23
Factor 2 Positive Marital Behavior	.23	.05	.46	.84	.24~	1.9
Statistics	CFI 1.00 X^2 52.5 (df) 53 p< .49					

*p < .05. **p<.01 ~p<.10

Although the cross-loaded factors generated a model that was a good fit for the data, χ^2 (53) = 52.5, the better model restricted Factor 1 (Consensus) to Child

Emotionality, and Factor 2 (Positive Marital Behavior) to Child Social Skill. A comparison of the models indicates that there is some indirect effect from Consensus, through Positive Marital Behavior, to the Child Social Competence Factor. When Consensus is allowed to load directly on Social Competence, the effect of the Positive Marital Behavior on Social Competence is no longer significant at $p<.05$, but is at $p<.10$. Positive Marital remains a contributor to child social competence.

The effects of positive and negative marital behavior on child outcome are tested in Table 8.3. To reduce the number of indicators in the model, the five indicators of the negative marital factor were decreased to two. The two retained

Table 8.3: Negative and Positive Marital Factors on Child Outcome

	Child Outcome					
	Child Negative Emotion Factor			Child Social Competence Factor		
	Unstandardized Value	Standardized Value	Z	Unstandardized Value	Standardized Value	Z
Factor 1 Consensus (DAS)	-.34	-.39**	-3.7			
Factor 2 Positive Marital Behavior				.77	.20*	2.1
Factor 3 Negative Marital Behavior				-.46	-.20*	-2.0
Statistics	CFI .98 χ^2 84.5 (df) 78 p< .28					
Correlations of Factors	Factor 1, Factor 2 = .295 Factor 1, Factor 3 = .32 Factor 2, Factor 3 = -.30					

*p < .05. **p<.01 ~p<.10

indicators, marital fault-finding and marital defensiveness, had the highest loadings on the Negative Marital Factor (.98 and .89). This model tests whether positive and negative marital factors can jointly predict child outcomes, and whether positive and negative marital factors can predict to separate outcomes. In other words, is there a joint picture of both positive and negative marital processes that explains child outcomes, and can positive and negative processes in the home act independently of one another? Indeed, both prove to be the case. In this model positive and negative marital processes show that they are related to child outcome a year later. The overall model is a reasonable fit for the data with a CFI of .98, χ^2 (78) = 84.5. Additionally, in this model the relations of positive marital factors on the child outcome factors remain significant with the addition (see Table 8.1) of the Negative Marital factor. The Negative Marital factor is negatively related to the child Social Competence outcome, indicating that those negative marital processes have a weak but significant negative influence on the development and maintenance of child social competence. Overall, this model suggests that a number of factors occurring in the home are simultaneously influencing the child's development. Figure 2 illustrates the effects on positive and negative marital factors, together, on child outcome.

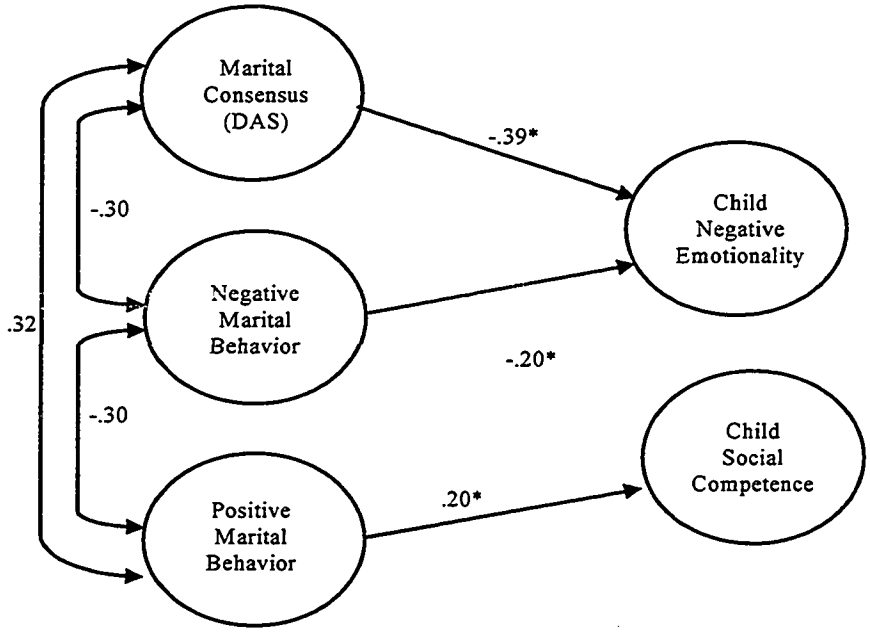

Figure 2 Testing the Effects of Both Positive and Negative Marital Factors on Aspects of Child Outcome

Another model of positive and negative marital data—the saturated model—was also tested (Table 8.4), and is presented as an alternate model of the data. In this model, the positive and negative marital behaviors are not constrained to one aspect of child outcome, but all marital factors are tested for effects on the two aspects of child outcome. This is a saturated version of the model. A saturated model is one that allows the exogenous factors to affect all endogenous factors. In this way, the model allows testing of whether effects are as specific as are posited in the more constrained, theoretically imposed model. In this case, the saturated model is a significantly better fit for the data than the unsaturated model (Chi square comparison show $X^2(78) = 84$ compared to the saturated model where χ^2 (75) = 72.). The gain of 12 Chi square for 3 degrees of freedom is a significant improvement in the model.

Table 8.4: Negative and Positive Marital Factors on Child Outcomes (the saturated model)

		Child Outcome				
		Child Negative Emotion Factor			Child Social Competence Factor	
	Unstandardized Value	Standardized Value	Z	Unstandardized Value	Standardized Value	Z
Factor 1 Consensus (DAS)	-.48	.54**	-2.80	.0	.003	.13
Factor 2 Positive Marital Behavior	-.07	-.02	-.16	.86	.23~	1.80
Factor 3 Negative Marital Behavior	-1.05	-.44**	-3.00	.15	.07	.49
Statistics	CFI 1.00					
	X^2 72					
	(df) 75					

*p < .05. **p<.01 ~ p<.10

In the first model for positive and negative marital together (Table 8.3) the direction of the marital effects on the child outcome supports the marital hypothesis (positive leads to positive, and negative to negative behavior). In this case, positive marital behaviors lead to increased child social skills, marital agreement (Consensus) leads to less immature emotionality, and negative marital behaviors impede the development of child skills. In the alternate model (Table 8.4), the saturated model, a less theoretically compelling model offers the "best fit". While the positive factors remain stable from one model to the next (positive marital behaviors continue to lead to social skills, and Consensus to less negative emotionality) the Negative Marital Behavior factor is behaving differently. In the alternate model, Negative Marital

Behavior is no longer impeding the developing social skills. Now it is a deterrent to the child's negative emotional behavior. Indeed, Negative Marital Behavior had a significant effect on the Child Emotionality factor, and most importantly, in a negative direction. In this model, increased negative marital behavior is leading to less immature emotionality, and there is no longer a significant relationship between Negative Marital and Child Social Competence.

At first, the relation between Negative Marital Behavior and Child Negative Emotionality does not seem to make sense. Why would negative marital behavior relate to less negative emotion on the part of the child? One explanation is that the negative behavior we measured was not terribly negative. The laboratory setting may inhibit truly corrosive kinds of negative interactions among couples. Even very unhappy couples may control their disrespectful, angry and contemptuous behavior while interacting in a more public setting. Instead, what we pick up in the laboratory is a kind of 'bickering' behavior. The initial model shows that these negative marital processes might be replacing more positive marital behaviors, but the second alternate model suggests that this bickering is also, perhaps, an indicator of an engaged and lively style of interacting (albeit somewhat negative) which counteracts the development of withdrawn behavior. Researchers have found that it was withdrawn marital relations that were most likely to lead to internalizing behaviors in children (Katz & Gottman, 1993), and those who bicker are certainly not displaying a withdrawn style. The two stories are not contradictory, but it seems that the explanation that restricts bickering from affecting Negative Emotionality is not as

good a fit for the relations in this data as is the explanation that allows that relation to emerge. This comparison of models suggests that a child behavior "composite" might be more complicated than a simple summing of behavior areas. For the child who struggles to control immature and negative emotion, parental bickering may not be as deleterious as for the child who seriously lacks in social skills.

Parenting Factors on Child Outcome

The "single indicator" parent factors were tested on the two child outcomes, with parenting variables affecting the two child outcome factors. The purpose of this model is to test the effects of parenting-only on child outcome, without marital variables included.

Table 8.5: Parent Variables on Child Outcome

		Child Outcome				
		Child Negative Emotion Factor			Child Social Competence Factor	
	Unstandardized Value	Standardized Value	Z	Unstandardized Value	Standardized Value	Z
Inappropriate Parenting				-2.4	-.20~	-1.9
Father praise	-.50	-.24*	-2.6			
Statistics	CFI .99					
	χ^2 40					
	(df) 38					
	p< .37					

*p < .05. **p<.01 ~p<.10

Very few of the tested parenting variables had direct relations with the specified child outcome factors. Parenting variables were tested as single-variable factors (i.e. they were regressed) on the outcome factors. Table 8.5 presents the best fit for the data, indicating that Father Praise loaded on Negative Emotionality, while Inappropriate Parenting (a combination of negative parenting practices) negatively related to child

social skills measured at outcome. Inappropriate and negative parenting show modest effects on the Child Social Competence Factor. Father praise was a fit for the data, but joint parent praise was not. Hence, praise from father only was retained in the data.

Table 8.6: Parent Variables on Child Outcome (the Saturated Model)

		Child Outcome				
		Child Negative Emotion Factor			Child Social Competence Factor	
	Unstandardized Value	Standardized Value	Z	Unstandardized Value	Standardized Value	Z
Inappropriate Parenting	-.30	-.01	-.10	-2.50	-.20	-1.60
Father praise	-.30	-.20	-1.20	-.17	-.17	-1.37
Statistics	CFI .986					
	χ^2 38.4					
	(df) 36					
	p< .36					
Correlation of Factors	Father Praise, Inappropriate Parenting -.10					

*p < .05. **p<.01 ~ p<.10

In the saturated model, the parenting factors are allowed to affect both child outcomes, and the effects of both parent variables become insignificant on both child outcomes. The two new parameters do not add to an explanation of child outcome.

Marital and Parenting Variables Together

Introduction and Hypotheses

The dynamics of how marriage and parent jointly affect child outcome are explored in this section. Models are tested for indirect (via parenting) and direct

effects of marriage, as well as the direct effects of parenting on child outcome. Most family researchers agree that the effects of marriage on children are affected by parenting, and that likewise parenting is affected by the quality of the marriage. What has been less well tested is whether the effects of parenting (and we are mostly interested in negative parenting) can be ameliorated by the experience and model of a parent's positive marriage. In addition, having access to positive and negative marital factors, as well as individual positive and negative parent variables, will allow us to test not only whether negative marital or parenting behaviors can be offset by positive practices, but also whether positive practices make a separate positive contribution to a child's well being even in the face of negative practices.

Parenting and Marital Factors on Child Outcome

This model tests the effects of family interaction on child outcome. Positive and negative marital factors are tested along with parenting variables (factors) on the two child outcome factors, Child Emotionality and Child Social Competence. The model tests direct and indirect effects of marriage and parenting on child outcome.

Models 1 and 2 show "family models" and test the joint effects of positive and negative marital factors and negative parenting, on the two child outcomes. In Model 1 the hypothesis that Negative Marital processes have direct and indirect effects on child social competence is tested. Although Negative Marital has a direct effect on Inappropriate Parenting, when both Inappropriate Parenting and Negative Marital Behavior are tested on Child Social Competence, the effects for neither Negative Marital nor Inappropriate Parenting are significant on Child Social

Competence. In fact, the effects are fairly evenly divided between the two, and hence diluted.

Table 8.7: Marital and Parenting on Child Outcome

	Model 1			**Model 2**		
	Child Outcome		**Parenting**	**Child Outcome**		**Parenting**
	Negative/ Immature Emotion Factor	Child Social Competence Factor	Inappropriate Parenting Factor	Negative/ Immature Emotion Factor	Child Social Competence Factor	Inappropriate Parenting
	Unstandardized (standardized value)					
Factor 1 Consensus	-.32 (-30**) Z = -3.6			-.31 (-.30**) Z = -3.39		
Factor 2 Positive Marital		.7(.18~), Z = 1.9			.83 (.22*) Z = 2.3	
Factor 3 Negative Marital		-.3 (-.15), Z = -1.4	.05(.30**) Z = 2.6			.06(.32**) Z = 2.78
Inappropriate Parenting		-2.1(-.17) Z = -1.34	X		-2.87 (-24*) Z = -2.0	X
Statistics	CFI .94 χ^2 113.6 (df) 92 p< .06			CFI .94 χ^2 115.4 (df) 93 p< .06		
Correlations of Factors				Factor 1, Factor 2 = .24 Factor 1, Factor 3 -.28 Factor 2, Factor 3 -.30		
	Negative Marital on Inappropriate Parenting and Child Social Competence			**Negative Marital on Inappropriate Parenting Only**		

*p < .05. **p<.01 ~ p<.10

In Model 2, the effects of Negative Marital on Child Social Competence are via Inappropriate Parenting only. The insignificant parameter, Negative Marital to social competence, is trimmed from the model. The result is a similar fit to the data as Model 1,

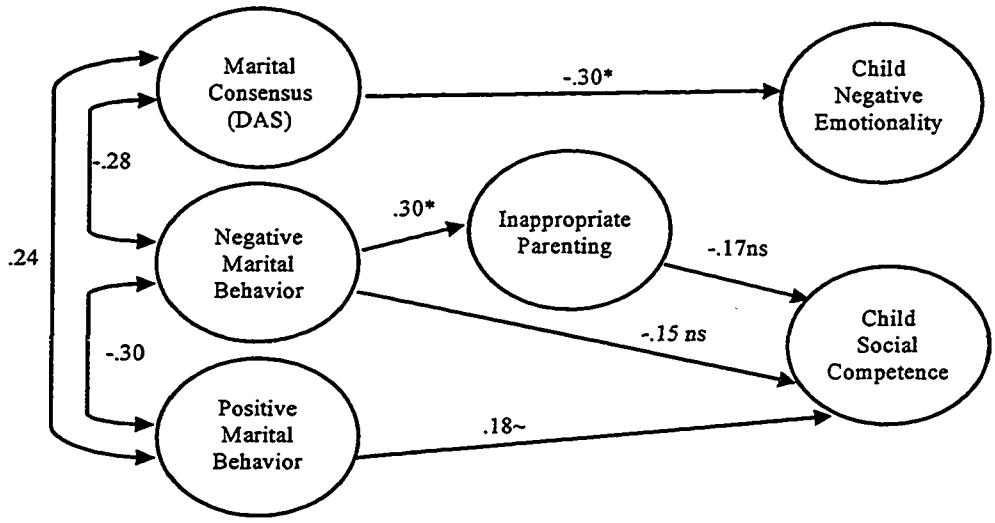

Figure 3: Direct and Indirect Effects of Family Interaction Processes (Positive and Negative), Negative Parenting and Child Outcome (Model 1)

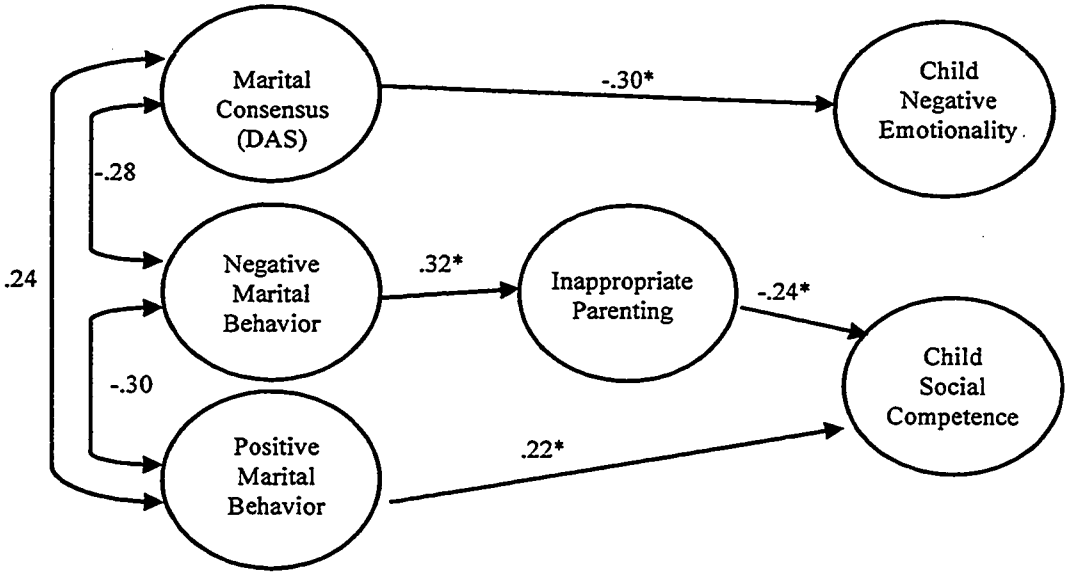

Figure 4: Direct and Indirect Effects of Family Interaction Processes (Positive and Negative), Negative Parenting and Child Outcome (Model 2)

but telling a different story. It appears that the important effects of negative marital practices are mediated by parenting. Furthermore, when Inappropriate Parenting mediates the effects of Negative Marital (bickering) on Child Social Competence, the effects of all of the family processes (consensus, positive marital, negative marital and inappropriate parenting) are significant. This is a better explanation of the data.

Again, in Table 8.8 a partly "saturated" model, where all three marital factors are mediated by Inappropriate Parenting, and Inappropriate Parenting is allowed to affect both child negative emotion and child social skill, is tested. When Inappropriate Parenting mediates all three marital factors (Factor 1, Factor 2, Factor 3), no outcomes are significant. In addition, when Inappropriate Parenting is a mediator for the two positive marital factors it reduces the fit of the model to the data, indicating that positive marital behavior has direct effects on child outcome, and is directed to specific aspects of child outcome, while negative marital behavior is mediated, and can be buffered by parenting practices. Additional models were tested with the positive marital factors as single mediators (both Consensus and Positive Marital Behaviors), one at a time, to determine if Inappropriate Parenting affected the impact of positive marital behaviors on the child. In those tests, the fit of models to the data was significantly worse, and the effects of positive marital practices on Inappropriate Parenting were not significant. Again, having positive marital factors mediated by parenting did not improve the fit to the data. The effects of positive marital practices were not hampered by the presence of negative/inappropriate parenting practices. The designated model, with only Negative

Marital mediated by Inappropriate Parenting, and that only for child social competence outcome, was the best (and only) fit for the data.

Finally (Table 8.9), a positive parenting factor was added to the model, and the effect was examined. While a combined mother and father praise variable did not

Table 8.8: Parenting and Marital Factors on Outcome (saturated model)

	Child Outcome		**Parenting**
	Unstandardized (standardized value)		
	Child Negative Emotion Factor	Child Social Competence Factor	Inappropriate Parenting Factor
Factor 1 Consensus			.001 (-.017) Z = -.102
Factor 2 Positive Marital Behavior			-.075 (-.206) Z = -1.13
Factor 3 Negative Marital Behavior			.0 (.178) Z = 1.20
Inappropriate Parenting	-.05 (-.003) Z = -.027	-2.17 (.17) Z = -1.3	
Statistics	CFI= .89 $\chi 2$ 130 (df) 92		

*p < .05. **p<.01 ~p<.10

work in the model, when father praise was used alone, it had effects on the Negative Emotional factor, and fit with the model. This final, and larger model of family interaction processes and child outcome includes positive and negative marital factors, and two parenting variables, one negative and one positive: Inappropriate Parenting and Father Praise. In this case, while Marital Consensus and Father Praise

contribute to less Negative Emotionality, Marital Positive Behavior and less Inappropriate Parenting lead to greater social skill. At the same time, the effects of marital negativity are being mediated by the inappropriate (or lack thereof) parenting practices. The factor loadings are quite modest, but reflect the correlational relations present in the data. Hence, overall, the model is a good fit for explaining how the data are related to each other. Adding Father Praise to the model improves fit compared to the model with a negative parenting variable only (Table 8.7). It has a χ^2 (104) = 127 , CFI = .93, compared to χ^2 (93) = 115 for the model with only a negative parenting factor included. The BIC statistic of –314 for the larger model, compared to –276 for the smaller model, supports the hypothesis that the larger model is indeed the better explanation.

Overall, when the parent and marital factors were combined in a model, a statistically better explanation of child outcome than tests of marital or parent factors alone, does not emerge. In fact, in this small sample, statistics indicate that there is a better fit when our questions are limited to marital factors alone, or to parenting alone. It is natural that the simpler models would result in better fit statistics. However, adding the parenting factors to the marital models provides a reasonable fit for the data, and furthermore allowed a test of not just whether, but how marital and parenting factors work together to predict child progress one year later. This final model provides a more complete, and complex, story of the data, and suggests the processes that might be more apparent if the sample size were larger.

Table 8.9: Two Parent and Three Marital factors on Child Outcome

	Child Outcome		Parenting
	Unstandardized (standardized value)		
	Child Negative Emotion Factor	Child Social Competence Factor	Inappropriate Parenting Factor
Factor 1 Consensus	-.27 (-.32**) z = -3.2		
Factor 2 Positive Marital Behavior		.87 (.24**) z = 2.6	
Factor 3 Negative Marital Behavior			.056 (.32**) z = 2.7
Inappropriate Parenting		-2.87 (-.24*) z = -2.1	
Father Praise	-.211 (-.18*) z = - 2.03		
Statistics	CFI .93 χ^2 127.6 (df) 104 p <.06		
Correlations:	Consensus, Pos Marital .24 Consensus, Neg. Marital -.30 Consensus, F praise .25	Pos. Marital, Neg Marital -.29 Neg Marital, F praise -.02 Pos Marital, F praise .18	

*p < .05. **p<.01 ~ p<.10

In this final figure (Figure 5) the model for the effects of "full family" interaction on the child outcome is illustrated. The marital factors, along with the individual parenting variables, present a picture of how family interaction patterns lead to child outcomes for CP children. While praise from father and marital consensus in the home independently affect reductions in immature emotion in the child, they are also related to each other (r =.25, Consensus and Father Praise). When there is marital consensus, we are more likely to see fathers praise more. At the same time other interaction processes in the home directly lead to the development of child social competence independent of those effects. The

presence of positive marital behaviors and a lack of inappropriate (a composite of negative practices) parenting practices can lead, independently, to the development of social skills. Positive marital practices by parents have direct effects on child social competence. The model shows as well that the effects of negative marital interaction on child social competence are mediated by negative, inappropriate parenting practices. In other words, negative marital practices make it more likely parenting will be negative, and negative parenting leads to lower social competence. At the same time, a lack of negative parenting practices can buffer the child from the effects of the same negative marital interaction. It appears that even when marital processes are negative, if inappropriate, negative parenting is controlled, the child's social skill development is protected from the effects of witnessing negative marital interaction.

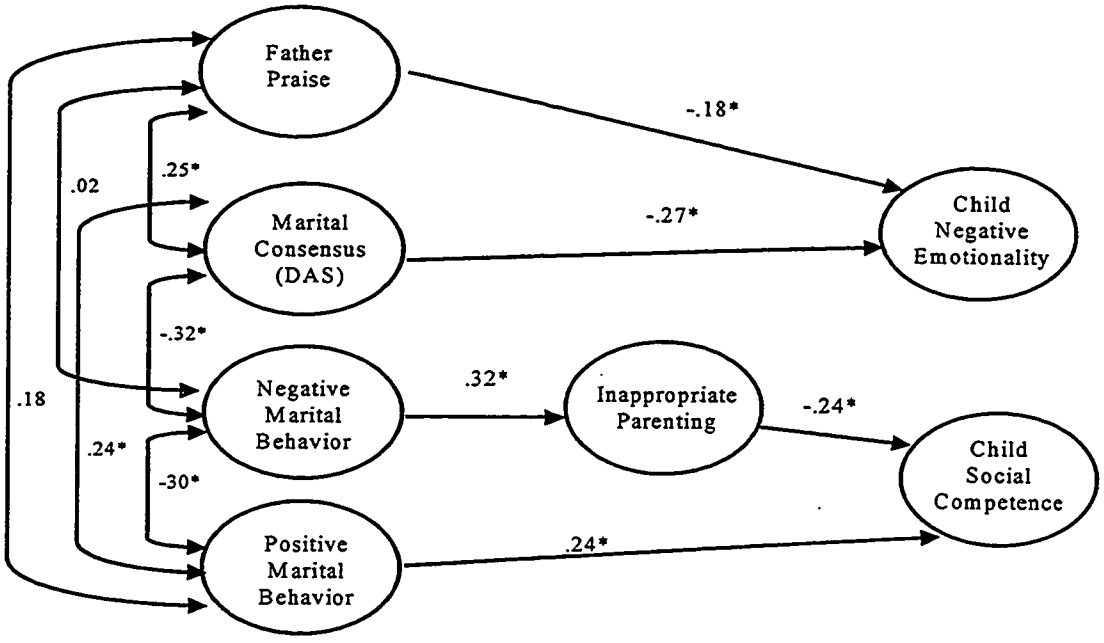

Figure 5: Family Interaction Processes (Positive and Negative) and Child Outcome

CHAPTER 9

DISCUSSION

Overview

This exploratory study examined how family processes, specifically marital and parent-child interactions, predicted children's problem behaviors one year after treatment for conduct problems. Initial measurement models were tested with Confirmatory Factor Analysis to determine the best measures for child outcome factors, as well as for marital and parenting factors. Structural equation modeling was used to confirm the factors and to model the marital and parent predictors on the child outcome measures. Theory guided the selection of indicators for the factors. A two-factor, theoretically sound child problem behavior solution was constructed, serving as the outcome factors in tests of the effects of marital and parenting processes. The two factors were child social competence and child negative/immature emotion. The child outcome factors utilized measures from three informants: parents, teacher and objective observers. Positive and negative marital behavior factors were constructed, as well as a third marital factor based on self-report of marital consensus. Parent variables were employed as single-indicator factors. Positive and negative marital and parenting factors were used to model the effects of family processes on child social skills and child management of negative emotion one year after treatment. Models showed that marriage has both direct and indirect effects on child outcome, and that positive marital interaction in particular directly affects child social skills development. Parenting has effects on both child

social skill and child emotion management. Negative Marital processes affect child social competence, and largely through an increase in inappropriate parenting.

Child Outcome Factor

The first task was to develop a child outcome factor that measured important areas of function for the child with CP. The child behavior factors were indicated by reports from the parents, teacher and objective observers in order to include child behavior from a variety of perspectives, and as it occurs in a number of settings. Although it can be difficult to combine measures across informants and measurement instruments, it is particularly important to include multiple informants when attempting to describe child conduct problems. It is important that the factors represent the complex and multifaceted nature of child conduct problems, which include a developmental trajectory where behavior moves from the home to larger settings, first school and peer system and later to the neighborhood and community (Patterson et al., 1991). The number of settings and number of problem behaviors is a better predictor of conduct problem severity than the actual severity of the individual behaviors themselves (Kazdin,1997; Patterson et al., 1992). Thus, child behavior problems identified by parents and also observed by the teacher indicate that the conduct problems are more pervasive, and hence may have a more serious outcome for the child.

Overall, combining cross-informant data held challenges. Same-source items held together as factors better than items from different sources. For example, there was no agreement between teacher and observational report, and a minimal amount

of agreement between parent and teacher, and parent and objective observers. Low relations between variables can be accounted for by the measurement differences inherent in the individual measurement instruments, as well as the inherent differences between what is being measured by the instruments. The home-visit observations sample behavior over one hour, within the home at a specific time of day, whereas the TRF and CBCL sample patterns of behavior over a period of months. Observational codes are counts of behavior during a very short time, while parent and teacher reports are assessments and summations of child function over a long period of time.

An advantage in this study, unlike many, is that both mother and father report of child behavior was included. Although mother and father CBCL reports in this sample were significantly related across all CBCL subscales, their reports operated in separate but complementary ways. Fathers saw their children somewhat differently than mothers, even though one can presume parents have many opportunities to discuss and assess their child's behavior. The data in this sample indicated that like other reports, the most likely subscales to be endorsed by both teacher and parent were the aggression scales (in this case CBCL and TRF), although in this report it was mother only whose aggression ratings agreed with teacher ratings. Father aggression was (negatively) related to teacher internalizing. In other words, when father saw low aggression, the teacher saw internalizing, and vice verse. Both parents agreed with teacher about prosocial behavior (CBCL reports and teacher TASB). Father rating of social competence agreed more with home observations of

deviance than did mother's (father's rating correlated at -.39 compared to mother's rating at -.25). Both mother and father report made important contributions to understanding the child.

Confirmatory Factor Analysis of child data revealed a two-factor solution for the child problem behavior outcome. Data was organized around a social skills/behavior cluster, and a withdrawn/negative emotionality cluster. The factors were stable throughout the analysis, and presented a theoretically sound description of child conduct problems. Conceptually, the two factors make sense. Poor social skills and difficulty managing emotions are two separate hallmarks of CP, and both contribute to the on-going development of CD (Patterson et al., 1991; Webster-Stratton, 1999). One is not the "flip side" of the other, but rather they represent two distinct processes that interact and exacerbate the development of each other.

Interestingly, aggression as reported by mother on the CBCL, loaded on either factor, and a double-loading, while not the best fit, was also a decent fit for the data. Modification statistics placed it on the Social Competence factor. It was somewhat of a surprise that a separate factor focused on immature emotion emerged for these children. While Social Competence and Negative Emotionality as two aspects of child problem behavior are not unheard of (Webster-Stratton, 1999; Patterson et al, 1991), and in fact have been identified as the two key problem areas for conduct problem children, it is less usual that aggression was not a definitive fit for the negative emotionality factor. In this study, all children were previously identified as having conduct problems, although most would have left treatment with significant

reductions in their aggressive behavior. It may well be that the effects of aggression (as observed by the mother) permeate both the emotion regulation and social competence arenas. Aggression can be a component of both factors, operating in separate but important ways on each factor. As a component of social competence, it relates to the "short circuiting" of the competent response to demands for performance, leading to social rejection and even less opportunity to practice prosocial social interactions (resulting in less social competence). As a component of the Negative, Immature Emotionality factor a mother's report of aggression can describe a disintegration into negative emotion, rather than effective action, under stress. This two-factor solution could be related to the age of the children, as young children frequently exhibit co-occurring emotional disorder. The predisposition to one kind of emotional or behavioral response, such as anger and aggression, may develop later. With these younger children, aggression seems to be a component of both poor emotion management, and lack of social skill. It's both an emotional decompensation, and a less skilled way to manage relationships. It would be interesting to test this two-factor solution across various ages of children with CP, and see if aggression fit with one factor more than the other as the child developed. Finally, a larger data set may have allowed the development of three child outcome factors: Internalizing, externalizing and social competence.

Social competence and lack of conduct problem (externalizing) behaviors were linked on a single factor in this study. Patterson and colleagues (1991) found that young conduct problem children who could manage their peer relations, and

make friends, were the same children who were most likely to "drop out" of the trajectory to full-blown conduct disorder. Being socially competent may protect children from peer rejection, and peer rejection is an important component in the continued development of CP behavior. Experiencing social success post-treatment is one way for children to increase the likelihood that CP behaviors will not continue (or begin again) to develop.

Marital Factors

Hypothesis 1: **Both Negative Marital practices and Positive Marital practices at Time-1 will predict child behavioral outcomes at Time-2.** Marital data was best reflected by separate positive and negative marital factors. When tested with child outcome, the factors showed separate, direct and specific effects on child outcome. It appeared that positive processes make a separate contribution to child well-being, and are not the merely the "other side" of negative processes.

The marital data was organized into positive and negative marital variables, although positive marital factors separated into two factors: positive marital behaviors and DAS self-report of marital consensus (Table 7.9). The positive factor did not fit as well when DAS subscales and observed positive behavior were combined, while it was modestly successful to combine behavior and a DAS subscale on the negative marital factor . It is interesting that the Satisfaction subscale of the DAS was most related to negative marital behavior (Table 7.5) and worked best in the CFA with negative behavior. However, ultimately the factors held

together better when DAS subscale scores and observed behaviors were combined into separate factors.

The process of developing the marital factors revealed some interesting relations between the marital partners and when and how they express positive behaviors to each other. One is the difference between mothers and fathers regarding positive behavior and marital adjustment. Mother positive behavior was rarely linked to marital adjustment scores by either parent (Table 7.7). However, fathers were more likely to behave positively when interacting with a spouse if either parent was pleased with the marriage, and mother report of adjustment related to his positive behavior as much as his own. When it came to negative behavior, it is linked to marital satisfaction scores for both parents. In addition, father low DAS scores linked to negative behavior for both of the marital partners, more so than mother report for either or both partners.

This tendency for father positive behavior to link to his marital adjustment concurs with family research (Dickstein & Parke 1988; Belsky et al., 1991) that found father behavior less differentiated than mother, whether that is parenting and marriage, or different aspects of the marriage. Overall fathers seem to have more crossover of relationships from domain to domain, whether that is marriage to parenting, or adjustment to behavior. Another way to say this is that they seem to have more difficulty containing difficulties experienced in one arena from spilling over to another. Mother appeared able to display positive behaviors while interacting

with her husband, even when unhappy in marriage. This becomes even more important when we examine the links between marital behavior and child outcome.

The links between negative marital behavior and marital unhappiness have been observed (Gottman, 1994). Gottman observed that once caught up in negative interactions, it was very difficult for unhappy couples to extricate themselves. Indeed, in Table 6.6 the number of negative behaviors counted for fault-finding and defensiveness exceed any positive category. It also may be that the observed negative marital processes themselves are a better index of marital unhappiness than positive marital processes are of happiness. They may be a better index of difficulty, than positive behaviors are of harmony. Even in the laboratory setting it may be difficult to inhibit negative communication when alone with the marital partner, engaged in a problem-solving task. Positive feelings may be more subtle and diffuse in their expression, more integrated throughout daily life, more difficult to capture in a 15-minute conversation. If positives are more diffuse in expression, less predictable and less sequential, it may require longer observational periods to capture them. The 24-hour a day laboratory paradigms have been instituted for just such dilemmas.

When the effects of marital factors were tested on child outcome there were a number of significant, and important findings. Marital quality was important, and on its own directly affected child outcome. It was particularly interesting and significant that positive marital behavior had direct effects, and that the effects were specific to child social competence. The positive marital behaviors represented in

the positive factor are active listening communication skills: Paraphrasing and soliciting the other's perspective. The Solicit code represents a request for the input of the partner. The Paraphrase code represents a summarizing what was said by the partner, or between the partners, even if the speaker disagrees with the content. These behaviors that invite and demonstrate interest in the partner are quite different from the negative linkage seen in conflictual marital interaction, where spouses do not listen well and where a negative comment engenders an immediate, and often rote, negative response. It is also interesting that both positive codes represent behaviors rather than emotions. Although it is easier to demonstrate these two skills if one feels in harmony with a partner, it is not necessary. In other words, even if couples are struggling to solve deeper issues in their marriage, it seems that it is useful for them to find a way to utilize these skills when they interact in the home.

Overall, marital quality directly affected child outcome, and did so in specific ways. Marital consensus, agreement between partners on typical marital topics, predicted less immature emotionality for the child at the same time that the positive marital behaviors predicted greater child social competence. It appears that when couples generally agree on everyday topics, and demonstrate interest and listening to one another, children benefit directly, and in ways important to children who are vulnerable to conduct problems. Marital consensus has an indirect effect on child social competence, via its association with positive behaviors, but it has a direct effect on emotion management. It makes sense that partners are more likely to demonstrate active listening skills when they are feeling in harmony with a partner.

When a Negative Marital factor was added to the model, it was presumed to affect child social competence because, unlike the positive factor, negative behaviors modeled ineffective ways of resolving conflict. Indeed, when tested on the Social Competence factor it added a separate and significant effect to the development of child social competence. While marital consensus predicted more emotion control, and positive marital behaviors predicted greater social competence, the negative marital behaviors had a negative effect on child social competence development. The separate processes affecting conduct problem children can be restated: When parents are able to be in agreement about potentially conflictual marital topics their children will display less negative and immature emotion. If at the same time, those parents also demonstrate positive communication skills, and control their negative behavior, their child will also show more positive social skills. Furthermore, if parents agree on important topics, they are more likely to behave more positively and less negatively, and vice verse. The marital dynamics, given the associations among positive marital, negative marital and marital consensus, provide a foundation from which the development of child emotion management and child social competence can be enhanced, or impeded.

When the saturated model for Positive and Negative Marital was examined (Table 8.4), the effects of Negative Marital Behaviors on child outcome are more difficult to interpret. In this model, Negative and Positive Marital behaviors are allowed to affect both child outcome factors. It appears that when the Negative Marital construct is allowed to affect Negative Emotionality, it acts to reduce the

negative emotionality in a child with CP. It seems that the negative behaviors are failing to dysregulate the child, but instead serve to counteract more immature, passive and internalizing emotion displays. A positive outcome to negative marital process does not appear reasonable. It may be that the marital processes measured in this factor are less negative than the hostile processes described in other reports. This may reflect lack of skills more than it reflects disrespect or dislike for one another. In the marital interaction laboratory paradigm, partners are not coached to conflict. They select a topic that they would like to 'problem solve,' they are not asked if they disagree beforehand, and they are allowed to use paper and pencil to focus them on solutions. This kind of activity is good for demonstrating problem-solving skills, an important skill for married couples, but is less likely to encourage the negative and corrosive marital behavior witnessed in some other research paradigms. Those corrosive behaviors, such as contempt and disrespect that ultimately predict divorce, are the behaviors most disruptive to child development.

Parenting Factors

Hypothesis 2: **Both Negative Parenting variables and Positive Parenting variables at Time-1 will predict child outcomes at T-2.**

Two single-indicator factors, one negative and one positive, predicted child outcomes. The positive factor was father praise of the child, observed at the home-visit, and the negative factor was mother's inappropriate parenting, a combination of harsh and inconsistent parenting.

Separate parenting variables were used to create single-indicator variables, as parenting variables did not combine easily into factors. Single indicators utilized were father praise and mother report of inappropriate parenting strategies, a positive and a negative parenting factor. Father praise (not mother) had a positive effect on child emotionality. Why was father praise and not mother praise important to emotion regulation? Other research reports have found that father practices are important for child emotion regulation (Hooven & Katz, 1993; Hooven, Gottman & Katz, 1995; Settlage, et al, 1993). When fathers are more involved with their children their children are more able to regulate emotion (both anger and sadness). The implication is that praise reflects an involved father, who is accepting of his child. Another explanation may have to do with the post-intervention time-point, and bears further investigation. At post-treatment observations mothers in particular may be using praise (which they learned in parent training) as a child management strategy when they were being observed. When used as a strategy rather than an index of relatedness, the effects of praise on emotion regulation may be masked.

A mother's poor disciplinary strategies (almost significant, $z = 1.9$) predicted a child's lower social competence. Harsh, negative parenting has been repeatedly implicated in the coercive cycles that lead to conduct problems in children (Patterson's work). In the parenting model, mother's inappropriate parenting (which includes inconsistent, inappropriate discipline and harsh and punitive responses) contributed independently to a lack of social skill development. It is not surprising

that children already treated for conduct problems would be vulnerable to the effects of continued negative parenting.

Marital and Parenting Factors Together

Hypothesis 3: **Combining parenting and marital factors is a better predictor than either parenting or marital alone.**

Adding parenting to the models contributed to the explanation for how family process affects child outcome. Overall, when the parent and marital factors were combined, a statistically better model of child outcome did not emerge. In fact, in this small sample, statistics indicate that there is a better fit when our questions are limited to marital factors alone, or to parenting alone. However, (see Figure 5, Tables 8.7 and 8.9) adding the parenting factors to the marital models provided a reasonable fit for the data, and furthermore allowed a test of not just whether, but how marital and parenting factors work together to predict child progress one year later. In the final model (Table 8.9) all parenting and marital factors had significant effects on the child outcome factors. This final model provides a more complete, and complex, story of the data, and suggests the processes that might be more apparent if the sample size were larger.

Hypothesis 4: **The effects of marital interaction child behavior will be both direct from marriage to child, and indirect via its impact on positive and negative parenting practices.**

The combined parent and marital models indicated that the effects of marriage were both direct and indirect from marriage to child, in line with other

research findings with both typically developing (Gottman & Katz, 1989) and clinic-referred children (Webster-Stratton & Hammond, 1999). This previous research at the Parenting Clinic, on a sample of 120 married parents, half of whom were parents of clinic-referred children (whose marital interaction was observed pre-treatment), found direct and indirect relations between negative conflict management on the part of both parents, and their children's concurrent conflict management skills. In the present research, findings about direct relations are expanded to include positive processes, while the couple's negative marital behavior appears mediated by negative parenting. In addition, the particular positive and negative marital processes are specified, and then applied to child outcome one year later.

It is interesting that in this study the effect for positive marital behaviors was direct, while the effect for negative marital behaviors was indirect via negative parenting. The effects of negative marital behaviors were mediated by mother parenting practices. Negative marital behaviors increased the likelihood mothers would engage in inappropriate discipline practices, and those practices led to lower competence for the child. This link from negative marital to disrupted maternal parenting is in line with reports that mothers in negative marriages relax limits (Crockenburg and Covey, 1991) and engage in more negative parenting behaviors (Katz & Gottman, 1996; Kerig, Cowan & Cowan, 1993) and more unresponsive parenting (Webster-Stratton & Hammond, 1999).

Father praise was directly related to child management of negative, immature emotion, but was not an effect of marital process. Father praise related to marital

process (consensus), but the effects of praise on child outcome were separate from those of marriage. Fathers are more likely to praise when there is marital consensus, but consensus does not lead to father praise, or vice verse.

In this study, different aspects of mother and father parenting had effects on child outcome. In other research as well, the pathways from marriage to parenting have been found to be different for fathers than for mothers (Crockenberg & Covey, 1991). Fathers used to be considered the sole conduit of marital distress to the child (Belsky, et al., 1991; Stoneman et al., 1989, etc.) via disruptions in their parenting (whether they were involved, how they treat their child). When there was marital distress, fathers were found to withdraw from their child, and/or become harsh or intrusive when they do interact. Although mothers were initially thought to compensate for marital distress by parenting more positively, more recent examinations reveal her parenting suffers as well (Katz & Gottman, 1996; Kerig et al., 1993), and it is disruptions in the effectiveness of her parenting. Both disrupted discipline and harsh interactions have been implicated in the development of CP. In this study, father praise (perhaps an index engaged and positive parenting, and quite different than either withdrawn or harsh parenting) and not mother behavior led to more emotion management. Although father praise appears more likely to occur when there is marital consensus, marital consensus does not appear to lead to father praise. It was only mother discipline practices that linked from marriage to child outcome. However, whether it is mother (versus father) discipline, or the inappropriate discipline only that is affecting the child cannot be determined. The Inappropriate

Parenting measure was a mother-only measure, and there was no parallel father measure of inappropriate parenting in the study.

Theoretic Implications

A number of different processes appear to be occurring as children are influenced by the interactions in the home. The transfer of important aspects of the marital relationship to specific parenting behaviors, and onward from parenting to the child, may best be explained by incorporating a number of theories. The effects of positive marital behavior on child social competence are explained best by Social Learning Theory. Social learning underlies the acquisition of skills that are demonstrated by important others. In this case, the parents are presenting a model, particularly so with the specific communication skills that represent the Positive Marital Factor, of learnable, effective communication. Another aspect of social learning, negative reinforcement, explains the child's failures to learn competence when exposed to inappropriate and negative parenting. In those interactions, children learn via reward to respond in incompetent, and inappropriate ways. When parents are unable to exert consistent discipline, their children often "win" aversive interactions, reinforcing the child's negative behavior. The failure to learn emotion regulation is perhaps better explained by the Attachment and parent child interaction literature. A climate of general agreement between partners, and praise from father, suggest that relationship and attachment in a non-conflictual climate reduce immature emotionality. Interaction and attachment research highlights the importance of specific positive parent practices, particularly those that index warm,

intimate relations. Father praise may be one way to measure a warm relationship with the father, and to examine the effects of warm relationship on child outcome. Finally, and back to negative and inappropriate parenting, when parenting practices are harsh there is a negative effect on the parent-child relationship and child attachment to parent.

Clinical Implications

There are a number of important clinical implications for the results of this study. First of all, it is important that programs for children with CP continue to focus on intervention with the family as well as the child. Family process, both between parents and between parent and child, continues to be important to the child, and as long as a year after treatment for CP.

For clinical intervention to be successful, we must know what key, or pivotal, processes in families should be targeted for change. From the results of this study, it appears that witnessing positive communication skills can have direct positive effects on children with CP, even if other negative processes are occurring. It is worthwhile (for their children, at least) to teach positive communication behaviors to married couples, aside from or in addition to dealing with their marital difficulties. Positive marital behaviors can contribute to positive social skill for children even when inappropriate parenting is occurring. Specific behaviors appear to be active listening, and interest in the partner's point of view. In spite of difficulties within the marriage, if parents can use communication skills and maintain some neutrality it appears that their children will benefit. In addition, this study continues to validate the necessity

of maintaining appropriate discipline for the CP vulnerable child. Appropriate discipline may even buffer their children from the effects of negative marital behaviors.

Furthermore, if parents are able to come to consensus, perhaps by learning problem-solving skills, it appears to contribute to child emotion management directly, and indirectly via its relation to positive parenting as well. Parents who felt they were in agreement on important marital issues, had children who managed emotion better, but were also more likely to engage in those positive marital behaviors that lead to their child's social competence.

Positive parent behaviors are important in addition to appropriate discipline strategies. This appears true for fathers in this study. Father praise appears to make a separate contribution to child emotion management even while negative marital behaviors or harsh/inappropriate discipline strategies are being utilized. For fathers, remaining positive with their children when in a conflicted marriage, and using positive skills with their wives, may pose a different challenge than for mothers, and a different approach may be required. Although for the most part they do not appear to become more negative than mothers when they are unhappy in their marriage, when unhappy they appear to express fewer positive communication behaviors with their wives.

The two-factor child outcome model supports previous research findings that two important processes are occurring in the development of CP (Webster-Stratton, 1999). It suggests that clinical interventions focus on both skill areas, and not

presume that success in one will lead to success in the other. Furthermore, aiding children with CP gain emotion management may require that a broader range of emotions is addressed than anger/aggression. Data in this study suggests that anger may be a part of larger difficulties with emotions in general.

Limitations of the Study

Although the size of the sample was somewhat small for SEM, and the relations between variables were modest, exploratory analyses were intriguing. Kline (1998) suggests a sample size of at least 100, with a ratio of at least ten cases per indicator. Seventeen indicators were used in the largest model, in this sample of 70 families, which is far more indictors per case than is recommended. There were trade-offs regarding which indicators were retained and which were eliminated when it came to testing the predictor factors on child outcome. The marital factors were reduced to two indicators each, threatening the stability of the models. Marital praise was eliminated from the positive marital factor, and the combined marital negativity variable from the negative marital factor, as each had the lowest loading on its factor. The Heywood effect (negative error variance for indicators of dimensions) was noted on some of the more complex models, which is not unusual when sample sizes are small, and two-indicator factors are utilized. There was also a kind of "fragility" to the models. When minor changes were made in order to test alternate models, frequently there were problems with convergence, or maintaining significant factor loads. In addition, the measurement "noise" inherent in combining measurements was even more apparent in this small sample. In spite of these limitations, relations

between variables were consistent throughout the series of model testing, and reflected actual correlations observed in the data.

This study is an exploratory study of the effects of family factors on child outcome. The child outcome factor was not tested for invariant structure across time-points. It is also not known if the effects of family process would be the same if child behaviors at other (earlier) time-points were taken into account. This study shows potential direction of effects from family interaction to child outcome, but it does not account for the child behavior at Time-1, and the contributions those behaviors have to outcome (or even to the family process at the time).

Finally, the outcome factor was reliant on parent report, and parent-child interaction. As research indicates that a child's peer relations have a powerful effect on the development CP, direct observation of the child with peers would strengthen the claims of the outcome factors. In fact, the importance of these observations has been recognized, and peer interaction observations are currently accepted practice, and are being conducted in schools and clinics.

Future Directions

Future research directions suggested by this study include further attention to and research on positive parenting and positive marital skills: Identifying the important positive behaviors and devising appropriate measurements for those behaviors for future research. This study also highlights the importance of father positive involvement, while at the same time demonstrating some of the difficulties fathers have in being positively involved with their wives and children. Finally, this

study suggests that further attention be paid to the specific kinds of skills that parents and children require in order to maintain, and even increase, the behavioral improvements that were achieved in interventions.

REFERENCES

Abidin, R.R. (1983). *Parenting Stress Index Manual.* Charlottesville, VA: Pediatric Psychology Press.

Achenbach, T.M., & Edelbrock, C.S. (1991). *Manual for the Child Behavior Checklist and Revised Child Behavior Profile.* Burlington, VT: University Associates in Psychiatry.

Achenbach, T.M., & Howell, C.T. (1993). Are American children's problems getting worse? A 13-year comparison. *Journal of the American Academy of child and Adolescent Psychiatry, 32,* 1145-1154.

American Psychiatric Association. (1994). Diagnostic and statistical manual of mental disorders (4th ed.). Washington, D.C.: Author.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychology Review, 84,* 191-215.

Baumrind, D. (1971). Current patterns of adult authority. *Developmental Psychology Monograph, 4* (1, Pt.2).

Behar, L.B. (1977). The preschool behavior questionnaire. *Journal of Abnormal Child Psychology, 5,* 265-275.

Belsky, J. (1981). Early human experience: A family perspective. *Developmental Psychology,* 17, 3-23.

Belsky, J., Youngblade, L., Rovine, M., & Volling, B. (April, 1989). Patterns of marital change and parent-child interaction. Paper presented at the biennial meeting of the Society for Research in Child Development, Kansas City, MO.

Belsky, J., Youngblade, L., Rovine, M., & Volling, B. (1991). Patterns of marital change and parent-child interaction. *Journal of Marriage and the Family, 53*, 487-498.

Bentler, P. (1995). *EQS Structural Equations Program Manual.* Los Angeles: BMPD Statistical Software.

Biglan, A., Lewin, L., & Hops, H. (1990). A contextual approach to the problem of aversive practices in families. In G. Patterson (Ed.), *Depression and aggression in family interaction.* Hillsdale, NJ: Erlbaum.

Bowlby, J. (1969). *Attachment and loss, Vol. 1: Attachment.* New York: Basic Books.

Bowlby, J. (1973). *Attachment and loss, Vol. 2: Separation.* New York: Basic Books.

Brody, G., Arias, I. & Fincham, D.(1996). Linking marital and child attributions and parent and child relationship. *Journal of Family Psychology, 10*, 408-421.

Brody, G., Pellegrini, A., & Sigel, I. (1986). Marital quality and mother-child and father-child interactions with school-aged children. *Developmental Psychology, 22*, 291-296.

Butkovsky, L.L. (1991, April). Emotional expressiveness in the family: Connections to children's peer relations. Poster presented at the biennial meeting of the Society for Research in Child Development, Seattle, WA.

Campbell, S.B. (1991). Longitudinal studies of active and aggressive preschoolers: Individual differences in early behavior and outcome. In D. Ciccetti & S.L. Toth (Eds.), *Rochester Symposium on developmental psychopathology, Vol. 2*

(pp. 57-90). Hillsdale, NJ: Erlbaum.

Cassidy, J., & Asher, S.R. (1992). Loneliness and peer relations in young children. *Child Development, 63*, 350-365.

Christensen, A. (1988). Dysfunctional interaction patterns in couples. In P. Noller & M.A. Fitzpatrick (Eds.), *Perspectives on marital interaction* (pp. 31-52). Clevedon, Avon, England: Multilingual Matters.

Christensen, A., & Margolin, G. (1988). Conflict and alliance in distressed and non-distressed families. In R.A. Hinde and J. Stevenson-Hinde (Eds.), *Relationships within families*. Oxford: Clarendon.

Coie, J.D., Lochman, J.E., Terry, R., & Hyman, C. (1992). Predicting early adolescent disorder from childhood aggression and peer rejection. *Journal of Consulting and Clinical Psychology, 60*, 783-792.

Covell, K., & Abramovitch, R. (1987). Understanding emotion in the family: Children's and parents' attributions of happiness, sadness, and anger. *Child Development, 58*, 985-991.

Cowan, P.A., & Cowan, C.P. (1990). Becoming a family: Research and integration. In I. Sigel & A. Brody (Eds.), *Family research*. Hillsdale, NJ: Erlbaum.

Cowan, P.A., Cowan, C.P., & Kerig, P.K. (1992). Mothers, fathers, sons and daughters: Gender differences in family formation and parenting style. In P.A. Cowan, D. Field, D.A. Hansen, A. Skolnick, & G.E. Swanson (Eds.), *Family, self, and society: Towards a new agenda for family research* (pp. 165-195). Hillsdale, NJ: Erlbaum.

Crockenberg, S., & Covey, S. (1991). Marital conflict and externalizing behavior in children. In D. Cicchetti & S.L. Toth (Eds.), *Rochester symposium on developmental psychopathology, Vol. 3*, pp.235-260. Hillsdale, NJ: Erlbaum.

Cummings, E. M. (1987). Coping with background anger in early childhood. *Child Development, 58*, 976-984.

Cummings, E.M., Vogel, D., Cummings, J.S., & El-Sheikh, M. (1989). Children's responses to different forms of expression of anger between adults. *Child Development, 60*, 1392-1404.

Cummings, E.M., & Davies, P. (1994). *Children and marital conflict: The impact of family dispute and resolution.* New York: Guilford Press.

Cummings, J.S., Pellegrini, D.S., Notarius, C.I., & Cummngs, E.M. (1989). Children's responses to angry adult behavior as a function of marital distress and history of interparent hostility. *Child Development, 60*, 1035-1043.

Darling, N., & Steinberg, L. (1993). Parenting style as context: An integrative model. *Psychological Bulletin, 113*, 487-496.

Davies, P.T., & Cummings, E.M.(1994). Marital conflict and child adjustment: An emotional security hypothesis. *Psychological Bulletin, 116*, 387-411.

Denham, S.A.(1989) Maternal affect and child's social emotional competence. *American Journal of Ortho-psychiatry, 59*, 368-376.

Denham, S., Casey, M., Grout, L., & Alban, C. (1991, April). Socialization of emotion: Pathway to preschoolers' affect regulation and emotion knowledge? In J. Tanguey & S. Denham (Chairs), Socialization of emotion in the family.

Symposium conducted at the biennial meeting of the Society for Research in Child Development, Seattle, WA.

Denham, S.A., McKinley, M., Couchoud, E.A., & Holt, R. (1990). Emotional and behavioral predictors of preschool peer ratings. *Child Development, 61*, 1145-1152.

Denham, S., Zoller, D., & Couchoud, E.A. (1994). Socialization of preschoolers' emotion understanding. *Developmental Psychology, 30*, 928-936.

Dickstein, S., & Parke, R.D. (1988). Social referencing in infancy: A glance at fathers and marriage. *Child Development, 59*, 506-511.

Dishion, T.J., French, D.C. & Patterson, G.R. (1995) The development and ecology of antisocial behavior. In D. Cicchetti & D.J. Cohen (Eds.), *Developmental psychopathology, Vol. 2: Risk disorder and adaptation*, (pp. 421-471). New York: Wiley.

Dishion, T.J., Patterson, G.R., & Kavanagh, K. (1992). An experimental test of the coercion model: Linking theory, measurement, and intervention. In J. McCord & R. Tremblay (Eds.), *The interaction of theory and practice: Experimental studies of interventions*, (pp. 253-282). New York: Guilford Press.

Dishion, T.J., Patterson, G.R., Stoolmiller, M., & Skinner, M. (1991). Family, school, and behavioral antecedents to early adolescent involvement with antisocial peers. *Developmental Psychology, 27*, 172-180.

Dodge, K.A., Pettit, G.S., McClaskey, C.L., & Brown, M.M. (1986). Social competence in children. *Monographs for the Society for Research in Child*

Development, 51.

Easterbrooks, M.A., & Emde, R.N. (1988). Marital and parent-child relationships: The role of affect in the family system. In R.A. Hinde & J.S. Hinde (Eds.), *Relationships within families: Mutual influences* (pp. 83-103). New York: Oxford University Press.

El-Sheikh, M., Cummings, E.M., & Goetsch, V. (1989). Coping with adults' angry behavior: Behavioral, physiological, and self-reported responding in preschoolers. *Developmental Psychology, 25*, 490-498.

Elicker, J., Egeland, B., & Sroufe, L.A. (1992). Predicting peer competence and peer relationships in childhood from early parent-child relationships. In R. D. Parke & G. Ladd (Eds.), *Family-peer relationships: Modes of linkage* (pp. 77-106). Hillsdale, NJ: Erlbaum.

Erel, O., & Burman, B. (1995). Interrelatedness of marital relations and parent-child relations: A meta-analytic review. *Psychological Bulletin, 118*, 108-132.

Erickson, M. F., Egeland, B., & Sroufe, L.A. (1985). The relationship between quality of attachment and behavior problems in preschool in a high-risk sample. In I. Bretherton & E. Waters (Eds.), Growing points in attachment theory and research. *Monographs of the Society for Research in Child Development, 50* (1-2, Serial No. 209), 147-167.

Eyberg, S., & Boggs, S. (1989), Parent training for oppositional-defiant preschoolers. In C.E. Schaefer & J.M. Briesmeister (Eds.) *Handbook of parent training.* New York: Wiley.

Fauber, R., Forehand, R., Thomas, A.M., & Wierson, M. (1990). A mediational model of the impact of marital conflict on adolescent adjustment in intact and divorced families: The role of disrupted parenting. *Child Development, 61*, 1112-1123.

Fauber, L., & Long, N. (1991). Children in context: The role of the family in child psychotherapy. *Journal of Consulting and Clinical Psychology, 59*, 813-820.

Fendrich, M., Warner, V., & Weissman, M.M. (1990). Family risk factors, parental depression, and psychopathology in offspring. *Developmental Psychology, 26*, 40-50.

Fincham, F.D., Grych, J.H., & Osborne, L.N. (1994). Does marital conflict cause child maladjustment? Directions and challenges for longitudinal research. *Journal of Family Psychology, 8*, 128-140.

Fincham, F.D., Linfield, K.J. (1997). A new look at marital quality: Can spouses feel positive and negative about their marriage? *Journal of Family Psychology, 11*, 489-502.

Gardner, F.E. (1987). Positive interaction between mothers and conduct-problem children: Is there training for harmony as well as fighting? *Journal of Abnormal Child Psychology, 15*, 283-293.

Gardner, F.E. (1989). Inconsistent parenting: Is there evidence for a link with children's conduct problems? *Journal of Abnormal Child Psychology, 17*, 223-233.

Gardner, F.E.,(1992). Parent-child interaction and conduct disorder. *Educational*

Psychology Review, *4*, 135-163.

Goldberg, W., & Easterbrooks, M.A. (1984). The role of marital quality in toddler development. *Developmental Psychology*, *20*, 504-514.

Gottman, J.M. (1994). *What predicts divorce?* Hillsdale, NJ: Erlbaum.

Gottman, J.M., & Katz, L.F. (1989). Effects of marital discord on young children's peer interaction and health. *Developmental Psychology*, *25*, 373-381.

Gottman, J.M., & Levenson, R.W. (1992). Marital processes predictive of later dissolution: Behavior, physiology and health. *Journal of Personality and Social Psychology*, *63*, 221-233.

Greenberg, M.T., & Speltz, M.L. (1988). Attachment and the ontogeny of conduct problems. In J. Belsky & T. Nezworski (Eds.), *Clinical implications of attachment*. Hillsdale, NJ: Erlabum.

Greenberg, M.T., Speltz, M.L., & DeKlyen, M. (1993). The role of attachment in the early development of disruptive behavior problems. *Development and Psychopathology*, *5*, 191-213.

Harter, S. (1982). The Perceived Competence Scale for Children. *Child Development*, *53*, 87-97.

Hetherington, M., Cox, M., & Cox, R. (1982). Effects of divorce on parents and children. In M. Lamb (Ed.), *Nontraditional families* (pp. 233-288). Hillsdale, NJ: Erlbaum.

Hinshaw, S.P., & Anderson, C.A. (1996). Conduct and oppositional defiant disorders. In E.J. Mash & R.A. Barkeley, (Eds.) *Child psychopathology*. New

York: Guilford.

Hinshaw, S.P., Lahey, B.B., & Hart, E.L. (1993). Issues of taxonomy and comorbidity in the development of conduct disorder. *Development and Psychopathology*, *5*, 31-49.

Hooven, C. & Katz, L. (1993, April). Parents' emotion philosophies and their children's peer and academic success. Poster presented at the biennial meeting of the Society for Research in Child Development, New Orleans, LA.

Hooven, C., Gottman, J. G., & Katz, L. F. (1995). Parental meta-emotion structure predicts family and child outcomes. *Cognition and Emotion*, *9*(2/3), 229-264.

Jenkins, J.M, Smith, M.A., & Graham, P.J. (1989). Coping with parental quarrels. *Journal of American Academy of Child and Adolescent Psychiatry*, *28*, 182-189.

Jenkins, J.M., & Smith, M.A. (1990). Marital disharmony and children's behavioral problems: Aspects of a poor marriage that affect children adversely. *Journal of Psychology and Psychiatry*.

Katz, L.F., & Gottman, J.M. (1993). Patterns of marital conflict predict children's internalizing and externalizing behaviors. *Developmental Psychology*, *29*, 940-950.

Katz, L.F., & Gottman, J.M. (1996). Spillover effects of marital conflict: In search of parenting and coparenting mechanisms. In J.P. McHale and Cowan, P.A. (Ed.), *Understanding how family-level dynamics affect children's development: Studies of two-parent families*. San Francisco: Jossey-Bass.

Kazdin, A.E. (1987). Treatment of antisocial behavior in children: Current status and future directions. *Psychological Bulletin, 102*, 187-203.

Kerig, P.K., Cowan, P.A., & Cowan, C.P.(1993). Marital quality and gender differences in parent-child interaction. *Developmental Psychology, 29*, 931-939.

Kline, R.B. (1998). *Principles and Practice of Structural Equation Modeling*. New York: Guildor.

La Freniere, P. J., & Sroufe, L. A. (1985). Profiles of peer competence in the preschool: Interrelations between measures, influence of social ecology, and relations to attachment history. *Child Development, 21*, 56-69.

Lahey, B.B., Loeber, R., Quay, H.C., Frick, P.J., & Grimm, S. (1992). Oppositional defiant and conduct disorders: Issues to be resolved for DSM-IV. *Journal of the American Academy of Child and Adolescent Psychiatry, 31*, 539-546.

Leary, M.R., & Miller, R.S. (1986). *Social psychology and dysfunctional behavior*. New York: Springer-Verlag.

Lieberman, A. (1977). Preschoolers competence with a peer: Relations with attachment and peer experience. *Child Development, 55*, 1265-1277.

Loeber, R. (1982). The stability of antisocial and delinquent child behavior: A review. *Child Development, 53*, 1431-1446.

Lytton, H. (1990). Child and parent effects in boys' conduct disorder: A reinterpretation. *Developmental Psychology*, 26, 683-697.

Maccoby, E.E. (1980). *Social development*. New York: Harcourt, Brace and

Jovanovitch.

MacDonald, K.E., & Parke, R.D. (1984). Bridging the gap: Parent-child play interaction and peer interactive competence. *Child Development, 55*, 1265-1277.

MacDonald, K.E. (1987). Parent-child physical play with rejected, neglected and popular boys. *Developmental Psychology, 23*, 705-711.

Main, M., & Cassidy, J. (1987). Reunion-based classifications of child-parent attachment organization at six-years of age. Unpublished scoring manual, University of California at Berkeley.

Main, M., Kaplan, N., & Cassidy, J. (1985). Security in infancy, childhood and adulthood: A move to the level of representation. In I. Bretherton & E. Waters (Eds.), Growing points in attachment theory and research. *Monographs of the Society for Research in Child Development, 50* (1-2, Serial No. 209), (pp. 66-104).

Main, M., & Soloman, J. (1990). Procedure, findings, and implications for the classification of behavior. In M. Greenberg, D. Ciccetti, & E.M. Cummings (Eds.), *Attachment in the pre-school years*, pp.121-160. Chicago: University of Chicago Press.

Malatesta, C. Z., Culver, C., Tesman, J. R., & Shepard, B. (1989). The development of emotion expression during the first two years of life. *Monographs of the Society for Research in Child Development, 54*, (1-2, Serial No. 219).

Mann, B.J., & MacKenzie, E.P. (1996). Pathways among marital functioning,

parental behaviors, and child behavior problems in school-age boys. *Journal of Consulting and Clinical Psychology, 25*, 183-191.

Matas, L., Arend, R.A., & Sroufe, L.A. (1978). Continuity of adaptation in the second year: The relationship between quality of attachment and later competence. *Child Development, 49*, 547-556.

McMahon, R.J. (1994). Diagnosis, assessment, and treatment of externalizing problems in children: The role of longitudinal data. *Journal of Consulting and Clinical Psychology, 5*, 901-917.

McMahon, R.J., & Estes, A.M. (1997). Conduct problems. In E.J. Mash & L.G. Terdal (Eds.), *Assessment of childhood disorders* (pp. 130-196). New York: Guilford Press.

Meichenbaum, D. (1993). Changing conceptions of cognitive behavior modification: Retrospect and prospect. *Journal of Consulting and Clinical Psychology, 61*, 202-204.

Moffitt, T.E. (1990). Juvenile delinquency and attention deficit disorder: Boys' developmental trajectories from age 3 to age 15. *Child Development, 61*, 893-910.

Moffitt, T.E. (1993). "Life-course persistent" and adolescence-limited" antisocial behavior: A developmental taxonomy. *Psychological Review, 100*(4), 674-701.

Parke, R.D., Cassidy, J., Burks, V.M., Carson, J.L., & Boyum, L. (1992). Familial contribution to peer competence among young children: The role of interactive and affective processes. In R.D. Parke & G.W. Ladd (Eds.), *Family-peer*

relationships: Modes of linkage, (pp. 182-203). Hillsdale, NJ: Erlbaum.

Parke, R. D., Mac Donald, K.B., Burks, VM, Carson, J, Bhavanagri, N, Barth, JM, & Beital, A. (1989). Family and peer systems: In search of the linkages. In K. Kreppner & R.M. Lerner (Eds.), *Family systems and lifespan development* (pp 87-112). Hillsdale, NJ: Erlbaum.

Patterson, C. J., Cohn, D. A., & Kao, B. T. (1989). Maternal warmth as a protective factor against risks associated with peer rejection among children. *Development and Psychopathology*, *1*, 21-38.

Patterson, G.R. (1976). The aggressive child: Victim and architect of a coercive system. In Hamerlynck, L.A., Handy, L.D., and Mash, E.J. (Eds.), *Behavior modification and families: Theory and research.* New York: Brunner/Maxel.

Patterson, G.R. The coercive cycle. Eugene, OR: Castalia.

Patterson, G.R. (1986). Performance models for antisocial boys. *American Psychologist*, *41*, 432-444.

Patterson, G.R., Capaldi, D., & Bank, L. (1991). An early starter model for predicting delinquency. In D.J. Pepler, & K.H. Rubin (Eds.), *The development and treatment of childhood aggression*, pp. 139-168. Hillsdale, NJ: Erlbaum.

Patterson, G.R., DeBaryshe, B.D., & Ramsey, E. (1989). A developmental perspective on antisocial behavior. *American Psychologist, 44*, 329-335.

Patterson, G.R., Reid, J.B., & Dishion, T.J. (1992). *Antisocial boys.* Eugene, OR: Castalia.

Patterson, G.R., & Stouthhamer-Loeber, R. (1984). The correlation of family

management practices and delinquency. *Child Development, 55*, 1299-1307.

Patterson, G.R., & Forgatch, M.S. (1987). *Parents and adolescents living together: Part 1: The basics*. Eugene, OR: Castalia.

Patterson, G.R., & Forgatch, M.S. (1995). Predicting future clinical adjustment from treatment outcome and process variables. *Psychological Assessment, 7*, 1-12.

Pettit, G.S., & Bates, J.E. (1989). Family interaction patterns and children's behavior problems from infancy to 4 years. *Developmental Psychology, 25*, 413-42.

Quay, H.C. (1986). Conduct disorders. In H.C. Quay & J. S. Werry (Eds.), *Psychopathological disorders of childhood*, (pp. 35-72). New York: Wiley.

Reiss, D., & Schulterbrandt, J. (1990). The family research consortium: At the crest of a major wave? In G.R. Patterson (Ed.), *Depression and aggression in family interaction*. Hillsdale, NJ: Erlbaum.

Roberts, W., & Strayer, J. (1987). Parents responses to emotional distress in their children: Relations to child competence with peers. *Developmental Psychology, 23*, 415-422.

Robinson, E.A., & Eyberg, S.M. (1981). The Dyadic Parent-Child Interaction Coding System: Standardization and validation. *Journal of Consulting and Clinical Psychology, 49*, 245-250.

Rose, S.L., Rose, S.A., & Feldman, J. (1989). Stability of behavior problems in very young children. *Development and Psychopathology, 1*, 5-20.

Rutter, M. (1987). Psychosocial resilience and protective mechanisms. *American Journal of Orthopsychiatry, 57*, 316-331.

Settlage, C.F., Silver, D.H., Afterman, J., Hart, I.C., & Nelson, K. (1993). Developmental process: Mother-child and father-child interaction during the second year of life. In P.A. Cowan, D. Field, D.A. Hansen, A. Skolnick & G.E. Swanson (Eds.), *Family, self & society*, (pp.363-384). Hillsdale, NJ: Erlbaum.

Spanier, G.B. (1989). Measuring dyadic adjustment: New scales for assessing the quality of marriage and similar dyads. *Journal of Marriage and the Family, 38*, 15-28.

Speltz, M.L. (1990). The treatment of preschool conduct problems: An integration of behavioral and attachment concepts. In M.T. Greenberg, D. Ciccetti, & E.M. Cummings (Eds.), *Attachment in the preschool years* (pp. 399-426). Chicago: University of Chicago Press.

Sroufe, L.A., & Fleeson, J. (1986). Attachment and the construction of relationships. In W. Hartup & Z. Rubin (eds.), *Relationships and development*. Hillsdale, NJ: Erlbaum.

Sroufe, L. A., & Jacobvitz, D. (1989). Diverging pathways, developmental transformations, multiple etiologies and the problem of continuity in development. *Human Development, 32*, 196-203.

Stoneman, Z., Brody, G.H., & Burke, M. (1989). Marital quality, depression, and inconsistent parenting: Relationship with observed mother-child conflict. *American Journal of Orthopsychiatry, 59*, 105-117.

Waters, Wippman, J., & Sroufe, L.A. (1979). Attachment, positive affect, and competence in the peer group: Two studies in construct validation. *Child*

Development, 50, 821-829.

Webster-Stratton, C. (1984). Randomized trial of two parent-training programs for families with conduct-disordered children. *Journal of Consulting and Clinical Psychology, 52*, 666-678.

Webster-Stratton, C. (1985). Mother perceptions and mother-child interactions: Comparison of a clinic-referred and a non-clinic group. *Journal of Clinical Child Psychology, 14*, 334-339.

Webster-Stratton, C. (1988). Mothers' and fathers' perceptions of child deviance: Roles of parent and child behaviors and parent adjustment. *Journal of Consulting and Clinical Psychology, 56*(6), 909-915.

Webster-Stratton, C. (1989). Dyadic Parent-Child interaction Coding System-Revised (Unpublished manuscript): University of Washington.

Webster-Stratton, C. (1993). Strategies for helping early school-aged children with oppositional defiant and conduct disorders: The importance of home-school partnerships. *School Psychology Review, 22*, 437-457

Webster-Stratton, C. (1994). Advancing videotape parent training: A comparison study. *Journal Consulting and Clinical Psychology, 62*, 583-593.

Webster-Stratton, C. (1996). Early-onset conduct problems: Does gender make a difference? *Journal of Consulting and Clinical Psychology, 64*(3), 540-551.

Webster-Stratton, C., & Hammond, M. (1997). Treating children with early-onset conduct problems: A comparison of child and parent training interventions. *Journal of Consulting and Clinical Psychology, 65(1), 93-109.*

Webster-Stratton, C., & Hammond, M. (1998). Conduct problems and level of social competence in Head Start children: Prevalence, pervasiveness, and associated risk factors. *Clinical Child and Family Psychology Review*, *1*(2), 101-124.

Webster-Stratton, C., & Hammond, M. (1999). Marital conflict management skills, parenting style, and early-onset conduct problems: Processes and pathways. *Journal of Child Psychology, Psychiatry, and Allied Disciplines*, *40*(6), 917-927.

Webster-Stratton, C., Hollinsworth, T., & Rogers, K. (1991a). Peer Problem-Solving Interaction Communication Affect Rating Coding System (PPS - I CARE). Unpublished manuscript, University of Washington.

Webster-Stratton, C., King, M., & Hollinsworth, T. (1991b). Problem-Solving-Interaction Communication-Affect-Engagement Coding System (PS - I CARE), Unpublished manuscript, University of Washington.

Webster-Stratton, C., & Spitzer, A. (1990). The relationship of mother daily discipline strategies to mother personal adjustment and stressors: Reports of child conduct problems and observations of mother-child interactions. Unpublished manuscript, University of Washington.

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PROFESSIONAL EXPERIENCE

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1994-1999. **Research Coordinator**
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TEACHING/RESEARCH ASSISTANTSHIPS

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INTERNSHIPS

1996-1997 **Pre-Doctoral Intern.** Olympic Mental Health, Bremerton, Washington. Child and Family Therapy
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PRESENTATIONS

Cordova, A., Hooven, C., Randell, B., Herting, J. (May, 2002). *Keeping parents in their seats: Challenges and findings from an indicated prevention program for parentrs of high-risk youth.* Poster presented at the annual meeting of the Society for Prevention Research, Seattle, WA.

Hooven, C., Randell, B., Cordova, A. (2002, May). Who stays, who leaves: The Challenge of parent retention in Intervention Research. Society for Prevention Research. Paper presented at the annual meeting of the Society for Prevention Research, Seattle, WA.

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PUBLICATIONS

Berninger, V., Abbott, S., Greep, K., Reed, E., Sylvester, L., Hooven, C., Clinton, A., Taylor, J. & Abbott, R. (in press). Directed reading and writing activities: Aiming instruction to working brain systems. In S. M. Clancey Dollinger & L. F. DiLalla (Eds.), *Prevention and intervention issues across the life span.* New Jersey: Lawrence Erlbaum.

Gottman, J., Katz, L., & Hooven, C. (1997). *Meta-Emotion: How families communicate emotionally.* New Jersey: Lawrence Erlbaum.

Gottman, J., Katz, L., & Hooven, C. (1996). Parental meta-emotion structure and the emotional life of families: Theoretical models and preliminary data. *Journal of Family Psychology, 10,* 243-260.

Hooven, C., Gottman, J. G. & Katz, L. F. (1995). Parental meta-emotion structure predicts family and child outcomes. *Cognition and Emotion,* 9(2/3), 229-264.

Hooven, C., Rushe, R. & Gottman, J. G. (1995). The play-by-play interview. In J. Gottman (Ed.), *What predicts divorce: The measures.* New Jersey: Lawrence Erlbaum.

Hooven, C. (1993). *The Meta-Emotion Coding System.* Unpublished manuscript, University of Washington. (Currently in process of revision for publication).

Hooven, C. (1982). "Creativity in the Montessori Classroom", in J. P. Chattin-McNichols (Ed.), *Current issues in Montessori education* (pp. 69-86). Ginn Publishing.

Webster-Stratton, C., & Hooven, C. (1998), Parent Training for Child Conduct Problems In A.S. Bellack & M. Hersen (Eds.), *Comprehensive Clinical Psychology.* London: Pergamon.