Marital Conflict, Parent-Child Relations and Children's Psychological Adjustment: A Longitudinal Investigation into the Role of Parental Warmth and Hostility

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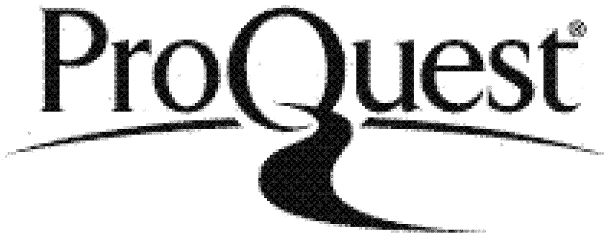
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SUMMARY

The corpus of research presented in this thesis applies a process-oriented perspective to understanding the interplay between marital conflict, parent-child relations and children's adjustment. Specifically, this thesis focuses on the conceptually important question concerning the relative impact of parent-child warmth versus hostility on children's appraisals of the interparental and parent-child relationship, and how children's appraisals mediate the influence of parent-child relations on children's adjustment in the context of a discordant interparental relationship. Using data from a sample of over 500 children, parents and teachers living in the United Kingdom, a set of interlocking studies were conducted. First, two studies addressed the direction of effects between marital conflict and parent-child warmth and hostility, and between parent-child warmth and hostility and children's internalising symptoms and externalising problems. In addition, differences according to parent and child gender, and parent and child reports of interparental and parent-child relations were identified. This provided a necessary first step to confirm the orienting influence of marital conflict on the quality of parent-child relations, and to identify the influence of parent-child relations on children's adjustment, whilst also considering the theoretically plausible alternative that children's behaviour influences parents' expressions of warmth and hostility within parent-child relations, which, in turn, may influence the level of interparental conflict. Following on from this, a third study examined the mediating role of parent-child warmth and hostility in accounting for the relationship between interparental conflict and children's long-term internalising symptoms and externalising problems. This study examined the relative influence of parental hostile and rejecting behaviour versus warm and responsive behaviour on children's adjustment considered in the context of marital conflict.

Finally, an integrative model examined whether the affective quality of parent-child relations determines children's appraisals of parent-child insecurity and children's perceptions of threat and self-blame derived from exposure to interparental conflict, and in turn, how these appraisals of marital and parent-child relations determine changes in children's symptoms of psychological and behavioural distress. Collectively, the studies contained within this thesis are among the very first to systematically consider the direction of effects between interparental conflict, parent-child warmth and hostility and children's adjustment and serve as a primer for researchers interested in factors that may reduce children's maladjustment in response to a discordant marital relationship.

CHAPTER 1

When studying how aspects of family life may influence children's development, focus has shifted from assessing how static, unidimensional influences (such as family type or annual income) may predict children's adjustment to understanding the processes these factors may set in motion (e.g. ineffective parenting) which may influence children over time, whilst also considering the social context within which individual child development unfolds (Brofenbrenner, 1986; Cowan, Cowan & Schulz, 1996). In particular, the child's family is considered by many to provide the primary social context within which individual differences in children's socio-emotional development may be understood (Amato & Keith, 1991; Davies & Cummings, 1994; Grych & Fincham, 1990; Harold & Conger, 1997). Many aspects of the child's family have been considered to play a role in influencing children's psychological and behavioural adjustment, ranging from broad indexes of the quality of family climate, to more specific factors such as parenting style and parental psychopathology such as depression or alcoholism. There are many studies that suggest family factors are linked to a broad range of indicators of children's adjustment problems including aggression (Hetherington, Cox & Cox, 1982; Patterson, 1982), conduct problems (Johnson & O'Leary, 1987; Jouriles, Murphy & O'Leary, 1989), anxiety (Johnston, Gonzalez & Campbell, 1987; Patterson, 1993) and depression (Grych, Seid & Fincham, 1992; Peterson & Zill, 1986). While the majority of research has examined family factors that relate to children's maladaptive outcomes, researchers have also considered family factors that may be linked to indicators of children's adaptive responses such as prosocial behaviour (Hetherington et al., 1982; Putallaz, 1987) and general social and cognitive competence (Long, Forehand, Fauber & Brody, 1987; Long, Slater, Forehand & Fauber, 1988). In order to account for successful socio-emotional adaptation, familial

factors that foster adjustment or protect children from maladjustment in the context of a negative family environment should also be examined (Masten, 2001).

In attempting to understand child development within the context of the family, the affective quality or emotional tone of the marital relationship and the parent-child relationship has generated a large body of research and both have been consistently linked to child adjustment (Cummings & Davies, 1994; Erel & Burman, 1995; Cox & Brooks-Gunn, 1999). Furthermore, there is evidence that suggests these two relationships (marital and parent-child) are interrelated (Engfer, 1988; Goldberg & Easterbrooks, 1984), with the majority of research suggesting that the marital relationship may orient the quality of parent-child relations (Belsky, 1981; 1984; Cowan & Cowan, 2002; Hetherington, 1999). In other words, evidence suggests that the quality of the marital relationship has implications for (or determines) the quality of parent-child relations. Nevertheless, this hypothesis has rarely been examined using appropriate longitudinal designs. Therefore the possibility remains that the quality of parent-child relations may influence the quality of interparental relations. For example, children's misbehaviour may create tension between mothers and fathers (Cox, Paley & Harter, 2001).

In terms of the link between the marital and parent-child relationship and children's well being, a negative marital relationship characterised by conflictual interparental relations, and a negative parent-child relationship characterised by hostility and rejection have both been consistently linked to negative child adjustment, particularly depression and aggression (Cowan, Powell & Cowan, 1998; Cummings & Davies, 1994; Grych & Fincham, 1990; Harold & Conger, 1997). There is an increasingly large body of evidence to suggest that marital conflict influences children's adjustment more so than the converse (O'Leary & Emery, 1984; Harold, Shelton,

Goeke-Morey & Cummings, 2004), however, as is true for the link between marital conflict and parent-child relations, the direction of the link between parent-child relations and children's adjustment has rarely been examined using appropriate longitudinal designs (Cowan & Cowan, 2002). For example, it could be that children's symptoms of aggression or depression influence the quality of the parent-child relationship (Cox et al., 2001). In addition, some children remain relatively unaffected despite exposure to marital conflict, whilst others develop symptoms of maladjustment (Rutter, 1987; Grych & Fincham, 2001), therefore the mechanisms that may exacerbate or prevent maladjustment which may be expected from exposure to a conflictual interparental relationship should be identified (Cummings & Davies, 2002).

There are two mechanisms that may account for variation in children's adjustment in the context of a discordant marital relationship. First, the affective quality of the parent-child relationship may partly explain variations in children's responses. For example, it is possible that positive parent behaviour directed toward the child (e.g. warmth and support) may reduce the likelihood of negative effects from a discordant marital relationship (Katz & Gottman, 1997; Margolin & John, 1997). Conversely, hostility directed toward the child in the context of interparental conflict may exacerbate adjustment problems (Harold & Conger, 1997; Margolin & John, 1997). A related issue is whether positive parent behaviour influences child adjustment to the same extent as negative parent behaviour (Paley, Conger & Harold, 2000), For example, it may be that negative parental behaviour has a greater influence on children due to its salience (Belsky, Fish & Isabella, 1991). Second, children's perceptions of family relations may provide an additional mechanism that may partly explain why children may be differentially affected by exposure to the same conflict episode (Grych & Fincham, 1990; Harold & Conger, 1997; Rohner, 1986). For example, hostile parent-child

interactions that occur in the context of a discordant marital relationship may lead children to view marital conflict and parent-child relations in a more negative manner than if parents are able to maintain warm parent-child relations in the context of interparental conflict. In turn, children's perceptions may partly account for variation in children's emotional and behavioural well-being. This thesis investigates the relative effects of parent-child warmth and hostility on children's perceptions of interparental conflict and parent-child relations and the impact of these perceptions on children's internalising symptoms and externalising problems assessed within the context of a prospective longitudinal research design. There is a dearth of research that investigates whether parent-child hostility has different consequences for children's adjustment than simply an absence of warmth, or if parent-child warmth has different implications for children's adjustment than simply an absence of hostility in the context of discordant marital relations. It is important to investigate this topic because considering both positive and negative parent behaviour on children's adjustment is likely to constitute a more representative picture of family life.

Specifically, this thesis will focus on the conceptually important question concerning the relative impact of parental warmth and hostility engendered within the context of discordant interparental relations and how parents' hostile and rejecting behaviour versus warm and responsive behaviour may affect children's long-term emotional and behavioural development. Importantly, this thesis will programmatically advance the hypothesis that interparental conflict affects parent-child relations (warmth versus hostility) which, in turn, affects children's long-term symptoms of emotional and behavioural distress. Using the attributes of a three-wave longitudinal research design, the studies contained within this thesis are among the very first to systematically consider the proposed direction of effects between interparental problems, parent-child

problems and children's psychological adjustment against the theoretically plausible alternative that children's emotional and behavioural problems serve as a stimulus for increased parent-child problems, which in turn, increase the propensity for higher levels of conflict in the interparental relationship. Questions relating to the role of parent and child gender will also be considered as part of this overall theoretical focus. The remainder of this chapter will review theoretical and empirical work that provides a platform from which to understand how marital and parent-child relations influence children's perceptions of family life and in turn, contribute to account for variation in children's adjustment.

Family factors and children's adjustment: A brief theoretical review

There are several theoretical perspectives that have guided research on marital relations, parent-child relations and child adjustment. Four theoretical frameworks will be briefly reviewed that orient investigation into these relations, including attachment theory, family systems theory, social learning theory and social cognitive perspectives. In the following overview of each theory, examples of empirical research based on the theory being described will be provided to demonstrate application of each theoretical perspective to the investigation of the impact of marital and parent-child relations on children's adjustment.

Attachment Theory

Attachment theory primarily derives from the extensive and influential work of John Bowlby (1952; 1973; 1980) who proposed that variations in the quality of infant-caregiver relations have implications for current and future child functioning. The attachment relationship between child and caregiver is defined as an affective bond that develops over the first year of life and the quality of attachment is proposed to derive from the quality of care and dyadic interaction between parent and child (such as

sensitive parenting and adequate provision of psychological needs, e.g., providing comfort during distress). Parent-child attachment is often described in terms of categories of attachment that vary on the dimension of security (Ainsworth, 1967) which is measured according to the child's use of the caregiver as a secure base from which to explore the environment, particularly seeking or not seeking comfort from the caregiver during times of stress or distress (Carlson & Sroufe, 1995). Thereby, secure attachment is characterised by the infant readily separating from the caregiver to explore the environment, yet returning when distressed, while insecure attachment is inferred from an inability to separate from the mother to explore, and/or not seeking or deriving comfort from the relationship when distressed (Ainsworth, Blehar, Waters & Wall, 1978). There are further categories of attachment in addition to those described above, however, more recent measures of attachment are based on a continuum rather than imposing a categorical classification (e.g., Kerns, Kelpac & Cole, 1996). This is thought to provide a more accurate measure by being able to capture subtle individual differences in children's attachment behaviour (Kerns et al., 1996). By the end of the first year the infant is thought to have expectations regarding the availability and responsiveness of the caregiver based on previous interactions, and this information is proposed to form an 'internal working model' that provides a foundation from which the child interprets the world (Bowlby, 1973).

Research into attachment theory provides an important empirical base from which to investigate factors that influence child development, particularly factors that can disrupt or promote secure parent-child attachment, and in turn, research that identifies the consequences of secure and insecure parent-child attachment for children's adjustment (Kerns et al., 1996; Harold et al., 2004). There is a large body of evidence that supports Bowlby's claim that the quality of attachment can predict future child

functioning, particularly in the domain of children's social relationships (e.g. Egeland & Farber, 1984; Isabella & Belsky, 1991). Generally, children who are classified as having a secure attachment history (i.e., they have experienced parents to be warm, responsive and consistent) are able to engage in competent social interaction, whereas children who have experienced unresponsive, harsh parenting may experience problematic peer relations (Kerns et al., 1996). Furthermore, insecure parent-child attachment has been linked to children's symptoms of depression (Armsden & Greenberg, 1987; Lapsley, Rice & Fitzgerald, 1990) and aggression (Greenberg, 1999; Harold et al., 2004). Conversely, secure parent-child attachment has been linked to indicators of positive outcomes in children, including social competence and independence (Weinfield, Sroufe & Egeland, 2000). Importantly, secure parent-child relations have been linked to lower symptoms of maladjustment (e.g., Paley, et al., 2000; Harold et al., 2004), which suggests secure attachment with parents may prevent the development of behavioural and emotional problems. Furthermore, many researchers have expanded the idea of attachment security, recognising it is not just early experience (i.e. attachment at one year old) that affects later child adjustment, but ongoing parent-child relationships influence children's socioemotional development throughout childhood and adolescence (Kerns et al., 1996; Lamb et al., 1999).

Following Bowlby's outline of attachment theory, it follows that factors that affect parents' ability to be responsive to their child's needs (e.g., parental psychopathology, economic pressure) may disrupt the security of parent-child attachment (Belsky, 1999; Davies & Cummings, 1994). The quality of the marital relationship (often indexed by marital conflict) is proposed to constitute the primary determinant of parent-child attachment security either directly or indirectly via disruptions in parenting (Davies & Cummings, 1994; Belsky, 1984; Frosch &

Mangelsdorf, 2001). The importance of the marital relationship for the quality of parent-child attachment can be understood by thinking of marital conflict as being distressing to the child whilst also involving both parents whom the child may usually go to when distressed; thereby parents may be both the cause and solution to child distress (Owen & Cox, 1997). For example, Owen and Cox (1997) provide evidence that the presence of marital conflict measured at birth predicted decreased infant attachment one year later. However, they also found that positive characteristics of each parent (warm, sensitive and responsive parenting) measured when the infant was 3 months old predicted secure attachment with each respective parent at 1 year old. More recently, Harold et al., (2004) demonstrated that marital conflict predicted the security of parent-child attachment one year later for a large sample of early adolescents.

However, while attachment theory considers dyadic interaction between the parent and child, its focus is primarily on the consequences of caregiver behaviour in determining the affective bond between parent and child (e.g., the promptness and appropriateness of parents' responses to the infants' signals). The potential for child behaviour to affect parent behaviour is rarely considered (Bell, 1968). For example, it is possible that excessively demanding infants cause parents to withdraw when they are distressed, which may lead to an insecure attachment relationship. Family systems theory considers the possibility that each member of the family can affect each other.

Family Systems Theory

Family systems theory attempts to capture complex processes that can operate within families, and explain how these processes can influence children's adjustment. The strength of this theory lies in its ability to consider all possible influences among family members. Family systems theory is derived from general systems theory (Von Bertalanffy, 1968) which was formulated in order to aid understanding of growth and

development of living systems in the realm of biology. A widely accepted definition of a system is a series of elements arranged in consistent relationships with each other (Miller, 1993), thereby the family also fits this definition (Cox & Paley, 1997). Concepts from general systems theory have been applied to understand relationships among families, known as family systems theory.

Family systems theory conceptualises families as a complex network of reciprocal relationships that constantly evolve (Cox & Paley, 1997). Within the family unit each relationship is known as a subsystem (e.g., marital, parent-child, sibling). Family systems theorists would suggest the marital relationship exerts an influence on the parent-child relationship, and vice-versa. There are several useful concepts within family systems theory that have direct implications for research design. For example, the family is a unit and is greater than the sum of its component parts suggests that complete understanding is not possible if the family is broken down into individual dyads (e.g., trying to understand the parent-child relationship without consideration of the marital relationship). Systems theory rejects traditional notions of an 'ultimate causality' for disorders, but proposes that interactions between several elements within the family unit interrupt the balance of the system and may be implicated in dysfunction (Von Bertalanffy, 1968). This theory provides conceptual underpinnings of research that attempts to consider child development in context.

Family systems theory has been applied to many domains of empirical and clinical practice including marital communication (e.g. Gottman, 1979) and family therapy (e.g., Olsen, 1995). In particular, this theory is ideally suited to conceptualise the potential influence of the marital subsystem on the parent-child subsystem (and vice-versa), and the influence of child behaviour on the marital and parent-child relationship, and vice-versa. Steinglass (1987) suggests family systems theory has made an important

contribution to the introduction of a fundamentally different approach to understanding cause and effect, orienting thinking away from a singular, static 'causes' of adaptive or maladaptive behaviour of an individual or family unit to multiple interacting 'causal' agents. However, there is a gap between propositions of family systems theory (e.g. processes within the family are dynamic and circular) and empirical models that tend to be static and unidirectional (Cowan & Cowan, 2002). In summary, family systems theory would predict the marital relationship is likely to influence parent-child relationships and children's well being via family interactions. However, social learning theory would propose that children can be influenced by marital behaviour simply by observing the interaction, without being involved directly (Goeke-Morey, Cummings, Harold & Shelton, 2002).

Social Learning Theory

Social learning theory is derived from traditional learning theory whose roots stem from behaviourism, in which only overt behaviour is considered and observed. However, social learning theory modifies and expands the notions of classic learning theory, applying learning principles to real-life social behaviours and latest versions acknowledge the influence of underlying cognitive processes (Miller, 1993). The aim of learning theory is to explain how behaviour is acquired, with early advocates suggesting that child behaviour (response) is entirely shaped by the environment (stimulus) in which they live (Watson, 1924), for example, the models children observe within the family. This is different to family systems theory, because it implies a one-way direction of influence from environment to child. For example, early learning theory would hypothesise only one direction of influence from parent (stimulus) to child (response) and not consider how children may shape their environment. Social learning theory therefore was developed in order to apply learning theory concepts to the social world (Bandura, 1965), and is primarily

concerned with the process of 'socialisation' whereby parents attempt to teach children to behave in ways accepted by society. Relevant principles from learning theory include operant (or instrumental) conditioning (Skinner, 1948) whereby child behaviour is more likely depending on certain stimuli, such as when a child produces behaviour due to reinforcement from the parent (e.g. being praised for desirable behaviour). In addition, reinforcement may operate when a desirable goal is achieved, for example, if parents are distracted from a marital argument by child misbehaviour, this may reinforce the negative child behaviour and increase the likelihood it will be performed again (Margolin et al., 2001). Classical conditioning suggests repeated exposure to certain stimuli produces a response that can be triggered by just a hint of the full stimulus (e.g., Pavlov). This can be applied to explain children's distress at the beginning of an interparental argument when children have become distressed as a response to previous parental conflicts (Davies, Myers, Cummings & Heindel, 1999). In this instance, a child may become distressed simply when parents begin a conflictual exchange due to being sensitised to any indication of conflict.

Bandura (1965; 1977) applied traditional learning theory to explain children's social development. He introduced the notion of observational learning, suggesting the child does not need to practice nor be reinforced in order to imitate the behaviour observed. This suggests that children may adopt behaviours they are exposed to, even if they are not directly involved in the situation (e.g. a child may imitate parents' hostility they observed during a marital argument at school when interacting with peers). Social learning theory is also able to explain how children can acquire variations of the behaviour they observe, via the notion of abstract modelling. This suggests children can learn the general rule for a behaviour (rather than the specific act itself), especially if the behaviour seems to be rewarded, known as vicarious reinforcement (e.g. if the mother

becomes angry, and the father complies with her request as a result). Another important contribution of Bandura's thinking was to go beyond the child's immediate environment (e.g., the family) as the sole source of learning. He proposed the child's environment is only one of many influences on children's development, and considers also the biological characteristics of the child and the child's behaviour. Bandura introduced the notion of reciprocal determinism to explain how these three factors (the child's biological make-up, e.g., temperament, the child's behaviour and the environment, such as the family; Miller, 1993) are interdependent in their influence on child behaviour. For example, Bandura suggests there are several factors that influence whether a child will learn the behaviour they have observed, such as the age of the child (which will affect whether they are cognitively and socially developed enough to understand the behaviour they witness), the salience of the model (e.g. parents are more likely to be attended to) and if the child is rewarded for imitating the behaviour (Miller, 1993).

Patterson (1982) developed a model of 'coercive family process' to describe the development of child aggression based on social learning theory, particularly the notion of reinforcement by both child and parent. Patterson and colleagues spent many hours observing families with dysfunctional interaction patterns. They noticed that dysfunctional families used aversive behaviour (e.g. arguing, hitting, shouting) to exert short-term control which developed into entrenched negative patterns of behaviour. For example, the mother makes a demand 'tidy your room' and the child reacts with negative behaviour, such as having a temper tantrum and the mother backs down and no longer pursues the request. Thus, both mother and child are reinforced as the child avoided a chore, and the mother stopped the aversive temper tantrum (Patterson, 1995). More recent applications of social learning theory suggest parents' conflict management styles may be learnt and applied by children many years later in their own relationships

(Amato & Booth, 2001; Conger, Cui, Bryant & Elder, 2000). For example, parents and children have been reported to demonstrate similar conflict strategies (Dadds, Atkinson, Turner, Blums & Lendich, 1999), affective styles during conflict (Katz & Gottman, 1993) and similar levels of interpersonal anger (Jenkins, 2000). However, Amato and Booth (2001) reported only negative aspects of the marital relationship were transmitted, which they suggest may be because discord is more infrequent and salient and therefore likely to be attended to by children.

Bandura's theory can explain how children's behaviour may vary depending on the situation, and focuses on the processes of how children acquire behaviours (Miller, 1993). In later revisions of his social learning theory, Bandura increasingly considered role of underlying cognitive processes that may influence children's behaviour (Bandura, 1989). He proposed children's cognitions may operate as a mediator between the child and their behaviour to explain why children may imitate certain behaviours and not others, e.g. perceptions of self-efficacy may prevent an action being imitated if the child does not believe they are capable of carrying out the behaviour. However, Bandura's primary focus is more on the situational variables that encourage or discourage learning rather than the cognitive factors (Miller, 1993). Nevertheless, children's cognitions are likely to shed light on how an observed behaviour is interpreted and may be able to account for why exact modelling of the same behaviour is rarely observed.

Social Cognitive Perspectives

There are several social cognitive perspectives that will be discussed in this section, all of which have useful contributions to understanding how children make sense of the world around them, which is turn, is proposed to have implications for their psychological adjustment. First, Piaget's cognitive-stage theory will be described along

with the more general domain of social cognitive theory, and second, two specific social-cognitive theories will be briefly outlined: information processing theory and attribution theory.

Piaget's cognitive-stage theory (1929; 1952; 1954) conceptualises developmental changes in both the process of knowing and the nature of knowledge itself as a series of increasingly complex cognitive stages that all children experience. His theory stems from an interactionist framework, wherein the process of development is viewed as dynamic in which children play an active role in bringing advances to their own thinking by selecting and interpreting the environment (Hala, 1997). Most importantly, Piaget proposed that all experiences are filtered through the child's current level of understanding, and dependent upon their existing cognitive structures. This means that older children are more likely to understand the potential consequences of marital conflict and therefore may experience a greater tendency to feel threatened (Grych & Fincham, 2001). Specifically, Piaget suggests two mechanisms can account for development, known as assimilation (fitting the world into the child's current structure) and accommodation (adjustment to current cognition to accommodate demands of the environment whereby current knowledge is not adequate). Piaget introduced the concept of 'schemas', that is, an organised pattern of behaviour employed in interactions with the environment, suggesting older children have more organised and abstract mental operations available to them. For example, in the stage he terms 'pre-operational' from 2 to 7 years old, the child is thought to be unable to take another's perspective due to egocentrism, whereby the child believes others see the world exactly as they do. However, in the 'concrete operations' stage (7-11 years old) children begin to appreciate social relations and other people's perspectives. While the principles of Piaget's theory have been the most influential of almost any theory of child

development, Piaget has been criticised for not specifying factors that affect children's behaviour, e.g. memory, attention, motivation, but just delineating general cognitive structures. In addition, some researchers do not agree with his assumption that the mechanisms of development are the same for the physical and social world as Piaget suggests (Miller, 1993). For example, Bless, Fiedler and Strack (2004) explain perception of physical objects is often based on well-defined attributes such as size and shape, whereas social aspects cannot be 'observed' directly, rather traits are inferred (e.g. if a person is said to be aggressive this depends on their conceptual definition of aggression). Piaget's theory inspired social cognitive theories that aim to explain the processes though which children understand their social world, rather than a description of the skills that can be expected at each stage of development.

Social cognitive theories therefore focus on cognitions that may underlie children's representation and response to their social world (Miller, 1993). For example, psychological field theory (Lewin, 1951) highlighted the importance of individual perception, suggesting a person's 'psychological field' (perception and interpretation of the world) is necessary for understanding their behaviour, as opposed to objective reality. This suggests that a child's perception of their social world (e.g., of parent behaviour) may be more useful to understand their behaviour than an observer's view of the family. Fiske and Taylor (1991) suggest a person's psychological field is influenced by several factors including the characteristics of the individual (needs, beliefs and abilities) which are affected by the current situation, their cognition (mental processes they are engaging in) and motivation (which determines whether the behaviour will be enacted or not).

Specifically, *social information processing theory* attempts to identify the specific processes that explain how information children gather from social interactions

is processed, attended to, transformed, and in turn influences their response to social encounters. This theory can contribute to account for individual differences in children's response to the same social situation as differences in information processing style would predict differences in response. Information processing theory is very useful to describe the complexity of thought and can make specific predictions about children's behaviour from moment-to-moment analyses of cognition based on a situation and the child's current cognitive system (Miller, 1993). Dodge and colleagues have applied information processing principles successfully to explain children's psychopathology, including aggression (Dodge & Frame, 1982; Quiggle, Garber, Panak & Dodge, 1992) and depression (Dodge, 1993). Crick and Dodge (1994) describe a model of children's information processing that describes how information from a social exchange is transformed in memory into knowledge structures (e.g. schema or working model) that guide future processing and behaviour. Habitual maladaptive mental processing, such as attributing hostile intent to an ambiguous behaviour may account for behaviour problems (Dodge, 1993). Important concepts of this theory are that the meaning that is applied to the stimulus and a child's past experience guides their future relationships via latent mental structures that are stored in memory, and influence current processing of social events (Crick & Dodge, 1994). Social information processing theory has also been applied to parent-child behaviour (Cassidy, Kirsh, Scolton & Parke, 1996). For example, Gomez, Gomez, DeMello and Tallent (2001) suggest children's perceptions of negative parenting behaviours predicted hostile social information processing and these cognitions mediated the relationship between perceived parental behaviours and children's aggression. Similarly, Pettit, Bates and Dodge (1993) and Weiss, Dodge, Bates and Pettit (1992) found the influence of parental

harsh discipline on children's aggression displayed at school was mediated through a hostile attribution bias.

A perspective consistent with an information processing approach is *attribution theory,* which is based on a social cognitive perspective proposed by Heider (1958). This states that a person's perception is a function of observed behaviour, the context within which it occurs and the perceivers own characteristics and expectations. Furthermore, attributions are hypothesised to change or maintain the quality of the relationship between the attributor and the target and the attribution (explanation) a person makes for the observed behaviour is proposed to influence their behaviour towards the target. For example, if a child perceives a peer bumped into them on purpose, they may behave aggressively in response which may disrupt their friendship. Alternatively, if the child attributed the peer's behaviour as accidental, the child's response is likely to be less negative and the relationship between them unaffected. Attribution theory has been applied to understand children's perceptions of the marital and parent-child relationships (Fincham, Beach, Arias & Brody, 1998; Grych & Fincham, 1990). Fincham et al., (1998) found that children's attributions for parent behaviour were related to the quality of the parent-child relationship and father-child conflict. Specifically, conflict promoting attributions (e.g. inferring negative parental behaviour such as shouting at the child was done in order to hurt their feelings) was related to children's reports of negative parent-child relationships. This is likely to be an important avenue for understanding how children's perceptions of family relationships can partly account for their adaptive or dysfunctional behaviour.

Collectively, these four influential theories (attachment theory, family systems theory, social learning theory and social cognitive perspectives) underlie the majority of empirical research that aims to understand how family factors and child factors influence

children's psychological adjustment. Taking account of the child's affective bond with parents, learning that takes place in the family context, children's stage of cognitive development, and the process that underlie children's cognitions are likely to contribute to a comprehensive understanding of how children influence, and are influenced by their social environment, namely, the family. As noted throughout this brief theoretical review, each theory contains principles that can help to understand interrelationships within the family, and particularly, the influence familial relationships may have on children's adjustment. The psychological and behavioural well-being of children is a primary concern of many countries including the UK and North America (Harold, Pryor & Reynolds, 2001; Emery, 2001). In particular, the observation that increased emotional and behavioural problems in children seem to co-occur with an increase in divorce rate spurred research into the link between family breakdown and children's adjustment.

The impact of family breakdown on children's adjustment

Breakdown of the marital relationship is considered by many to be related to children's well being (Amato & Keith, 1991; Cummings & Davies, 1994; Hetherington, et al., 1982). The divorce rate in the UK has risen by 83% in the last 40 years. In 2001 around 160,000 divorces were recorded in Great Britain (Office for National Statistics, 2003). The majority of those divorces included couples with young children, therefore a large number of children (just under 147,000) under 16 years old were estimated to have experienced parental break-up in 2001. However, this is likely to be an underestimate of the number of children exposed to discord between partners due to the number of cohabiting relationships (in which partners never legally married) that may dissolve, and the possibility that some discordant relationships never legally divorce.

A recent review of studies that examined the impact of parental separation and divorce on children's well being concluded there is unequivocal evidence that children whose parents separate are at significantly greater risk for negative social, psychological and even physical development than children whose parents stay together (Pryor & Rodgers, 2001). However, despite the consistent and robust nature of this finding, several sources of evidence indicate that the picture is more complex than a simple causal relationship between parental breakdown and adjustment problems. Amato and Keith (1991) conducted a meta-analysis of 92 studies comparing over 13,000 children from intact and divorced (single-parent) families on a wide range of indexes of children's well being. Their calculations revealed a small overall effect size, indicating children from divorced homes were only slightly lower on all measures of adjustment than children from intact homes. They evaluated several explanations for this link, including the absence of one parental figure and decreased economic status, but found the family conflict hypothesis accounted for most variation in children's adjustment. That is, children from intact homes characterised by a high level of interparental conflict (preceding and following divorce) experienced lower levels of well being than children from divorced families with lower levels of overt conflict (Amato, 2001). There is a substantial body of evidence that supports this hypothesis, that the presence of interparental conflict that can precede and follow parental separation accounts for greater variation in children's maladjustment than simply the occurrence of absence of divorce (Hetherington et al., 1982). For example, several researchers report that children's adjustment problems continue if conflict continues post-divorce (Buchanan, Maccoby & Dornbusch, 1991), and adjustment problems are often evident prior to divorce (Pryor & Rodgers, 2001). Furthermore, Katz and Gottman (1993) reported that children whose parents engaged in a negative marital interaction style (characterised by

mutual hostility) exhibited externalising problems, but actual divorce or separation was unrelated to maladjustment. Finally, there is evidence that children exhibit fewer behaviour problems when divorce occurs between parents who previously engaged in overt, intense and unresolved conflict, than if they remain together in a conflictual marital relationship (Amato, 2001).

Collectively this body of evidence suggests it is necessary to move beyond the study of family structure (i.e. intact, divorced, single-parent, cohabiting), to investigate the link between marital conflict and children's adjustment in more detail (Fincham, 1994). A large body of research has accumulated over the last 20 years investigating this link, in particular, addressing the question of which aspects of marital conflict are most consistently linked with long-term adjustment problems in children, and the mechanisms that may account for this link (Cummings & Davies, 1994; 2002; Emery, 1982; Harold & Conger, 1997). Research into the domain of marital conflict and children's adjustment is needed because family breakdown is becoming increasingly prevalent, yet not all children who are exposed to interparental conflict develop long-term adjustment problems (Cummings & Davies, 1994; 2002; Harold & Murch, 2004). There are two mechanisms that may account for the variation in children's responses to marital conflict including the quality of the parent-child relationship (Fauber & Long, 1991) and children's appraisals of the marital and parent-child relationship (Grych & Fincham, 1990; Harold & Conger, 1997). Before each of these mechanisms are described in detail, the link between marital conflict and children's adjustment will be reviewed.

Marital conflict and children's adjustment

Empirical evidence consistently indicates that the presence of marital conflict increases the probability for maladjustment in children (Cowan & Cowan, 2002; Harold

& Conger, 1997). Maladjustment has been defined in a number of ways, but the most frequently employed criteria are broad-band measures of externalising problems (including aggression and delinquency) and internalising symptoms (measuring depression, withdrawal and anxiety; Grych & Fincham, 2001). Many researchers provide evidence for the link between interparental conflict and externalising behaviours (Achenbach & Edelbrock, 1978; Buehler, Anthony, Krishnakumar & Stone, 1997; Johnson & O'Leary, 1987; Emery & O'Leary, 1984; Patterson, 1982) and internalising symptoms (e.g. Grych, Seid & Fincham, 1992; Katz & Gottman, 1993; Peterson & Zill, 1986). Other indicators of children's maladjustment have also been associated with marital conflict, including academic performance, (Forehand, Long, Brody & Fauber, 1986) risk behaviour such as alcohol consumption and smoking (Melby, Conger, Conger & Lorenz, 1993), and problematic peer relations (Gottman & Katz, 1989; Kahen, Katz & Gottman, 1994). Thus, a large corpus of evidence suggests that a conflictual marital relationship can compromise children's psychosocial, physical and academic adjustment, with internalising symptoms and externalising problems being the hallmark indicators (Achenbach & Edelbrock, 1978).

However, as conflict between parents is often noted to be a common event in the majority of families (Booth, Crouter & Clements, 2001; Cummings & Davies, 1994) research effort has been devoted to identifying the characteristics of marital conflict that are most likely to disrupt children's adjustment. One explanation for why variants of conflict expressions may have differential consequences for children's adjustment is that children's responses vary according to how interparental conflict is expressed and managed (Cummings & Davies, 1994; Goeke-Morey et al., 2003; Grych & Fincham, 1990). Research indicates that marital conflict is not a unidimensional construct, for example overt conflict (direct expression of hostile behaviour and emotion) is most

upsetting children (Buehler et al., 1997) particularly if violence is also present (Holden & Ritchie, 1991; Jouriles, Murphy & O'Leary, 1989). Conversely, there is evidence to suggest that some types of conflict may have very little negative, or even positive effects on children, such as conflict discussed in a calm manner, expressions of affection during a conflict episode, or when resolution occurs (Goeke-Morey et al., 2003). This suggests that the emotional tone of conflict may be an important distinguishing variable, whereby children are most likely to be distressed by conflict accompanied with negative affect (Conger, 2001). For example, when children witness physical violence during interparental conflict, they may fear the end of the marriage or that parents may also be violent towards them (Grych & Fincham, 1990). Conversely, when children observe parental disagreements tempered by affection, they may be reassured of the stability of parents' relationship, and consequently, the security of the family unit (Goeke-Morey et al., 2003).

In summary, research has established a link between hostile, frequent and unresolved marital conflict and increases in children's emotional and behavioural maladjustment (Cummings and colleagues: Cummings, Ballard & El-Sheikh, 1991; Cummings & Davies, 1994; Cummings, Zahn-Waxler & Radke-Yarrow, 1981). Two primary mechanisms have been proposed to account for the impact of interparental conflict on children's adjustment. The first, the direct effects hypothesis, suggests that witnessing marital conflict is distressing and may evoke negative cognitions which increase the probability of children's maladjustment. For example children who believe they are to blame for the interparental conflict or that one parent may leave the family home are more likely to experience immediate distress than children who do not make such negative attributions (Davies & Cummings, 1994; Grych & Fincham, 1990). Alternatively, the indirect effects hypothesis suggests that children are negatively

affected by marital conflict if the quality of the parent-child relationship is disrupted (Fauber & Long, 1991; Margolin & John, 1997). This suggests that marital conflict does not directly influence children's well being, but the quality of the parent-child relationship determines whether children will development symptoms of maladjustment.

The parent-child relationship in context of marital relations

Reflecting principles of family systems theory, there is a large body of evidence to suggest that marital and parent-child relationships are linked (Belsky, 1984; Cox et al., 2001; Erel & Burman, 1995; Harold & Conger, 1997). Indeed, Fincham, Grych and Osborne (1994) suggest that marital and parent-child relationships are so intricately related they cannot be understood in isolation of one another. However, there are three issues that will be considered regarding research on marital and parent-child relations in the context of this thesis. First, the nature of the link between marital and parent-child relations is not agreed upon. There is evidence that the association between the marital and parent-child subsystem is positive (that is, as the quality of the marital relationship deteriorates, the quality of parent-child relations also declines, e.g. Easterbrooks & Emde, 1988), yet there is also evidence for a negative relationship between these two constructs (whereby as marital conflict increases, the parent-child relationship becomes more harmonious, e.g. Goldberg & Easterbrooks, 1984). Furthermore, possible mechanisms that may account for the association between marital and parent-child relations are numerous. For example, social learning theorists suggest modelling may explain why conflict expressed in the marital relationship may also occur in the parent-child relationship (Christensen & Margolin, 1988). Alternatively, family systems theory proposes marital conflict may lead to scapegoating of the child, whereby parents focus on negative child behaviour, which is likely to increase parent-child conflict (Vogel &

Bell, 1960). These hypotheses and evidence for both a positive and negative relationship will be reviewed in detail in Chapter 2.

The second issue concerns conceptualisations of parent-child relations. Researchers have defined the parent-child relationship in several different ways, each emphasising a different aspect of parent-child relations, with each being linked with marital conflict (Cowan & Cowan, 2002). For example, there is evidence for a relationship between marital conflict and measures of parent-child attachment (Davies & Cummings, 1994); parenting styles (Cowan, Cowan, Schulz & Heming, 1994); parenting practices (Margolin & John, 1997) and parent-child conflict (Almeida, Wethington & Chandler, 1999). The majority of research has focused on the negative aspects of parent-child relations in the context of marital conflict, yet it is possible that some parents can maintain a positive parent-child relationship in spite of a discordant marital relationship, which has rarely been considered (Cox et al., 2001). For example, although there is evidence that a negative marital relationship is likely to lead to problems in the parent-child relationship, it is unlikely that the entire nature of each relationship is negative, devoid of any positivity. Families in which marital conflict is not present at all times may mean that parents can maintain some level of positivity in the parent-child relationship (Cox et al., 2001), and this may have important implications for children's adjustment. This possibility, along with research concerning the various aspects of the parent-child relationship that have been considered in the context of interparental relations will be discussed throughout this thesis.

The final issue concerns the direction of influence between marital and parent-child relations, for example, do parents who behave in a hostile manner towards each other create a hostile relationship between themselves and their children? Conversely, do parents who have conflictual relations with their children cause tension in the marital

relationship? While there is some evidence to suggest that marital relations have implications for the parent-child relationship (Fauber, Forehand, Thomas & Wierson, 1990), the alternative hypothesis, that the parent-child relationship may lead to changes in the quality of marital relations is rarely considered. Cowan and Cowan (2002) suggest a reason many researchers assume the direction of influence is from the marital to parent-child relations is because there is evidence that parents must negotiate new roles within the marital relationship following the birth of the child (Cox, Paley, Burchinal & Payne, 1999; Cowan, Cowan, Heming & Miller, 1991). This observation necessitates that the marital relationship precedes the parent-child relationship in time which means the 'cause' and 'effect' is temporally ordered (Cowan & Cowan, 2002; Conger & Ge, 1999). Indeed, Erel and Burman (1995) suggested that in order to study this interrelationship, longitudinal studies should begin before the birth of the child in order to establish the direction of effects. Nevertheless, this assumption is beginning to be challenged and replaced with a new conceptualisation of bidirectional or reciprocal influences between parent and child. The logic of this hypothesis recognises that parents may have a greater influence on children during infancy and early childhood, simply because children are dependent on parents for many needs, both physical and emotional. However it is likely that this becomes less of a unidirectional relationship as children become older and able to contribute more to the relationship (Maccoby & Martin, 1983). While research suggests that stormy parent-adolescent relationships are not inevitable (Montemayor, 1983; Paikoff & Brooks-Gunn, 1991), adolescent behaviour may have an impact on the family (e.g., coming home late or drug abuse) and parents may disagree regarding the appropriate parenting style to adopt (Cox et al., 2001; Kerr & Stattin, 2003). Furthermore, Cox et al., (2001) suggest that a link between marital and parent-adolescent relations is probable considering adolescents are more likely to become

involved in marital disputes (Cummings, 1994), which may exacerbate interparental conflict. In conclusion, there is a dearth of research that addresses the dynamics of the link between marital and parent-child relations during adolescence (Cox et al., 2001). This will be addressed in Chapter 4.

In addition to the link between marital conflict and parent-child relations, the indirect effects hypothesis suggests that the quality of the relationship between parents and children accounts for the influence of marital conflict on children's adjustment (Fauber & Long, 1991).

Marital conflict and child adjustment: Parent-child relations as mediator

This hypothesis proposes marital conflict may set in motion processes that disrupt parent-child relations, which in turn impacts on children's adjustment (Faber & Long, 1991; Fauber et al., 1990). Most studies investigate the mediating role of negative parent-child relations, whereby the presence of a discordant marital relationship leads to a negative parent-child relationship, characterised by various measures including hostility, conflict, rejection or withdrawal, and this in turn is related to an increase in children's maladjustment. For example, Fauber et al., (1990) reported that marital conflict was related to decreased parent-child warmth and involvement and increased rejection and withdrawal which predicted an increase in children's externalising problems. There is a large body of evidence for the mediational role of negative parent-child relations in accounting for a variety of adjustment problems (that is, parent-child relations account for or explain the association between marital conflict and children's adjustment; Crockenberg & Covey, 1991). However there is variation as to whether parent-child relations are found to provide a full mediational role (account for changes in children's maladjustment above and beyond the influence of marital conflict) or a partial role, whereby parent-child relations are linked to children's maladjustment, but

marital conflict (or other variables) continue to exert an influence on children's levels of maladjustment (Harold & Conger, 1997; Harrist & Ainslie, 1998; Vandewater & Lansford, 1998).

It is also possible that a close, supportive and warm parent-child relationship may mitigate the negative impact of divorce on children, yet this has not been examined to the same extent as the influence of negative parent-child relations (Fauchier and Margolin, 2004). Nevertheless, studies that have considered this possibility suggest this hypothesis requires further examination. Hess and Camara (1979) proposed and tested whether the affective quality (defined as the degree of positive and negative emotion) of the parent-child relationship determined the adjustment of children from maritally discordant homes. In particular, they proposed the affective quality of the parent-child relationship would increases or decreases the effectiveness of parents' socialisation role (i.e., ability to parent effectively) and in addition, a close parent-child relationship would reassure the child the bond with each parent will not be lost in the context of marital conflict. Hess and Camara (1979) measured children's feelings towards mothers and fathers separately and assessed the relative effect of marital conflict and parent-child relations in accounting for children's symptoms of maladjustment. They found that a positive parent-child relationship was associated with lower aggression and more positive social relations and this effect was maintained (though not as strong) if only one parent-child relationship was positive. Further evidence for the role of positive parent-child relations in the context of interparental conflict is provided by Forehand et al., (1991), who reported that a positive parent-child relationship, as reported by adolescents themselves, provided a protective role against family stressors, including parental divorce, interparental conflict and maternal depression. This is consistent with the social cognitive perspective presented earlier, whereby children's perception of positive

parent-child relations are important for understanding how family relations influence their well being (Fiske & Taylor, 1991), Nevertheless, the majority of studies investigating the mediating role of parent-child relations on children's adjustment are cross-sectional in design and therefore unable to test the alternative hypothesis that child behaviour could account for the quality of parent-child relations, or a third unmeasured variable may account for both parent-child relations and child adjustment (Forehand et al., 1991). However, Katz and Gottman (1997) conducted a longitudinal study and found some evidence that aspects of positive parent-child interactions (including warmth) were linked over time to maladjustment in children of maritally distressed homes.

In summary, these results suggest a negative parent-child relationship may account for why marital conflict may lead to maladjustment in children while a positive parent-child relationship may reduce the probability for adjustment problems that may be expected of children living in a home characterised by interparental conflict. Nevertheless, there are two issues that mean conclusions that can be drawn from the studies assessing the role of parent-child relations in the context of marital conflict conducted thus far are limited. First, with few exceptions (Harold & Conger, 1997; Harold, Fincham, Osborne & Conger, 1997), the hypothesis that the quality of parent-child relations mediates the relationship between marital conflict and parent-child relations has not been examined using longitudinal designs and appropriate statistical controls to rule out alternative hypotheses. Consequently, it cannot be determined whether the quality of parent-child relations mediates the relationship between interparental relations and children's adjustment, or if children's initial levels of maladjustment determine the harmony of marital and parent-child relations. Second, despite the fact that attachment theory would predict that a secure parent-child

relationship, characterised by warmth may reduce the impact of stressors (e.g., interparental conflict) on children's well being, this has rarely been tested. It is possible that in the context of marital conflict parent-child relations may consist of a combination of positive (e.g., warmth and affection) and negative (e.g., hostility and rejection) affect depending on the type and frequency of marital conflict. The relative influence of positive and negative affect within parent-child relations however has not been investigated. Both of these issues will be addressed within the studies contained in this thesis.

Nevertheless, proponents of the direct effects model do not agree that the quality of parent-child relations provides the only mechanism through which marital conflict may influence children's adjustment (Emery, Fincham & Cummings, 1992). The direct effects hypothesis proposes that children evidence significantly more distress when they witness conflictual exchanges between parents, particularly when the topic of conflict is related to the child than when they do witness such conflicts (Cummings & Davies, 1994; Grych et al., 1992). This finding cannot be accounted for by the indirect effects hypothesis because if the quality of parent-child relations is the process through which effects are directed, whether conflicts occur in the presence or absence of the child should be unrelated to children's adjustment. Furthermore, the evidence that children's responses vary as a function of expression and management of interparental conflict suggests there may be something unique in the child's processing that mediates the link between interparental conflict and their well being (Cummings & Davies, 2002). The social cognitive theories reviewed earlier proposed that children's cognitions relating to their social experiences are likely to partly explain their behaviour (Crick & Dodge, 1994; Fincham et al., 1998; Harold & Conger, 1997; Lewin, 1951). Indeed, there is an increasingly large body of evidence to support this hypothesis. For example, Grych and

Fincham (1990) proposed that child-related conflict may be particularly distressing because it elicits feelings of blame in children, which is linked to an increase in children's maladjustment (Grych et al., 1992, Grych, Harold & Miles, 2003).

The importance of children's perceptions of family relations

The social cognitive perspective suggests that a person's perception of others (whether accurate or not) can predict their behaviour (Fiske & Taylor, 1991; Mischel, 1973; Zebrowitz, 1990). For example, even when inaccurate, children's perceptions of peer rejection are as powerful at predicting depression as measures of actual peer rejection (Domitrovich & Bierman, 2001). Recognition of the importance of children's perceptions of family life is increasing. For example, in the domain of social policy in the UK, children are increasingly consulted during the parental divorce process. Harold and Murch (2004) suggest that children's perception of the source, content, duration, intensity and degree of resolution that occurs during interparental conflict is likely to constitute a mechanism through which the effects of interparental conflict is determined. In particular, children's perceptions of marital conflict may help to explain the finding that children exposed to the same conflict stimuli can react in different ways, whereby some evidence internalising symptoms, some externalising problems, some experience both internalising and externalising, while others experience no apparent reaction to interparental conflict (Cummings & Davies, 1996).

However, consistent with systemic principles, Harold and Conger (1997) highlight that marital conflict does not occur in isolation of other family stressors. Parents embroiled in marital conflict may be less able to focus on their parenting role (Erel & Burman, 1995), and therefore children may not feel able to go to parents to alleviate their distress as they may do in other circumstances, with parents being both the source and solution to their distress (Cummings & Cummings, 2002; Owen & Cox,

1997). This suggests that children's perceptions of the parent-child relationship in the context of marital conflict is likely to be linked to their adjustment, Indeed there is a growing body to evidence to suggest that children's perceptions of parent-child relations partly explain children's symptoms of maladjustment (Amato, 1994; Paley et al., 2000; Harold, Shelton, Goeke-Morey & Cummings, 2004; Kerns et al., 1996). For example, Serot and Teevan (1961) proposed that the emotional tone of the parent-child relationship has a fundamental influence on children's socioemotional development; whereby well adjusted children perceive the parent-child relationship as relatively happy. Furthermore, Harold et al., (2004) reported that children who feel they are unable to rely on their parents as a source of comfort when distressed experienced greater symptoms of maladjustment in the context of a discordant marital relationship.

In summary, the evidence cited above indicates that the role of children's appraisals of both the marital and parent-child relationship is likely to constitute an important mechanism that may contribute to account for children's adjustment in the context of marital discord. There are three theoretical perspectives that will be described shortly, that address children's cognitive appraisals of what marital conflict may mean for themselves and the family (Grych & Fincham, 1990), how marital conflict may affect children's perception of their security in the family (Davies & Cummings, 1994), and the final perspective, which extends social cognitive principles across marital and parent-child relationships (Harold & Conger, 1997).

The Cognitive-Contextual Framework

The cognitive-contextual framework suggests that children's subjective evaluation (termed perception or appraisal) of conflict between their parents, in part, determines their immediate response and over time, levels of adjustment (Grych & Fincham, 1990). The framework (outlined in Figure 1.1), based on the social cognitive

perspective (in particular the information processing hypothesis, Crick & Dodge, 1994), proposes a sequence of steps in which an event is analysed, and contextual factors both in the environment and within the child influence appraisals to predict children's behavioural and emotional responses. Children's appraisals are proposed to represent their attempt to understand the exchange in terms of what implications may occur for themselves and their family. An important component of this model is the reciprocal relationship between children's cognitions and emotions (as can be seen in Figure 1.1), whereby children's interpretation of conflict is proposed to influence their emotional response, and this manifest emotion in turn influences their subsequent processing (e.g. if children feel threatened by marital conflict they may experience fear which may lead them to perceive parents as more hostile).

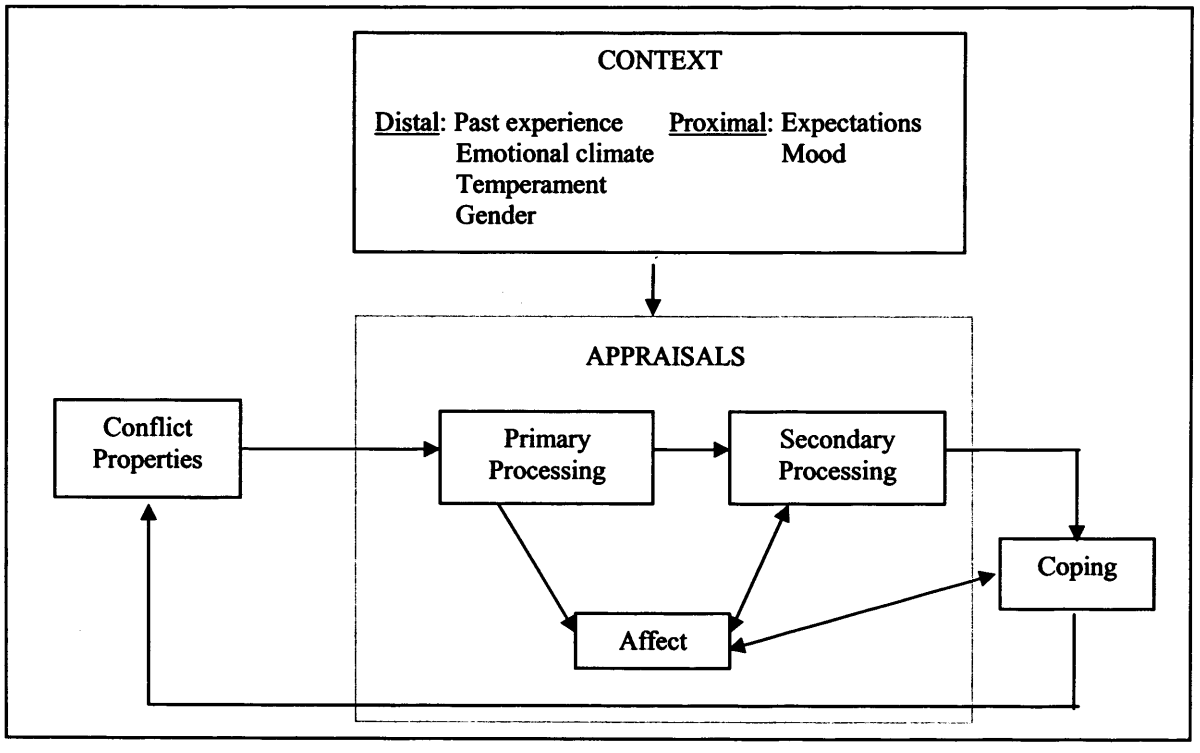


Figure 1.1: The Cognitive-Contextual Framework (from Grych & Fincham, 1990)

The manner in which conflict is expressed, particularly how frequent and intense the exchange is and whether any degree of resolution occurs is proposed to partly determine how children evaluate the exchange. Two forms of processing are proposed

to occur in response to witnessing interparental conflict, comprising of primary and secondary processing. During primary processing, children may identify parents' emotions (e.g., degree of anger) and evaluate interparental conflict along the dimension of threat, that is, how much they perceive the conflict to be threatening to themselves or their family. For example, conflict may represent a threat to children's immediate situation (e.g. a day out is abandoned due to an argument between parents) or physical well being (e.g. parents' anger may spillover into parent-child interactions) or they may fear the future stability of the marriage (Grych & Cardoza-Fernandes, 2001). Further secondary processing may then occur whereby the child attempts to understand why the conflict is occurring, how they can respond, and what may happen in the future. Grych and Fincham (1990) suggest that the attribution children make regarding the cause of the interparental conflict may alleviate or exacerbate their emotional distress. Specifically, if children feel that they are to blame for marital conflict they may experience guilt, shame and sadness, which may then lead to anger and aggression over time due to children attempting to intervene in conflicts in order to end them (Grych et al., 2003). As proposed by theories of cognitive development (e.g. older children can begin to appreciate perspectives of others beyond their own immediate understanding), this framework suggests that children's appraisals will depend on their age and therefore developmental level. For example, older children may be more likely to fear for the stability of the marriage than younger children because they are aware of the possible implications of marital conflict.

As evident in Figure 1.1, several contextual factors may influence children's processing of conflict, and these are proposed to vary in importance depending on the nature of conflict. For example, all children are likely to feel threatened by conflict that involves interparental violence, regardless of whether the child is boy or girl, or has little

or frequent experience of marital conflict for example (Grych & Cardoza-Fernandes, 2001). However, when children witness marital conflict that does not involve violence, children's prior exposure may have a greater influence on their evaluation, whereby children who have witnessed frequent, aggressive and poorly resolved conflict in the past may experience greater distress and fear than children who have not experienced such events (Grych, 1998). Similarly, interparental conflict that occurs in an otherwise warm and stable emotional climate may not be as threatening as discord that occurs in the context of distant, hostile relations. Furthermore, children's individual differences are likely to influence appraisals, for example, some children may have a lower threshold for detecting threat derived from interparental conflict depending on their temperament and emotional reactivity, which may be partly determined by hereditary influences (Sanson & Rothbart, 1995). Finally, more proximal contextual factors may influence children's processing of conflict, including current mood (e.g. a negative mood may increase the likelihood children will experience self-blame) and expectations. Children's expectations for the course and outcome of conflict may be based on the current episode and their past experience. For example, frequent exposure to destructive conflict is likely to lead to children expecting further hostility between parents, which they may fear will generalise to the parent-child relationship (Gordis, Margolin & John, 1997).

This framework suggests that children's report of the conflict characteristics they witness and the level of threat and self-blame they experience as a result may provide a mechanism through which marital conflict influences their adjustment. Empirical studies have tested the hypotheses proposed within this framework and have provided evidence for the mediational role of children's perceptions, specifically, children's perceptions of threat and self-blame elicited by conflict. However, the majority of

studies conducted thus far are cross-sectional, so only confirm marital conflict influences immediate adjustment, and cannot address possible long-term implications (Dadds, Atkinson, Turner, Blums & Lendich, 1999; Grych, Fincham, Jouriles & McDonald, 2000; Grych et al., 1992; Kerig, 1998b). However, the first longitudinal test of this theory was conducted recently at Cardiff University and employed a large sample of just under 300 Welsh children (Grych, Harold & Miles, 2003). We examined the role of children's appraisals of threat and self-blame in predicting their adjustment. Specifically, we found that marital conflict predicted children's appraisals of threat and self-blame a year later, and these appraisals in turn, predicted increased internalising symptoms and externalising problems (Grych et al., 2003). Importantly, we found a differential role of appraisals for adjustment, whereby children who perceived threat experienced increased internalising symptoms, and children who reported self-blame experienced increased externalising problems. This study confirms the importance of children's appraisals as a mechanism that partly determines children's symptoms of psychological distress as a result of exposure to interparental conflict.

The cognitive contextual framework describes a series of cognitions that may occur when children witness marital conflict, and the implications these appraisals may have on their immediate and long-term adjustment. While the cognitive contextual framework acknowledges that children's emotions may influence their cognitions, Grych and Fincham (1990) do not consider affect to play an integral role in determining children's responses to interparental conflict. Therefore, this framework is complemented by the emotional security hypothesis proposed by Davies and Cummings (1994) who suggested emotion is a crucial consideration for understanding children's responses to marital conflict. This framework proposes that conflict directly disrupts children's feelings of security in the family, which accounts for adjustment problems.

The Emotional Security Hypothesis

This hypothesis, based on attachment theory proposes that children's emotional security relating to the interparental relationship mediates the link between marital conflict and children's maladjustment (Cummings & Davies, 1996; Davies & Cummings, 1994). Davies and Cummings (1994) propose that children's organisation and meaning of their emotions, behaviours and thoughts regulate their own functioning in social situations and constitutes their emotional security. Emotional security can be inferred from the measurement of three interrelated but distinct aspects (see Figure 1.2) including high levels of emotional reactivity (e.g. upset and anger), attempts to regulate exposure to conflict (behavioural response, such as withdrawing or attempts to intervene in the conflict) and negative representations of interparental relations (e.g., believing parents may divorce). While Davies and Cummings highlight the role of emotional insecurity in accounting for adjustment problems, they also propose that interparental conflict that is discussed calmly, without hostility and includes some form of resolution may increase children's sense of emotional security in the family, and therefore contribute to adaptive adjustment (Goeke-Morey et al., 2003). This suggests that the way conflictual issues are expressed and managed by parents determines children's feeling of security, rather than the simple occurrence of conflict.

Initial conceptualisations of the emotional security hypothesis considered only children's security in the context of conflict between parents. Specifically, Davies and Cummings (1994) suggested that emotional security derived from the parental relationship is distinct from a child's sense of security within the parent-child relationship, which suggests that children may experience insecurity within the context of the marital relationship, but feel secure within the parent-child relationship.

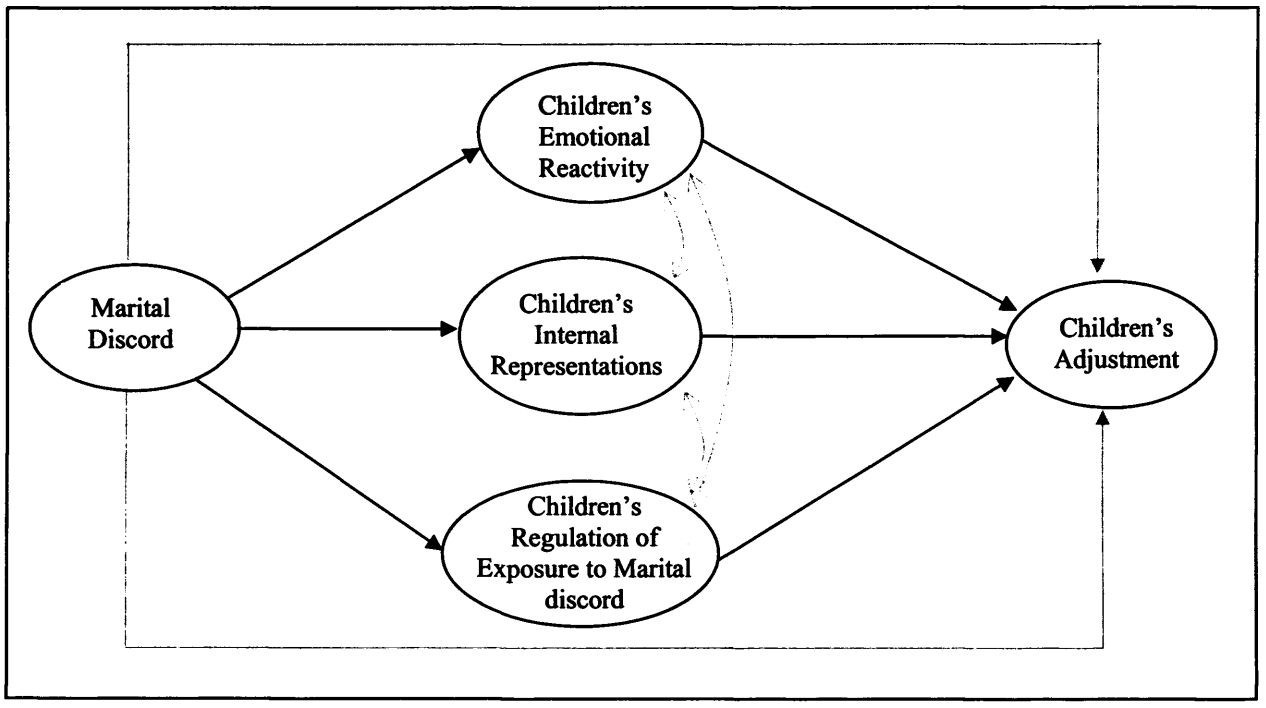


Figure 1.2: An Emotional Security Hypothesis (Davies & Cummings, 1994)

Davies, Harold, Goeke-Morey and Cummings (2002) have expanded the concept of emotional security to consider how interparental and parent-child security may be related. Specifically, they suggest marital conflict serves as a contextual factor that determines children's parent-child security, but that emotional security in the context of interparental conflict has unique implications for children's adjustment even if parent-child security is taken in account (Davies & Rasi, 2002). Harold et al., (2004) provided the first longitudinal test of this proposal, examining both the role of children's appraisals of emotional security and parent-child security. They found that children's emotional security informed children's security within the parent-child relationship. For example, children who experienced emotional distress due to exposure to marital conflict (angry, sad or scared) reported greater insecurity within the parent-child relationship. In turn, parent-child insecurity determined children's internalising symptoms and externalising problems. This suggests that children's security derived

from both interparental and parent-child relations are likely to constitute mechanisms through which effects of marital conflict influence children's maladjustment.

The cognitive contextual framework describes children's cognitions regarding marital conflict and the emotional security hypothesis focuses on children's affective and behavioural responses and representations generated in response to marital conflict, which are proposed to account for children's maladjustment as a function of exposure to interparental disagreements. While these theoretical models have been examined in isolation from one another (e.g., Davies & Cummings, 1996; 1998; Grych et al., 2003), Harold, Shelton, Goeke-Morey & Cummings, (2002) suggested that in order to advance understanding of the processes that account for children's adjustment in response to marital conflict, a test of the relative role of cognitive contextual and emotional security processes is necessary. Harold et al., (2002) examined this question, and reported that children's appraisals of threat and feelings of self-blame were linked to children's emotional insecurity which in turn, influenced their internalising symptoms and externalising problems.

However, Harold and Howarth (2004) propose it is unlikely that direct effects represented by children's cognitions or emotional security regarding the interparental relationship are the sole determinants of children's adjustment. Indeed, the indirect effects hypothesis presented earlier proposed that the quality of the parent-child relationship is likely to contribute to determine children's adjustment in the context of interparental conflict. Furthermore, there is evidence that parents embroiled in marital conflict are more likely to be more hostile during parent-child interactions and less sensitive and emotionally responsive to their children's needs. Harold and colleagues (Harold & Conger, 1997; Harold, Fincham, Osborne & Conger, 1997) developed a family-wide model that proposes that consideration of children's cognitions of both the

interparental and parent-child relationship are likely to combine to multiply determine children's adjustment to interparental conflict.

A Familywide Model

Harold and colleagues (Harold & Conger, 1997; Harold et al., 1997) extended the hypotheses proposed by Grych and Fincham (1990), Davies & Cummings, (1994) and principles derived from the indirect effects hypothesis (Erel & Burman, 1995; Fauber & Long, 1991) to develop a comprehensive model that considers children's cognitions of multiple systems (see Figure 1.3).

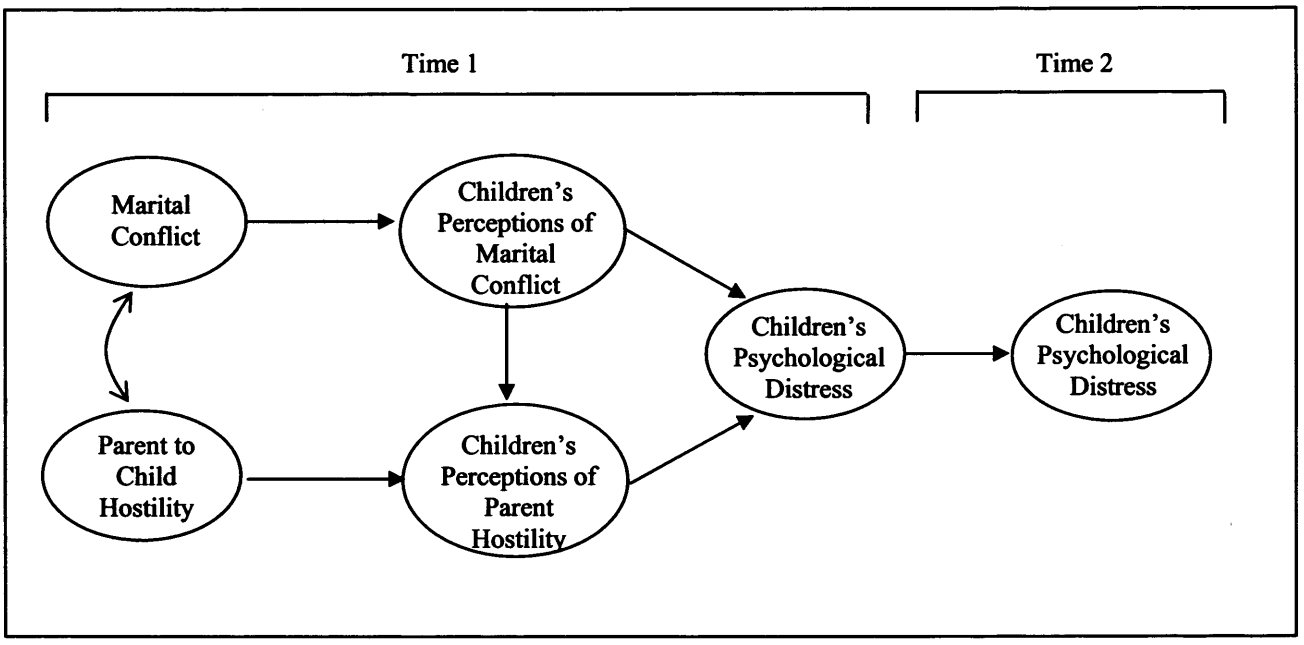


Figure 1.3: The Familywide Model (Harold et al., 1997)

This model represents a 'chain of events' hypothesis whereby marital conflict sets in motion a number of processes that account for children's well being within the family. In particular, marital conflict and parent-child hostility are proposed to influence children's perceptions of conflict between their parents (marital conflict), and children's perceptions of conflict with their parents (parent-child hostility). Harold et al., (1997) propose that children's perceptions of interparental conflict inform children's

expectations of parent-child interactions. This suggests that children who are exposed to hostile exchanges between parents are more likely to perceive parent behaviour expressed during parent-child interactions as more hostile. Children's perceptions of both the marital and parent-child relationship are then proposed to determine children's immediate and long-term adjustment.

Empirical test of the familywide model have provided support for the hypotheses presented in Figure 1.3. Specifically, in a longitudinal test conducted by Harold et al., (1997) results indicated that marital conflict was associated with increased hostility directed toward the child. In turn, children's negative perceptions of both interparental and parent-child relations completely accounted for the influence of marital conflict on children's internalising symptoms and externalising problems. Therefore the familywide model proposes that exposure to marital conflict is the orienting influence on children's appraisals of other family relationships, which in turn determine children's adjustment (Harold & Murch, 2004).

Collectively, these three perspectives suggest that assessing children's perceptions of both the marital relationship (as suggested by the cognitive contextual framework and the emotional security hypothesis) and the parent-child relationship (as suggested by the familywide effects model) are likely to provide a comprehensive account of family factors that influence children's psychological well being. Furthermore, these frameworks represent important developments in 'process-oriented' thinking, whereby research attempts to uncover mechanisms or processes that may account for children's adjustment (Cummings & Cummings, 1988). This approach represents an advance on initial research that simply documented associations between marital conflict and children's adjustment (Fincham et al., 1994). The studies that follow attempt to contribute to this process-oriented approach by delineating

mechanisms that may account for individual differences in children's response to interparental conflict.

In order to examine processes that may be set in motion by marital conflict, and identify whether they have an instrumental role in determining children's adjustment it is necessary to collect longitudinal data (Fincham et al., 1994). In addition, while the child's perspective of family relations has been demonstrated to provide an important explanatory mechanism through which effects are directed, a reliance on children as a source of information may also create limitations that should be highlighted. These and other methodological considerations will be discussed in the following section.

Methodological considerations

The theoretical and empirical literature discussed in this introductory chapter indicate the need to study the link between marital conflict and the quality of the parent-child relationship, and how marital conflict and parent-child relations determine children's perceptions of family relations, and in turn, how all of these considerations may account for children's adjustment over time. Attention to methodological issues is necessary in order to consider these questions. The topics that will be discussed include the choice of reporter of family relations, the need for longitudinal studies and controlling for children's initial symptom levels.

According to the cognitive-contextual framework, emotional security hypothesis and the familywide model, the child's perspective of marital conflict and the parent-child relationship is likely to provide an important mechanism that can account for the association between marital conflict, the quality of parent-child relations and children's adjustment. However, this does not negate the importance of parents' report of family relations, nor the disadvantages of relying on one reporter of each construct. Grych and Fincham (1990) have argued that children are most suited to report on the nature of

conflict they have witnessed, however parent report of marital conflict is likely to provide important information that the child may not be aware of but may still influence subsequent parent-child interactions (Wilson & Gottman, 1995). Children may not be aware of some conflictual interparental interactions that may nevertheless have implications for the quality of parent-child relations by absorbing parents so that they are emotionally unavailable for children or display anger during parent-child interactions that originated from the marital relationship.

In addition, while attachment theory and the familywide model propose that children's perception of the quality of the parent-child relationship is important to understand their adjustment (Harold et al., 1997; Kerns et al., 1997), Hinde and Stevenson-Hinde (1988) highlight that both members of the dyad (child and parent) contribute to the dynamics of the relationship, and therefore each member's perception is important. This is supported by the findings that indicate there is not a perfect correlation between child and parent report of the same parenting behaviour, such as the degree of parental acceptance (Tein, Roosa & Michaels, 1994; Schwarz, Barton-Henry & Pruzinsky, 1985), which suggests that both parent and child perceptions of the parent-child relationship are likely to provide unique information. Therefore, sole reliance on child report may present a different pattern of results than if parent report of the parent-child relationship is assessed (Demo, Small & Savin-Williams, 1987; Jessop, 1981). Tein et al., (1994) suggest that disagreement between reporters does not imply that one is 'right' and the other 'wrong', rather each provides a unique set of perspectives and biases.

Estimating relations between constructs using only one source of information such as child report of marital conflict and children's adjustment may artificially inflate the derived association due to monoinformant bias (Cook, Kenny & Goldstein, 1991).

This is because children's report of both constructs is likely to share more variance than if parent report of marital conflict and children's report of adjustment is employed because of characteristics inherent in the individual. Trait negative affectivity defined by Watson and Pennebaker (1989), describes a trait-level characteristic that may be present in adults or children, whereby the individual is likely to experience a higher level of distress to the same stimulus as an individual without this trait. For example, Harold and Conger (1997) found that adolescent report of their symptoms of depression predicted the frequency with which they reported experiencing marital conflict and parent-child hostility a year later. Similarly, Grych et al., (2003) noted that adolescent's internalising symptoms predicted an increase in their perceptions of threat in the context of marital conflict. This suggests that children's symptoms of maladjustment may be responsible for later measures of maladjustment rather than the presence of marital conflict. Therefore, children's initial symptoms of maladjustment should be controlled in order to increase confidence that the earlier presence of interparental conflict is responsible for a change in children's maladjustment (Harold & Conger, 1997).

Fincham et al., (1994) note that there is a substantial body of evidence addressing the immediate impact of exposure to marital conflict and children's emotional responses derived from cross-sectional studies that document correlations between marital conflict and indicators of children's maladjustment. While these studies are useful for identifying an area of study, they are unable to provide evidence that marital conflict is responsible for changes in children's adjustment over time. Longitudinal studies improve inferences that can be made by temporally-ordering the constructs (Cowan & Cowan, 2002). However, this is not to say that longitudinal designs can rule out alternative explanations whereby the association between marital conflict and children's adjustment is caused by an unmeasured, third variable.

Nevertheless, measuring predictor variables in a time order consistent with the hypothesis improves upon cross-sectional data (Harold & Conger, 1997), particularly when initial symptoms levels are considered.

A further disadvantage of cross-sectional designs is that it is difficult to determine the direction of effects between variables, that is, the direction assumed could be reversed whereby children's adjustment influences the level of marital conflict, e.g., children's misbehaviour leads to interparental arguments.

The direction of effects

While most studies assume that the direction of effect is unidirectional from parent-to-child, Bell (1968) introduced the notion that it is possible children also influence parents' behaviour, which has been confirmed with empirical evidence (Brunk & Henggeler, 1984; Lytton, 1990). In addition, Bell further suggested that the nature of parent-child influence is reciprocal, whereby parents and children mutually respond to one another's behaviour in an ongoing exchange of influence (Bell & Chapman, 1986). Applying this issue to the current thesis suggests that the direction of effects between parent behaviour and child behaviour should be examined, for example, it is possible that children's depression or aggression may increase parents' warmth or hostility towards children. While this possibility has rarely been subject to appropriate statistical tests, there is evidence that children may influence the affective quality of parenting (Dix, 1991; Conger & Ge, 1999). For example, Patterson (1982) provides evidence for a reciprocal relationship between parent and child behaviour from his observation of coercive cycles in which a child's antisocial act is punished by harsh parenting, which escalates the child's aggressive behaviour, thus causing a pattern of reciprocal aggression between parent and child.

The majority of studies that investigate the link between marital conflict, parent-child relations and children's adjustment are cross-sectional in design. This means that although it is often assumed that marital conflict determines the quality of parent-child relations and the quality of parent-child relations determines children's adjustment, there is a lack of longitudinal data that address this hypothesis. In order to test the direction of effects between two constructs (e.g., marital conflict and parent-child relations) cross-lagged panel correlational designs are useful (Kenny, 1979). This requires that both the predictor variable (e.g., marital conflict) and outcome variable (e.g., parent-child relations) are measured at all time points. For example, for a two-year study, marital conflict and parent-child relations would be assessed at both Time 1 and Time 2. This allows for the examination of the influence of marital conflict on parent-child relations whilst simultaneously estimating the influence of parent-child relations on marital conflict which provides a comprehensive test of direction of effects (Fincham, Beach, Harold & Osborne, 1997). This question will be examined in Chapter 4, and the direction of effects between parent-child relations and children's adjustment will be addressed in Chapter 5.

Summary

The literature presented in this chapter suggests that marital conflict is likely to set in motion multiple processes that combine to determine children's adjustment. Several theoretical perspectives have been outlined that are designed to describe the processes that explain how marital and parent-child relations influence children's adjustment, including the indirect and direct effects hypotheses. While there is a substantial body of evidence to suggest that marital conflict influences the quality of parent-child relations, and the quality of parent-child relations influences children's maladjustment, the lack of longitudinal data means that the direction of effects cannot be

established. In addition, while empirical evidence suggests negative parent-child relations characterised by hostility negatively influence children's adjustment, and some studies indicate that positive parent-child relations may reduce the likelihood of the development of maladjustment in the context of marital conflict, the relative influence of positive and negative parent-child relations has not been examined. This is an important question considering that in the context of a discordant marital relationship, parents may be able to maintain some level of warmth or affection towards their children. If parent-child interactions are made up of a combination of both warm and hostile exchanges, research has yet to investigate the relative influence these interactions may have on children's adjustment in the context of marital conflict.

In addition, the social-cognitive perspectives and familywide model (Harold et al., 1997) suggests that children's interpretation of both marital and parent-child events may be particularly important to understand variation in children's psychological adjustment. However, while theoretical and empirical studies indicate that marital conflict influences children's appraisals of parent-child relations (Harold et al., 1997), it is possible, although has not been tested, that the quality of parent-child relations influences children's perceptions of both marital conflict and parent-child relations. Indeed, the cognitive-contextual model suggests that one contextual factor that may influence children's perceptions of marital conflict is the quality of parent-child relations (Grych & Fincham, 1990). Therefore, it is possible that warm parent-child relations may reduce children's perceptions of threat from marital conflict, while hostile parent-child relations may increase children's negative perceptions of the parent-child relationship. In turn, children's perceptions of both marital conflict and parent-child relations may determine their adjustment.

Having introduced theoretical and empirical evidence relevant for investigating how marital and parent-child relations influence children's adjustment, attention may now turn to consider more precisely how variations in the quality of parent-child relations and children's perception of marital and parent-child relations may influence children's adjustment in the context of marital conflict. This thesis is particularly concerned with examining whether negative parent-child relations that stem from marital discord increase children's risk for maladjustment via children's appraisals of threat and self-blame they experience due to interparental conflict and their perceptions of parent-child insecurity, or whether a positive parent-child relationship reduces children's risk for adjustment problems by reducing the degree of threat, self-blame and parent-child insecurity children experience in the context of interparental conflict. Following on from two further review chapters, this thesis then presents a series of studies that examine the direction of effects between marital conflict, parent-child relations and children's adjustment, the relative influence of positive and negative parent-child relations and children's appraisals of marital and parent-child relations whilst considering the marital relationship as providing the context in which parent behaviour and child perceptions may combine to account for children's adjustment.

Thesis Outline

Chapter 2

This chapter will provide an in-depth review of theoretical and empirical evidence that assess the nature of relations between marital conflict, quality of parent-child relations and children's adjustment. In particular, this chapter will review evidence that examines the implications of marital conflict for the quality of parent-child relations, and whether evidence exists for the reverse hypothesis, that the quality of the parent-child relationship influences marital relations. In addition, empirical studies that

have investigated the link between the quality of parent-child relations and children's adjustment will be discussed, again reviewing evidence for the alternative hypothesis, that children's adjustment determines the quality of parent-child relations. This chapter will also review evidence for the mediational role of the quality of parent-child relations in accounting for the link between marital conflict and children's adjustment, in particular, highlighting the lack of longitudinal studies that have addressed this question. Finally, this chapter will review the various indicators that have been employed to measure the quality of parent-child relations, and will identify those that seem particularly relevant for the study of children's adjustment in the context of marital conflict.

Chapter 3

Chapter 3 considers issues regarding the conceptualisation and measurement of the affective quality of parent-child relations. This chapter discusses the focus to date on negative indexes of parent-child relations related to children's maladjustment, and highlights the dearth of research that considers how positive affect within the parent-child relationship may reduce the probability of adjustment problems in the context of a discordant marital relationship. In particular, this chapter considers the construct of parent-child warmth, and what this may mean to the child, particularly in the context of an unstable interparental relationship. It is argued that the role of parent-child warmth relative to the expression of parent-child hostility in influencing children's adjustment in the context of marital conflict has not been sufficiently investigated, despite the fact that consideration of both positive and negative affect is likely to be more representative of parent-child relations. Specifically, the question of whether the expression of parent-child hostility has a greater influence on children's adjustment than parent-child warmth,

even if the occurrence of parent-child hostility is less frequent than parent-child warmth, is considered.

Chapter 4

Chapter 4 presents the first empirical study, which investigates the association between marital conflict and the affective quality of parent-child relations. While the assumption is often made that the quality of marital relations determines the quality of parent-child relations, there are few longitudinal studies that have tested the alternative hypothesis, that the quality of parent-child relations can influence the level of marital conflict. This study therefore provides the most comprehensive test of this association to date by estimating the influence of marital conflict on parent-child warmth and hostility, whilst simultaneously estimating the effect of parent-child warmth and hostility on the level of marital conflict. Furthermore, while many studies suggest that marital conflict increases the likelihood of parent-child hostility, little is known about the consequences of marital conflict for positive aspects of the parent-child relationship. Therefore, this study is able to consider whether marital conflict reduces the presence of parent-child warmth while also increasing the occurrence of parent-child hostility. In addition, this chapter will also investigate the pattern of results when parents or children's perceptions of marital conflict and parent-child relations are employed, and if the pattern of relations differs according to parent and child gender. While some research suggests father-child relations are more vulnerable to disruption in the context of a discordant marital relationship, very few studies have examined how mother-child and father-child relations differ for sons and daughters.

Chapter 5

A large body of evidence indicates that the quality of parent-child relations has implications for children's adjustment, nevertheless, the limited number of longitudinal

studies conducted to date means that the direction of effects between parent-child relations and children's adjustment cannot be established, and the alternative hypothesis, that children's behaviour partly determines parent-child interactions cannot be ruled out. The analysis presented in Chapter 5 provides the first study to examine if positive and negative parent-child affect influences children's symptoms of depression and aggression measured a year later whilst simultaneously assessing if children's behaviour has implications for parents' ability to express warmth and hostility during parent-child interactions. In addition, this study is able to consider whether parent-child hostility has a greater influence by increasing children's symptoms of maladjustment than parent-child warmth in decreasing children's adjustment problems. More specifically, this study can also determine whether parent-child warmth and hostility are differentially related to children's indicators of maladjustment, for example, parent-child warmth may have more implications for children's internalising symptoms while parent-child hostility may be more consistently linked to increased externalising problems. As for Chapter 4, this study will assess if a difference in the pattern of relations is apparent when models are estimated with child or parent report of parent-child relations, and if results differ when considering parent and child gender.

Chapter 6

Two studies will be contained within Chapter 6. The first integrates the findings from Chapters 4 and 5, by testing a model that assess the link between marital conflict and parent-child relations and the link between parent-child relations and children's adjustment in one integrative model. This prospective, longitudinal study will therefore examine if the level of parent-child warmth and parent-child hostility mediates the relationship between marital conflict and children's adjustment across a three-year period. This study will address the relative influence of parent-child hostility and

parent-child warmth on children's adjustment in the context of marital conflict. In particular, children's pre-existing levels of maladjustment will be controlled, providing the most advanced test of the mediating role of parent-child relations in the association between marital conflict and children' adjustment. Once again, variations in the pattern of results according to parent and child report of marital conflict and parent-child relations and parent and child gender will be examined.

Study 2 provides an integration of two mechanisms through which effects of marital conflict on children's well being may be conducted, and constitutes a representation of the processes that marital conflict may set in motion that determine children's adjustment. The model presented in Study 2 examines the combined influence of the affective quality of parent-child relations and children's perceptions of marital and parent-child relations on children's adjustment across a 3-year period whilst controlling for children's earlier adjustment levels. Specifically, the hypothesis tested in this study is that marital conflict determines the level of parent-child warmth and hostility and the quality of parent-child relations provide a context in which children interpret the level of threat and self-blame derived from marital conflict, and the their feelings of insecurity within the parent-child relationship. In turn, children's appraisals of marital conflict and parent-child security are proposed to mediate the influence of parent-child warmth and hostility on children's internalising symptoms and externalising problems. As for all other studies, the role of reporter and parent and child gender will also be examined in this final study. This model test contributes to a process-oriented approach, whereby marital conflict sets in motion a series of interpersonal and intra-individual processes that explain variation in children's adjustment.

Chapter 7

The final chapter will provide a discussion of the findings of this thesis, highlight potential limitations and examine directions for future research. The results are discussed with respect to the need for process-oriented enquiry into the mediating role of parents' warmth and hostility in the context of discordant interparental relations, and how such considerations may contribute to explain children's long-term adjustment.

CHAPTER 2

The opening chapter introduced a variety of mechanisms that have been proposed to account for the link between marital conflict and children's adjustment. In particular, the quality of parent-child relations and children's appraisals of the marital and parent-child relationship were discussed as representing processes that may determine the impact of marital conflict on children's well being. Chapter 1 also highlighted the lack of longitudinal studies that address the importance of the quality of parent-child relations for children's adjustment in the context of marital conflict, which means that the direction of effects between marital conflict, parent-child relations and children's adjustment cannot be established. This chapter builds on Chapter 1 by providing an in-depth review of theoretical and empirical evidence that suggests that marital and parent-child relationships have implications for children's adjustment. Specifically, evidence reviewed in this chapter highlights the need for more longitudinal research that can test the hypothesis that the marital relationship determines the quality of parent-child relations, the quality of parent-child relations can account for children's adjustment in the context of marital conflict, and the role of parent-child relations as a mediator of the link between marital conflict and children's well being. In company with the subsequent review chapter, this chapter will provide the platform from which to locate the successive empirical studies that consider the implications of marital conflict for both negative and positive aspects of the parent-child relationship, and how the quality of parent-child relations may increase or decrease children's risk for adjustment problems via children's appraisals of marital conflict and parent-child relations.

The model presented in Figure 2.1 captures the theoretical arguments of the direct and indirect effects hypotheses that suggest that children's maladjustment is a direct result of marital conflict, or due to the change in the quality of parent-child

relations respectively. Many conceptualisations of the indirect effects hypothesis to date consider only negative change in parent-child relations as a result of marital conflict, e.g., increased hostility, withdrawal, harsh discipline, or inconsistent parenting, and the consequences of these negative aspects of parent-child relations for children's maladjustment. Very few studies have considered that parent-child relations may not be entirely negative in the context of a discordant marital relationship, and what the implications of the presence of some degree of positivity (e.g., warmth, affection, support) may be for children who are exposed to interparental conflict.

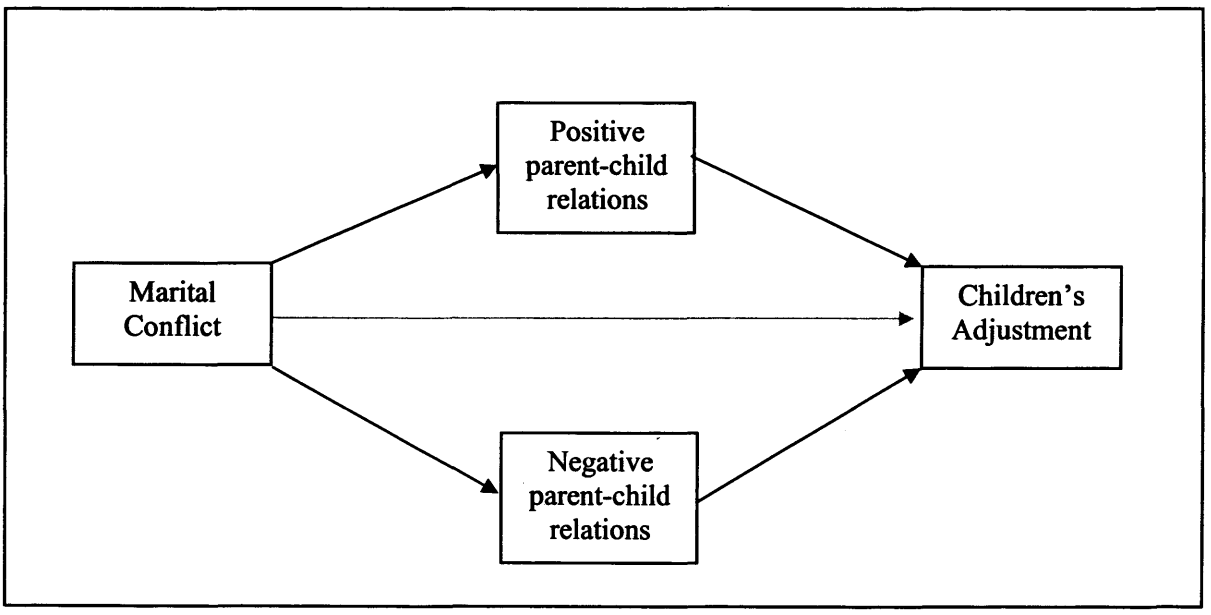


Figure 2.1: Proposed conceptual model of relations between marital conflict, parent-child relations and children's adjustment.

The model in Figure 2.1 proposes a particular direction of effects, with marital conflict proposed to determine children's adjustment via changes in the parent-child relationship. Evidence for each path in the model will be reviewed, including evidence that marital conflict directly determines children's adjustment (the direct relationship), studies that suggest marital conflict determines the level of positive and negative relations, empirical evidence that suggests that positive and negative parent-child

relations determines children's adjustment, and finally evidence that supports the hypothesis that the quality of parent-child relations mediates the link between marital conflict and children's adjustment. Finally, this chapter will discuss two further factors that should be considered in order to further clarify the link between marital conflict, parent-child relations and children's adjustment including the age of the child and parent and child gender.

Marital conflict and children's adjustment

The proposed path from marital conflict to children's adjustment represents the direct effects hypothesis. Investigation into this relationship was stimulated by studies on the impact of divorce on children which identified that the level of interparental conflict determined children's adjustment, not divorce per se (Hetherington et al., 1982; Wallerstein & Kelly, 1980). This hypothesis predicts that the quality of marital relations directly influences child adjustment via children's exposure to marital conflict. Children's perception of interparental conflict may lead them to experience negative emotions, cognitions and representations of family relationships (Cummings & Davies, 1994; Grych & Fincham, 1990). An association between marital conflict and children's adjustment problems has been noted in children across the world, including North America (Davies & Cummings, 1996), the United Kingdom (Grych, Harold & Miles, 2003), China (McHale, Rao & Krasnow, 2000), Australia (Amato, 1986), and India (Singh & Sharma, 1977). Empirical support for this hypothesis often measures children's immediate responses to exposure to marital conflict, or simulated conflict (between actors). A series of studies conducted by E. M. Cummings and his colleagues provides a large body of evidence that suggests that interparental conflict directly affects children's distress indicated by reported emotional distress (sadness, anger, fear) and facial expressions of distress and physiological arousal (Ballard & Cummings, 1990;

Cummings & Cummings, 1988; Cummings, Ballard & El-Sheikh, 1991; Cummings et al., 1989; Davies & Cummings, 1996).

A large body of research has now documented the existence of a relationship between marital conflict and children's adjustment, so research now focuses on the mechanisms that may account for this relationship (Fincham, 1994; Harold & Conger, 1997), including how different expressions of interparental conflict influence children's adjustment. Interparental conflict can be broadly defined as a disagreement or difference of opinion between two partners (Cummings & Davies, 2002; Cummings, Goeke-Morey & Dulkewich, 2001), and observation and measurement of marital conflict reveals that it varies on multiple dimensions, including the form, content, frequency and intensity (Cummings & Davies. 2002; Grych & Fincham, 1990). For example, child-related conflicts (disagreement over child-rearing practices) are more distressing for children than non-child related conflicts (Jouriles et al., 1991; Grych & Fincham, 1993), conflict involving physical aggression is more distressing than verbal conflict (Jouriles, Norwood, McDonald, Vincent & Mahoney, 1996) and resolved conflict is less distressing than unresolved conflict (Cummings, Ballard, El-Sheikh & Lake, 1991). Furthermore, there is evidence that children can discriminate between these different dimensions of conflict expression and they have different implications for children's adjustment (Cummings & Davies, 2002). For example evidence suggests that children can distinguish between physical and verbal aggression (Cummings, Vogel & El-Sheikh, 1989), and non-verbal, subtle forms of conflict, such as one parent withdrawing from the conflict which can lead to children's distress (Cox, Burchinal, & Payne, 1999). In addition, there is evidence that children are influenced by the emotional content of interparental conflict (Conger, 2001; Shifflett-Simpson & Cummings, 1996). For example, Cummings and Wilson (1999) reported that children

are less distressed by ongoing conflict (that is unresolved) if parents' suggest their marriage is still strong. These studies collectively suggest that marital conflict is directly associated with children's distress.

Marital conflict has been linked with a wide variety of indicators of children's adjustment, including academic achievement (Forehand et al., 1986), peer relations (Gottman & Katz, 1989), health-risking behaviour such as smoking (Glendinning, Shucksmith & Hendry, 1997) and drinking alcohol (Foxcroft & Lowe, 1991). However, marital conflict is most consistently associated with broad indicators of emotional and behavioural maladjustment including externalising problems such as aggression and delinquency (Cummings & Davies, 1994; Harold & Conger, 1997; Holden, Geffner & Jouriles, 1998) and internalising symptoms such as depression, withdrawal and anxiety (Peterson & Zill, 1986; Grych et al., 2000; Harold et al., 1997). How, why and when marital conflict has implications for different outcomes is an important aim of current theoretical developments and empirical studies (Margolin, Oliver & Medina, 2001). Two theoretical frameworks that attempt to account for the direct effects hypothesis outlined in Chapter 1 included the cognitive-contextual hypothesis (Grych & Fincham, 1990) and the emotional security hypothesis (Davies & Cummings, 1994). These theoretical perspectives focus on children's perception of marital conflict as the explanatory mechanism through which conflict influences children's well being. However, while models assessing the direct effect of marital conflict on children report children's interpretation of conflict accounts for some variation in adjustment, direct effect models are mid-level theories, such that they cannot account for all variability in children's psychological adjustment (Davies & Cummings, 1996; Grych et al., 1992). This suggests that there are other, unaccounted for factors that may also contribute to

explain children's adjustment as a result of exposure to marital conflict. Foremost among other considerations is the quality of the parent-child relationship.

The direct effects hypothesis implies that children become distressed when exposed to interparental conflict, which suggests that if children do not actually witness marital conflict, they will not experience adjustment problems. However principles from family systems theory would propose that a conflictual interparental relationship is likely to influence other family relationships (Minuchin, 1974). In particular, Fauber and Long (1991) claim that parent-child relationships constitute the mechanism through which marital conflict influences children. Specifically, they propose that disrupted parenting (affected by contextual factors, such as marital conflict) is responsible for children's maladjustment. Indeed, the importance of the quality of the parent-child relationship has long been recognised to influence children's psychological well being (Bowlby, 1958; Emery, 1982; Serot & Teevan, 1967). The quality of the parent-child relationship is likely to be particularly salient in the context of marital conflict, for example, studies suggest that a negative parent-child relationship may exacerbate children's feelings of distress when they are aware of a discordant marital relationship (Owen & Cox, 1997). Research supports the notion that the quality of parent-child relations can account for much of the variation in children's adjustment (Fauber et al., 1990), and the most comprehensive studies consider how marital conflict and parent-child relations combine to account for children's adjustment (Harold & Conger, 1997; Harold et al., 1997).

The link between marital and parent-child relations

The marital relationship is commonly regarded as the core of the family and the most important element in determining the quality of family life (Belsky, 1981; Harold et al., 2004). Furthermore, it is widely assumed that the marital relationship affects the

quality of parent-child relations (Cowan & Cowan, 2002; Margolin, 1981; Patterson, 1982). However, although it is well accepted that the quality of the marital relationship determines the quality of parent-child relations, the nature, magnitude and direction of this relationship has yet to be fully understood (Erel & Burman, 1995; Margolin, 1991). First, theoretical and empirical evidence will be reviewed on the relationship between marital quality and the quality of the parent-child relationship (Erel & Burman, 1995). Second, this review will provide a platform from which to investigate this association in more detail, specifically which aspects of the marital relationship relate to which indicators of the parent-child relationship.

Compensatory Hypothesis

The compensatory hypothesis proposes that the association between the marital and parent-child relationship is negative, that is, as the quality of marital relations deteriorates the quality of parent-child relations becomes more positive or harmonious. Specifically, the term 'compensation' (Engfer, 1988) in the context of parent-child relations refers to the process whereby an individual seeks satisfaction (a positive relationship) from one subsystem in order to make up for negative experiences in another relationship (Gutek, Repetti & Silver, 1988). For example, it is possible that a stressful marriage may increase parents' attention and sensitivity to the child in order to make up for a lack of satisfaction in the interparental relationship (Goldberg & Easterbrooks, 1984). Conversely, this hypothesis also predicts that if marital satisfaction is high, parent-child relations may be negative if the child is perceived as an intrusion on the close relationship between parents (Goldberg & Easterbrooks, 1984). For example, there is evidence that the birth of the child may lead to a decrease in spousal companionship, communication and loss of privacy (Stoneman, Brody & Burke, 1989).

Principles from family systems theory can be applied to account for a negative association between the marital and parent-child relationship (Erel & Burman, 1995). For example, triangulation and cross-generational coalitions are proposed to occur when the interparental relationship is conflictual and hostile and one or both parent attempts to gain affection or support from the child, in a bid to exclude the other parent (Minuchin, Rossman & Baker, 1978). However, this may be achieved by the parents overindulging the child and adopting a lax parenting style (high warmth but low discipline), which may ultimately have negative consequences for children's adjustment (Krishnakumar & Buehler, 2000). Empirical evidence for compensation is often only found in the mother-child relationship. Brody, Pelligrini and Sigel (1986) compared how mothers and fathers who experienced high marital conflict interacted with their children. They found that mothers engaged in a generally positive interaction style (characterised by involved parenting including praising the child) while fathers employed a negative interaction style with children (being intrusive with less positive emotions). They suggest mothers may be attempting to compensate for the sake of the child rather than the mothers' own satisfaction, by trying to make up for the child's negative experience in the father-child relationship (Brody et al., 1986; Belsky, Youngblade, Rovine & Volling, 1991). Engfer (1988) reports longitudinal evidence that mothers in a conflictual marital relationship perceived their infants as a substitute source of love and affection, however this was not corroborated by observers (who reported the same mothers as less sensitive). Engfer (1988) suggests the association between high marital conflict and mothers' perception of close parent-child relations could be due to marital dissatisfaction producing higher mother-child involvement, or that mothers who are highly involved with their child felt dissatisfied with the marriage, particularly if they felt unsupported by husbands.

Belsky et al., (1991) speculate that the reason compensation may be more often found in mothers is that mothers may be more able to compartmentalise their marital and parenting role than fathers. For example, one study reported no association between marital conflict and mothering, but a significant positive relationship between marital quality and fathering (e.g. Belsky, Rovine & Fish, 1989; see also Almeida, Wethington & Chandler, 1999). This may be because marital and mothering roles in comparison to fathers are more clearly scripted and therefore differentiated (Belsky et al., 1991; Simons, Beaman, Conger & Chao, 1993). Therefore, mothers may be able to disregard a negative marital relationship and complete the tasks often ascribed to mothers (Coiro & Emery, 1998). For example, Belsky et al., (1991) conducted a longitudinal study to investigate how changes in the quality of marital relations predicted parent-child interactions. They found marital change measured during the child's first year predicted parent-child interactions observed when the child was around 3 years of age, with greater positive and supportive mother-child interaction and withdrawal by fathers. However, Frosch and Mangelsdorf (2001) report some evidence of compensation by mothers and fathers. In the context of high marital conflict, they found instances that some mothers and fathers were able to maintain warm, supportive parent-child relationships with children who were 3 years of age.

Nevertheless, some researchers have questioned whether the 'positive' parent-child relationship proposed by the compensatory hypothesis is truly positive in the context of a negative marital relationship (Erel & Burman, 1995; Kerig, 1995). For example, when one parent forms a coalition with the child against the other parent (known as triangulation; Kerig, 1995; Minuchin, 1974), the overall parent-child relationship is not in one direction (Erel & Burman, 1995), but one parent-child relationship may be positive and the other negative. It is questionable whether forging a

relationship with the child in order to exclude the other parent is actually positive for children's adjustment. To illustrate, the child may feel caught in the middle of interparental conflict, increasing their distress (Buchanan, Maccoby & Dornbusch, 1991; Camara & Resnick, 1989). However, Kerig (1995) reported that children from triangulated families (i.e. one 'positive' parent-child relationship) did not have higher adjustment problems than children from cohesive families, and children with two negative parent-child relationships displayed the highest adjustment problems. This suggests it may be that a positive relationship with one parent can protect children from some of the negative effects of marital conflict (Kerig, 1995), and therefore studies must examine both mother-child and father-child relations.

In summary, the majority of research on the compensatory hypothesis only finds support for positive mother-child relationships in the context of marital conflict. Furthermore much of the research is limited to studies of parent-child relations in infancy or early childhood. Expanding this research to include older children would be useful to see how the association between marital quality and parent-child interactions changes over time and as the child develops (Belsky et al., 1991).

Spillover Hypothesis

The spillover hypothesis proposes that there is a positive relationship between the quality of marital relations and parent-child relations; that is, positive, supportive interparental relations are associated with positive parent-child relations and negative marital relations are linked to negative parent-child relations (Engfer, 1988). Specifically, the term 'spillover' refers to the transfer of mood or affect produced in one relationship (e.g. the interparental relationship) expressed in other family relationships (e.g. parent-child subsystem; Erel & Burman, 1995). This hypothesis therefore predicts that parents who have a satisfying, harmonious marriage are more effective in their

parenting role. In contrast, parents in a discordant, hostile marital relationship transfer these hostile feelings to the parent-child relationship, and are less sensitive to the needs of the child (Belsky, 1984; Easterbrooks & Emde, 1988). For example, there is evidence that marital harmony predicts parents' expression of approval and shared positive affect between parent and child (Easterbrooks & Emde, 1988). Furthermore, Easterbrooks and Emde (1988) claim marital quality differentiated the nature of parent-child relations even in a community sample who did not experience severe marital distress. Conversely, marital conflict is likely to be emotionally draining and preoccupying for parents which may cause them to withdraw from parent-child interactions, or decrease their ability to detect and respond to their child's needs (Cox et al., 2001; Cummings & Davies, 1994). Furthermore, parents who are caught up in interparental conflict have been found to use a more harsh parenting style as a function of parents' displaced marital anger (Fauber et al., 1990). In addition, Almeida et al., (1999) and Margolin, Christensen and John (1996) reported that mothers and fathers are more likely to have tense interactions with their children after marital tension. Finally, considering the positive side of spillover, Easterbrooks and Emde (1988) reported that fathers in happier marriages were warmer and less aggravated by their children than unhappily married fathers. They also found that sharing of positive affect between parents and children was related to parental child–rearing agreement and marital satisfaction.

Erel and Burman (1995) conducted a review of studies that address the relationship between marital and parent-child relations and described four theoretical mechanisms that can explain how the affective quality of the marital relationship may determine the quality of the parent-child relationship. These four processes are not proposed to operate in isolation, rather they are likely to combine to account for how marital quality may 'spillover' to affect the quality of the parent-child relationship.

Scapegoating

As noted when considering the compensatory hypothesis, concepts from family systems theory are useful for understanding how the marital subsystem influences the parent-child subsystem (Cox et al., 2001; Erel & Burman, 1995). For example, 'scapegoating' (Vogel & Bell, 1960) and 'detouring' (Minuchin et al., 1978) describe a situation whereby parents in a conflictual marriage focus on their child's problematic behaviour in order to distract themselves from tension in the marital subsystem (Fauber et al., 1990). Parents' focus on the child may be positive (overprotecting) or negative (blaming the child), and may serve to unite parents via their parenting role (Nichols, 1984). If this leads to a reduction in interparental conflict, the child may further intensify or increase problematic behaviours in order to prevent further marital conflict (Christensen & Margolin, 1988; Margolin et al., 2001). However, Minuchin (1974) suggests that couples who engage in detouring to avoid marital problems do so at the cost of children's well being. For example, Kerig (1995) found detouring parents (who maintained a cohesive marital relationship by excluding the child) rated their marriage as low in conflict. However children of detouring parents reported feeling responsible for their parents' conflicts and parents rated them as being highest in internalising symptoms, thus providing further support for the concepts of scapegoating and detouring derived from family systems theory.

Modelling of parents' conflict behaviour

Social learning theory provides a second potential mechanism that may account for spillover between the marital and parent-child relationship. This theory suggests that behaviour demonstrated in the marital relationship may be vicariously learned and expressed by the child in the parent-child relationship (Easterbrooks & Emde, 1988). Parents in a discordant, hostile relationship are likely to demonstrate conflictual

interactions in which parents are hostile and rejecting (Burman, Margolin & John, 1995; Margolin, Burman & John, 1989), which children may then model in their own interactions with parents. Therefore, this hypothesis is particularly useful as it considers how behaviour expressed between parents may influence children's interpersonal behaviour. When children witness parents engaging in hostile, angry behaviour they may communicate to children this is an acceptable way to behave in interpersonal exchanges (Cummings & Davies, 1994). For example, Davis, Hops, Alpert and Sheeber (1998) reported that when parents engaged in conflictual marital interactions adolescents were more aggressive towards parents. However, a more recent study Goeke-Morey, Cummings, Harold and Shelton (2002) reported limited support for the modelling hypothesis, suggesting children are more likely to express distress from witnessing marital conflict in the form of fear responses rather than exact modelling of marital conflict. Nevertheless, they did find that for one category of behaviour, girls were more likely to model mothers' aggressive behaviour as predicted by social learning theory (Bandura, 1989). Goeke-Morey et al., (2002) conclude that while children may acquire the aggressive behaviour modelled by parents, they may not perform the behaviour until some time later.

Socialisation

A third mechanism that would predict a positive relationship between the marital and parent-child relationship is the socialisation hypothesis (Easterbrooks & Emde, 1988). Socialisation refers to the process whereby children develop skills necessary to function adequately in society (Maccoby & Martin, 1983), commonly referred to as the influence of parenting on children. This hypothesis suggests that parents are unable to provide consistent discipline and optimal parenting necessary for children to develop adequately in the context of an unhappy marriage (Patterson, 1982). Inconsistent

parenting may be evident in two ways. First, the co-parenting relationship may be compromised due to a lack of communication between parents (i.e., not discussing the discipline strategy to be adopted; Belsky, Crnic & Gable, 1995; McHale & Cowan, 1996). Second, inconsistencies may arise within each parent (e.g., inconsistent punishment is given for the same misbehaviour from day to day depending on events in the marital relationship, or when the spouse is present or absent; Block, Block & Morrison, 1981). Therefore, parents embroiled in marital conflict may use less optimal parenting techniques, for example, more often resort to harsh discipline rather than providing reasons for inappropriate child behaviour (Emery, Hetherington & Dilalla, 1984). In addition, while some parents may adopt a harsh discipline style due to the spillover of parent anger, others may adopt a permissive style (warmth with little discipline) that requires less effort due to being absorbed in marital conflict. Furthermore, there is evidence that both parenting styles (harsh or too lax) are associated with children's adjustment problems (Loeber & Dishion, 1984). For example, Block et al., (1981) report that child rearing is a frequent topic of dispute among distressed parents, and lack of agreement predicted marital status 10 years later, as well as boys' aggression. Similarly, Stoneman et al., (1989) reported parents with poor marital quality increased punitive discipline, decreased the use of reasoning and used fewer parental rewards for good child behaviour. This may be similar to Kuczynski's (1984) concept of 'automatic parenting' whereby parents who are distressed (either by psychological problems or marital discord) choose parenting strategies that require less cognitive effort (e.g. harsh discipline) rather than rational reasoning. Collectively, these studies indicate that marital conflict is likely to disrupt parents' ability to parent in a style most consistent with successful socialisation.

Family Stress and Role Strain

The final theoretical perspective that may contribute towards explaining the spillover of affect between the two family subsystems is derived from sociological literature on family stress and role strain. This hypothesis considers the possibility that the parent-child relationship influences the marital dyad in addition to spillover more commonly regarded from marital to parent-child relations. The family stress and role strain hypothesis postulates that problems in marital and parent-child relations are stressors that lead to further problems in each relationship. There are three directions of influence possible between subsystems. The first is that stress in the marital relationship causes problems in the parent-child relationship, for example, Emde and Easterbrooks (1985) suggest that when under stress a parent cannot be available for the child. The second and not often considered direction is that stress from the parent-child relationship causes problems in the marital relationship. This is supported from the literature that suggests marital satisfaction often declines after the birth of a child (Rollins & Feldman, 1970; Belsky, 1984). In addition, a difficult child temperament can compound the strain on the marital relationship (Belsky, Fish & Isabella, 1991; Simons, Whitbeck, Conger & Melby, 1990). The final direction of influence proposed by the family stress and role strain hypothesis is that neither relationship causes stress for the other, but a third factor may reduce the quality of both relationships and the whole family, such as parent unemployment or chronic illness (Margolin, 1981). Alternatively, the effect of role strain may occur from the adjustment required by parents when a child joins the family (Engfer, 1988). In summary, these findings provide evidence that family stress and role strain may be one mechanism that explains spillover between the marital and parent-child relationship. In particular, this hypothesis raises important possibilities that marital and parent-child relations can mutually influence one another.

Several meta-analytic reviews have examined evidence for each theoretical perspective of compensation (Engfer, 1988) and spillover (Fauber & Long, 1991) and conclude that the majority of evidence supports the spillover hypothesis, whereby a negative marital relationship is related to a negative parent-child relationship and a positive marital dyad related to a positive parent-child relationship (Erel & Burman, 1995; Krishnakumar & Buehler, 2000). This supports the claim that the marital relationship is positively associated with the parent-child relationship (Sroufe & Fleeson, 1988; Belsky, 1981). Furthermore, despite some evidence that a positive parent-child relationship can protect children from the negative effects of marital conflict (Katz & Gottman, 1997; Rutter, 1987) the considerable support for spillover suggests it is very difficult for parents to maintain a positive parent-child relationship in the context of marital conflict (Erel & Burman, 1997).

The majority of studies that provide support for spillover address how a negative marital relationship is linked to a negative parent-child relationship (rather than how a positive marital relationship may create a positive parent-child relationship). For example, Owen and Cox (1997) reported that marital conflict reduced sensitive and involved parenting, which in turn was associated with an insecure parent-child attachment relationship. However there is some evidence that parents in a satisfied marriage are more likely to maintain a positive parent-child relationship (Engfer, 1988; Goldberg & Easterbrooks, 1984). Nevertheless, Cox et al., (2001) suggest more research on aspects of the marital relationship that encourage a well-functioning parent-child relationship should be conducted. Furthermore, the majority of studies included in the meta-analyses of Erel and Burman (1995) and Krishnakumar and Buehler (2000) that found more evidence for spillover were cross-sectional, therefore the authors are unable to determine the direction of effects between relationships. For example, from the 68

independent studies reviewed by Erel and Burman (1995) only 7 were conducted using a longitudinal design, and only 8 of 39 studies examined by Krishnakumar and Buehler (2000) were longitudinal in nature. This means that the majority of studies cannot determine whether the marital dyad determines the quality of parent-child relations, or vice-versa.

The parent-child relationship and children's adjustment

The parent-child relationship has been conceptualised in many different ways, with researchers considering measures of attachment relations, specific behaviours employed by parents such as levels of monitoring, control, involvement, acceptance or coercion ('parenting practices'), or overarching parenting styles or typologies that are indicated by a combination of practices (Cowan & Cowan, 2002). In general, researchers measure or observe a particular aspect of parent-child interactions which they propose reflect the underlying quality of parent-child relations (Davies & Cummings, 1996; Jouriles & Farris, 1992; Kerns et al., 1996; Kitzmann, 2000). For example, some researchers suggest the level of responsiveness and availability a parent conveys towards the child (or a child perceives of the parent) represents the quality of parent-child relations (Kerns et al., 1996), while others suggest the number of coercive exchanges between parent and child to be an appropriate measure (Patterson, 1982). Furthermore, both positive and negative aspects of parent-child relations have been considered to influence children's adjustment (Simons et al., 1990). Specifically, in attempting to uncover family factors that increase or decrease children's risk for maladjustment, parent-child relations can be thought of as a continuous measure whereby one end (positive parent-child relations) is associated with positive outcomes in children, and the other end (negative parent-child relations) is associated with negative outcomes (Cowan & Cowan, 2002; Masten, 2001). Despite the diversity in the various

aspects of parent-child relations considered important, the majority of studies find the quality of the parent-child relationship is consistently associated with children's adjustment (Collins, Maccoby, Steinberg, Hetherington & Bornstein, 2000; Cowan & Cowan, 2002; Maccoby & Martin, 1983). In general, research suggests that positive parent-child relations are associated with children's successful adaptation or low levels of maladjustment (Belsky, 1999; Conger, Ge, Elder & Lorenz, 1994; Cowan, Powell & Cowan, 1998; Miller et al., 1993) and negative parent-child relations are associated with symptoms of maladjustment in childhood and adolescence (Ge, Best, Conger & Simons, 1996; Paley et al., 2000; Patterson, 1982).

Which aspects of the parent-child relationship a researcher considers is likely to depend on the theoretical perspective adopted (e.g. attachment theory or social information processing), and which age group the researcher is studying as outcomes of interest vary according to the age of the child (Patterson & Fisher, 2002). For example, Baumrind (1971; 1991) focuses on adolescents therefore she categorises parenting behaviour according to style (rejecting, neglecting) and content (authoritarian, authoritative) that are proposed to foster growth in social competency. However, social interactional perspectives focus on parenting of older children that result in control using monitoring of children's whereabouts and rewarding positive and punishing negative behaviour (Patterson, 1982; Patterson, Reid & Dishion, 1992). In addition, aspects of the parent-child relationship a researcher regards as important parenting behaviours varies as a function of type of families they study (Patterson & Fisher, 2002). For example, researchers investigating single-mother families (DeGarmo & Forgatch, 1997) or how poverty affects families (Conger & Elder, 1994) often measure parental irritability, hostility and limit setting, whereas researchers investigating middle-class samples suggest differences in warmth and control to be salient issues (Baumrind,

1971). Finally, Patterson and Fisher (2002) suggest that the meaning of a particular parenting behaviour depends on the history of parent-child interaction. Parent-child relations develop from many daily exchanges dependent upon both parent and child characteristics. For example, a responsive, sensitive parent is proposed to carefully track the ongoing behaviour of the infant and respond in a fashion the infant finds supportive, especially during times of distress (Patterson & Fisher, 2002; van den Boom, 1994).

Research that considers parent-child attachment has been consistently linked with children's adjustment (Cassidy & Shaver, 1999; Kerns et al., 1996). As outlined in Chapter 1, classifications of attachment style focus on children's reactions to separation from the parent. An important premise of attachment theory is that these reactions represent ongoing transactions in the parent-child relationship (Cowan & Cowan, 2002; Cummings & Cummings, 2002). Therefore, it follows that quality of parent-child attachment can change depending on family context, for example, if a previously responsive, supportive parent becomes emotionally unavailable a child can change from experiencing secure to insecure attachment (Ainsworth, 1967; Egeland & Farber, 1984). Evidence suggests children with a history of secure attachment are more well-adjusted and experience lower symptoms of maladjustment than insecurely attached children (Cassidy, 1995; Carlson & Sroufe, 1995). While research on attachment initially focused on the consequences of infant-parent attachment (Ainsworth et al., 1978) there is evidence that attachment to parents is also significant for older children (Thompson, 1998) and adolescents (Allen & Land, 1999), thus attachment relationships are viewed as important throughout the life-span (Bowlby, 1999; Kerns et al., 1996). Research on the development of the attachment relationship suggests there are specific parenting styles or practices (qualitative aspects of parent-child relationships derived from

qualities of interactions between parent and child) that are predicted to increase the likelihood of secure attachment, such as being sensitive and responsive to the child's needs (Ainsworth et al., 1978). However, these parenting characteristics provide an independent contribution to predict children's adjustment in addition to attachment status (van den Boom, 1994). In other words, security of attachment and parental responsiveness are related, however they both provide independent contributions to children's adjustment (Cummings & Cummings, 2002). For example, parental acceptance and responsiveness predicts positive child development outcomes (Bornstein, 2002; Clarke-Stewart, 1972; Eisenberg & Valiente, 2002) and lack of responsivity and availability are linked to maladaptive outcomes (Bakeman & Brown, 1980; Egeland, Pianta & O'Brien, 1993).

Insecure attachments are related to intrusive, overstimulating and inconsistent parent behaviour (Belsky et al., 1984). Therefore, some studies investigate which aspects of parenting are related to insecure attachment, whereby attachment status is considered an index of child adjustment. However Cummings and Cicchetti (1990) suggest that attachment insecurity in itself should not be considered an indicator of maladjustment, rather insecure attachments may increase, along with other family factors, children's risk for adjustment problems (Cummings & Cummings, 2002). Therefore, security of parent-child attachment refers to the affective tie (or emotional bond) between parent and child and not to any specific parenting practices or styles (Sroufe & Waters, 1977). For example, a warm parent may not necessarily foster secure parent-child attachment, especially if warmth is intrusive (e.g., demonstrating affection towards a teenager in front of peers) but may increase the probability of a secure attachment if warmth is conveyed to the child in a way that increases their confidence in the availability of the parent (Paley et al., 2000; Waters & Cummings, 2000).

Research on how 'parenting' is related to children's adjustment considers how variations in parents' behaviour relate to children's adjustment. Cowan, Powell and Cowan (1998) define parenting as behaviour that creates the conditions necessary in which children can develop to their fullest capacity both inside and outside the family. Within the field of parenting research, a distinction is made between two distinct but related constructs (Darling & Steinberg, 1993; Cowan & Cowan, 2002). First, parenting style focuses on broad dimensions of parenting such as warmth and control that define the emotional climate of the relationship between parent and child. Second, specific parenting behaviours or parenting practices that parents adopt within each style (e.g., physical or verbal punishment) are distinguished (Darling & Steinberg, 1993; Coiro & Emery, 1998). Researchers considering parenting styles often adopt dimensions similar to those identified by Baumrind (1971; 1991) including warmth-responsiveness (that is, respond appropriately to the needs of the child and convey affection or positive regard to the child) and control (providing discipline, structure, limits and age-appropriate expectations for competent child behaviour; Cowan et al., 1998). Varying levels of these dimensions are proposed to combine to form four general parenting styles known as 'authoritative' in which parents are warm and set limits, 'authoritarian' whereby parents are cold, hostile and controlling, 'permissive' parents who are warm but exert little control, and 'rejecting' whereby parents may curse, belittle, or fail to attend to their psychological and physical needs (Baumrind 1989; Cowan & Cowan, 2002; Dix, 1991). Each of these typologies are consistently related to children's adjustment. For example, children and adolescents whose parents adopt an authoritative style are reported to experience the least distress and most adaptation on almost all indicators of child adjustment than any other parenting style, including academic achievement, psychological well being and social behaviour (Conger et al., 1994; Cowan et al., 1998;

Maccoby & Martin, 1993; Steinberg, 2001). Steinberg, Mounts, Lamborn and Dornbusch (1991) conducted a large survey of around 10,000 adolescents to investigate the extent to which the relationship between authoritative parenting and adolescent adjustment is influenced by contextual factors. They found a positive relationship between an authoritative parenting style and depression, anxiety and delinquency in adolescents regardless of several contextual factors that may also influence the child's adjustment (such as intact or divorced parents, ethnicity and socio-economic status).

In terms of specific parenting practices, a substantial body of evidence suggests that coercive parenting practices may contribute to the development of children's conduct problems (Patterson, 1982; Patterson & Capaldi, 1991; Patterson, Dishion & Bank, 1984). However, this work often differs from the majority of studies that simply document the effect of a specific parenting style on children's adjustment to considering interactions between parent and child. For example, coercive family process theory (Patterson, 1982) suggests that parents' use of coercion as a parenting practice leads to or maintains children's aggressive behaviour. A coercive parent-child interaction is defined as an exchange in which one member of the dyad (child or parent) performs an aversive behaviour (e.g., hitting, shouting, temper-tantrum) and the other responds in a similarly aversive manner in order to stop the unwanted behaviour. If this behaviour succeeds in stopping the initial aversive behaviour, both parties (parent and child) are reinforced, and are more likely to use the strategy again. For example, a coercive interaction may begin with a mother scolding the child for not completing their homework, the child counterattacks with aversive behaviour in order to avoid the task, and if the mother withdraws the request as a short-term measure to end the child's aversive behaviour, the child is more likely to use this strategy in the future. Patterson (1995) suggests that the development of problem behaviour occurs as a result of the

parent responding to children's aversive behaviour with similar behaviour, and also failing to respond positively to children's socially skilled or positive behaviour. In non-distressed families, children are rewarded for prosocial behaviour and not reinforced for aversive behaviour (Snyder & Patterson, 1995). Coercive family process theory predicts that over time repeated displays of individual cycles of coercive, hostile behaviour by both parent and child develop into crystallised, overlearned patterns of interaction that maintain children's problematic aggressive behaviour (Reid, Patterson & Loeber, 1981). This theory of how family behaviour contributes to children's dysfunction has been widely supported. For example, there is evidence that parenting characterised by irritability and harshness increases the risk for problematic adolescent development (Larzelere & Patterson, 1990; Maccoby & Martin, 1983). Furthermore, aggressive children are at risk for further adjustment problems including poor peer relations (Dodge, 1983) and academic development (Patterson et al., 1992). This research suggests parent-child interaction is an important consideration for children's adjustment (Burman, Margolin & John, 1987).

In summary, a great deal of research has identified parenting behaviours that are related to children's symptoms of maladjustment with the majority of studies identifying unsupportive, coercive and hostile parenting as important considerations (Burbach & Borduin, 1986; Downey & Coyne, 1990; Scaramella, Conger & Simons, 1999). However, less attention has been paid to aspects of parent-child relations that may reduce the risk for behaviour problems (Scaramella et al., 1999). From a meta-analysis, Rothbaum and Weisz (1994) reported that both positive parenting (acceptance) and an absence of negative parenting (coercive control) were associated with less externalising problems. Furthermore, some have suggested positive and negative parent behaviours are likely to have different implications for children's adjustment (Margolin & John,

1997; Pettit, Bates & Dodge, 1993; 1997). For example, Scaramella, Conger and Simons (1999) provide longitudinal evidence that adolescents who experienced parenting high in warmth and low in hostility experienced fewer internalising symptoms and externalising problems. In addition, high warmth and low hostility protected against the growth of externalising problems that would otherwise be expected in adolescence over a 5-year period. Similarly, Ge et al., (1996) reported that adolescents were more likely to experience both depressive symptoms and aggressive problems when parents demonstrated high hostility, low warmth and poor discipline over a 4-year period from age 12 upwards. Furthermore, warmth and skilful discipline reduced the likelihood of maladjustment, but hostility increased the risk for depressive symptoms and conduct problems.

The above research highlights the importance of considering the quality of parent-child relations when accounting for children's adjustment and symptoms of maladjustment. However studying the association between one subsystem (parent-child relations) and children's adjustment is likely to represent an incomplete picture of family process according to the principles of family systems theory. A more complete picture might be gained from examining factors that influence the parent-child relationship. Evidence reviewed earlier suggested that marital and parent-child relations are related (Belsky, 1984; Cowan & Cowan, 2002; Erel & Burman, 1995). Therefore, in order to more fully account for children's adjustment, the quality of parent-child relations should be measured in context of the quality of the marital relationship (Belsky, 1984; Cox, Owen, Lewis & Henderson, 1989; Harold et al., 2004). Therefore, studies that include measures of the direct and indirect effect of marital conflict on children's well being are likely to further understanding of the multiple determinants of children's adjustment.

Marital conflict and child adjustment: Parent-child relations as mediator

As outlined earlier, marital conflict is considered to influence children directly via their interpretations and awareness of interparental conflict (Cummings & Davies, 1994; Grych & Fincham, 1990), and indirectly via disturbances in the parent-child relationships (Harold & Conger, 1997; Fauber & Long, 1991). Therefore, studies that consider both marital conflict and parent-child relations are important in informing how processes within the family contribute to children's psychological well being. When considering the role of parent-child relations in accounting for child adjustment, it is possible that positive and negative parent-child relations operate as a mediator or moderator of the relationship between marital conflict and children's well being (Frosch & Mangelsdorf, 2001). Parent-child relations would be considered to be a moderator of the relationship between marital conflict and children's adaptation if the quality of parent-child relations altered the strength and/or direction of the relationship (Baron & Kenny, 1986). For example, Frosch and Mangelsdorf (2001) reported that the quality of parent-child relations moderated the effect of marital conflict on children's behaviour problems, whereby warm and supportive parenting protected children from the negative effects of a discordant interparental relationship on children's externalising problems. Conversely, hostile, intrusive parent behaviour directed towards the child was linked to the highest rates of behaviour problems. As a further example of a moderator, it is possible that characteristics of the child can act as a moderator of the relationship between marital conflict and adjustment. Bates, Pettit, Dodge and Ridge (1998) found infants with difficult temperaments were at risk for conduct problems at age 11 only if they experienced inconsistent, lax parenting. Nevertheless, children with a calm temperament who experienced firm, restrictive parental control also experienced adjustment problems in late childhood (Dodge, 2002). Therefore, tests of moderation

may provide an explanation for which children may be affected by different forms of parent-behaviour, and how positive and negative parent-child relations may influence the expected relationship between interparental conflict and children's well being. In contrast, it may be that parent-child relations act as a mediator of the relationship, that is, the quality of parent-child relations may clarify the nature of the relationship between marital conflict and children's adjustment (Holmbeck, 1997). In this way, parent-child relations would operate as a mechanism that accounts for the relationship between marital conflict and children's adjustment (Cummings & Davies, 2002). For example, Fauber et al., (1990) report evidence that the relationship between marital conflict and children's internalising symptoms and externalising problems was explained through disturbances in the parent-child relationship. Therefore parent-child relations as a mediator may explain why marital conflict affects children's adjustment, that is, children develop adjustment problems because the quality of parent-child relations are also negatively affected.

When considering that parent-child relations may act as a mediator of the association between marital conflict and children's adjustment (the indirect effect hypothesis) empirical evidence varies according to whether parent-child relations operate as a full or partial mediator (Davies, et al., 2002). If the quality of parent-child relations operates as a full mediator then the direct relationship between marital conflict and children's adjustment will become nonsignificant when the link between marital conflict and the parent-child relationship, and the link between the parent-child relationship and child adjustment is controlled (Baron & Kenny, 1986; Fauber & Long, 1991). Alternatively, parent-child relations would constitute a partial mediator if the direct relationship between marital conflict and child adjustment was reduced, but remained statistically significant (Emery, Fincham, & Cummings, 1992). There is a

large body of evidence to suggest that negative parent-child relations operate as a full or partial mediator in accounting for the effects of interparental conflict on children's adjustment (Harold & Conger, 1997; Harold et al, 1997; Harrist & Ainslie, 1998; Gordis, Margolin & John, 2001; Vandewater & Lansford, 1998). Also, it could be that parenting provides an indirect link in situations where marital conflict and child adjustment are not initially associated, but become so when parent-child relations are considered, often found when different reporters report on the marital relationship and children's adjustment (MacKinnon, Krull & Lockwood, 2000; e.g. Harold & Conger, 1997). In this instance, parent-child relations serve as a linking mechanism between marital conflict and children's adjustment (Gonzales, Pitts, Hill & Roosa, 2000; Harold & Conger, 1997).

For example, Buehler and Gerard (2002) examined the role of marital conflict and parent-child relations from a sample of just over 2,500 families with children aged 2-18 years old. The majority of analyses provided evidence that for children of all ages, marital conflict was associated with parents greater use of harsh discipline (shouting and arguing) and a reduction in parental involvement (spending time reading or playing) with their children. These indicators of a negative parent-child relationship were associated with both children's and adolescent's maladjustment. However, while marital conflict maintained an independent effect on children's adjustment, for adolescents effects were only directed via parent-child relations. Harold and colleagues (Harold & Conger, 1997; Harold et al., 1997) provide further longitudinal evidence that the quality of parent-child relations are important in determining adolescent adjustment to marital conflict. Harold et al., (1997) reported that adolescent's perceptions of marital conflict and negative parent-child relations (indicated by hostility and rejection) were associated with children's internalising symptoms, and negative parent-child relations

completely accounted for externalising problems. Further tests focusing just on adolescent's perception of parent-child hostility (as opposed to hostility and rejection) confirmed both adolescents' awareness of marital conflict and perception of parent-child hostility were associated with boys internalising, however girls' internalising and boys and girls' externalising were completely accounted by their experience of parent-child hostility. In addition, Harold and Conger (1997) confirmed the importance of both marital conflict and parent-child relations in accounting for adolescents' behavioural and psychological adaptation. They found that the negative influence of marital conflict on adolescent adjustment was entirely explained by the adolescents' perceptions of being treated in a hostile manner by both mothers and fathers. Furthermore, adolescents' perception of parent-child relations was directly informed by marital conflict that occurred at the same time point, and earlier in adolescents' lives.

Burman et al., (1987) have extended the mediator model by considering the unique influence of measures of marital conflict and parent-child warmth in predicting children's adjustment problems. In general, they found the marital relationship did not make a unique contribution over and above parent-child warmth in influencing children's adjustment. Thus, they tentatively conclude that an increase or decrease in parent-child warmth as a result of marital conflict may have important implications for children's adjustment. However, this cross-sectional study was conducted on a small sample of 47 families. Similarly, Vandewater and Lansford (1998) reported that for girls aged 10-17 years old, parent-child warmth reduced the negative effect of conflict on their internalising and externalising symptoms measured 5 years later. For boys, marital conflict significantly predicted an increase in maladjustment, however parent-child warmth did not mediate this relationship. Nevertheless parental warmth expressed

towards sons did have an independent direct effect in reducing boys internalising and externalising 5 years later.

Finally, Margolin and John (1997) provide evidence that both positive and negative aspects of the parent-child relationship have implications for children's adjustment. In particular, they attempted to investigate if parents embroiled in particularly abusive marriages (accompanied with violence) are likely to exhibit harsh discipline or a lack of warmth, and if so, what are the implications of these parent-child behaviours on children's internalising symptoms and externalising problems. Furthermore, they tested whether models considering both direct and indirect effects better explained children's adjustment than either consideration alone. They found that children's perceptions of marital conflict (including physical and verbal aggression) were associated with their perception of increased use of hostile parenting (including physical punishment and guilt induction), which in turn was associated with an increase in children's depression and aggression. Furthermore, marital aggression was associated with girls' perception of a decrease in positive parenting (less warmth) which contributed to account for an increase in girls' hostility and depression. However, for both boys and girls, awareness of marital aggression continued to influence their report of behaviour problems, suggesting both direct and indirect effects should be considered.

Collectively, these studies suggest it is important to study how parent warmth and hostility may increase or decrease the negative effects of marital conflict. Indeed, several researchers have suggested the need to study both positive (e.g. warmth) and negative (e.g. hostility) aspects of parent-child relations in order to achieve greater clarity on the range of family process that may contribute to explain children's adaptive and maladaptive development (Burman et al., 1987; Fauchier & Margolin, 2004; Margolin & John, 1997). Indeed, Fauchier and Margolin (2004) speculate that parent-

child relations may operate in a similar way to marital relationships, whereby Gottman (1993) proposed the presence of negative affect alone is not sufficient to predict a negative overall interparental relationship, there must also be an absence of positive affect. Thus, it could be that negativity (e.g. hostility) within the parent-child relationship is related to children's maladjustment only in the context of low levels of positive affect or warmth (Fauchier & Margolin, 2004). Furthermore, they claim that researchers should not assume that high conflict means low warmth or that high warmth means low conflict in the marital or parent-child relationship, but that research should include both positive and negative dimensions of parent-child relations in order to obtain an accurate picture of family life (Conger et al., 1994; Margolin & John, 1997; Paley et al., 2000).

While extremes of parenting behaviour are hypothesised to have similar effects on all children, most theorists suggest a person-environment interaction (Sameroff, Lewis & Miller, 2000) where consequences of a certain environment differs depending on the child's age and stage of development (Patterson & Fisher, 2002). Specific parenting practices and specific types of family contexts may be more (or less) effective for promoting positive development in different types of children (Ramey, 2002).

The role of children's age

As outlined above, which aspect of parent-child relations is considered important varies according to the age group of the children included in the study (Patterson & Fisher, 2002). Thus, parent-child relations in infancy are most often characterised by measures of parental responsiveness to infant distress (Bell & Ainsworth, 1972) and the beginnings of reciprocal interaction e.g. face to face games where partners take turn in acting and reacting (Tronick, 1989). Children in early childhood have greater language and socio-cognitive development which affect the nature of parent-child interaction

(Maccoby, 1984). Thus, researchers may measure parents increasing directive role in encouraging children to behave in appropriate ways (by praise or encouragement) and discourage inappropriate socially prescribed behaviour (by criticism or threats; Lamb et al., 1999). The school-age child (around 5-12 years old) however is able to engage in more complex cognitive operations, and reflect on their thoughts and emotions (Flavell, Miller & Miller, 1993). Studies of parent-child relations during middle and late childhood often focus on parental monitoring and control (Baumrind, 1991; Patterson et al., 1992) but also more co-ordinated parent-child interactions, whereby parents more often employ reasoning techniques (Maccoby, 1992). While some have suggested that during adolescence, parent-child relationships become more conflictual and less important for adolescent adjustment (Collins, 1990; Freud, 1958) many do not agree. Instead, more researchers propose that parent-child relations still remain highly influential for adolescent adjustment (Lamb et al., 1999; MacDonald & Parke, 1984) and do not become less significant, but change to involve more anticipatory guidance and emotional support (Buhrmiester & Furman, 1990; Lamb et al., 1999; Lamborn & Steinberg, 1993). Indeed, several studies demonstrate that the majority of adolescents continue to rely on parents for advice, support and emotional intimacy (Maccoby & Martin, 1983; Noller & Callan, 1986).

In addition, the effect of marital conflict may vary according to the age of the child. While very young children have been found to become distressed from witnessing interparental conflict (Cummings, Zahn-Waxler & Radke-Yarrow, 1981), it may be that older children experience greater distress as they can appreciate the broader implications that conflict may have on family functioning (e.g. parents may divorce; Grych & Fincham, 2001). This hypothesis has been supported by studies that suggest adolescents are more likely to become involved in marital conflict (Cummings, Ballard

& El-Sheikh, 1991). This may occur because older children have a history of witnessing frequent marital conflict on a number of occasions which serves to increase their perceptions of threat, sensitising them to interparental conflict, leading children to becoming more vulnerable to its negative effects (Cummings & Davies, 1994; Gottman & Katz, 1989). Nevertheless, whilst older children may be more aware of the threat to themselves and the long-term stability of the family that might be elicited from witnessing interparental conflict (Grych & Fincham, 2001), they may also be more able to employ effective coping strategies in order to reduce their distress (e.g. seeking solace in a friend or grandparent; Cummings & Davies, 1994).

The role of child and parent gender

In order to understand the variability of findings regarding the influence of marital conflict and parent-child relations on children's adjustment, it is also necessary to consider how the differential behaviour of mothers and fathers and boys and girls may contribute to explain the variety of findings (Davies & Lindsay, 2001; Coiro & Emery, 1998; Cowan, Cowan & Kerig, 1993). For example, there is evidence that boys and girls may differ in their response to marital conflict, in that boys may be more susceptible to the negative effects of marital conflict than girls (Block et al., 1981) or that girls are more likely to experience internalising symptoms and boys externalising problems as a result of exposure to interparental conflict (Cummings, Iannotti & Zahn-Waxler, 1985; Davies, Myers & Cummings, 1996). Furthermore, parenting behaviour may differ according to child gender, for example there is evidence that the father-daughter relationship is particularly vulnerable in the presence of a discordant marital relationship (Amato & Booth, 1991; Kerig et al., 1993; Lindahl, Clements & Markman, 1997). Explanations for why boys and girls may differ in their response to marital conflict have focused on two possible explanations. The first suggests boys are more

vulnerable to the harmful influence of marital conflict than girls (the male vulnerability model; Block et al., 1981; Jouriles et al., 1991). The second model proposes that boys and girls may experience similar levels of distress to marital conflict, but express this distress in different ways, with girls inclined towards internalising symptoms and boys externalising problems (the differential reactivity model; Buchanan, Maccoby & Dornbusch, 1991). Davies and Lindsay (2001) conclude there is evidence for both models, therefore several contextual factors must be considered to account for these mixed results, including parent-child relations and children's characteristics.

Evidence is similarly mixed regarding the proposition that mothers and fathers' roles as parents are differentially affected by marital conflict. Some suggest mothers are more able to compartmentalise their marital and parenting role so that a discordant marital relationship does not affect the mother-child relationship (Belsky, Youngblade, Rovine & Volling, 1991). This is hypothesised to occur due to mothers' parenting role being more defined than fathers' role as a parent, with mothers often being responsible for the majority of child-rearing tasks (Belsky, Gilstrap & Rovine, 1984). A discordant interparental relationship therefore may further disrupt the paternal role if, in the presence of a happily married couple, the mother is not able to provide the father with support for his parenting role (Coiro & Emery, 1998; Belsky, 1984). While there is some evidence that fathers are more likely to withdraw or become more negative towards their children (Parke & Tinsley, 1987), two reviews have concluded that both maternal and paternal parenting are equally disrupted in the face of marital conflict (Coiro & Emery, 1998; Erel & Burman, 1995). However, child characteristics may influence this association, as this link is particularly true of the father-daughter relationship. For example, Kerig et al., (1993) reported that maritally dissatisfied fathers were more negative towards their daughters, possibly due to daughters being reminiscent

of the mother from whom fathers may also withdraw during marital conflict (Christensen & Heavey, 1990). Support for the hypothesis that the opposite-sex parent-child relationship is more vulnerable is also confirmed for mothers. As an illustration, one study found that mothers involved in a discordant marital relationship were more likely to reciprocate their son's negative affect (Kerig et al., 1993).

In addition, there is evidence that parental warmth and hostility may have differential effects on boys and girls in the context of a discordant marital relationship. For example, Vandewater and Lansford (1998) report the quality of parent-child relations (child perception of parental warmth) reduced the negative effect of marital conflict for girls, but not for boys' maladjustment. They suggest parents may feel more able to express affection to girls than boys, and girls may be more able to solicit warmth and affection from parents (Hetherington et al., 1989). Indeed, they found girls reported experiencing higher levels of parental warmth than boys regardless of the level of marital conflict. Furthermore, Margolin and John (1997) found boys' perceptions of marital conflict were not related to their perception of parent-child warmth, whereas girls whose parents engaged in marital violence also perceived a reduction in parental warmth. However, similar to Vandewater and Lansford (1998), Margolin and John (1997) reported that parental warmth did not mediate boys' symptoms of aggression and depression, while parent-child warmth partially mediated the effect of marital conflict on girls' symptoms of maladjustment. In summary these findings suggest that it is important to consider both parent gender and child gender when investigating the influence of family relations on children's adjustment (Davies & Lindsay, 2001).

Marital conflict, parent-child relations and children's adjustment: The direction of effects

The majority of research discussed thus far, along with the conceptual model outlined in Figure 2.1, suggests that familial influences are exerted from the marital relationship to parent-child relations and from these processes to children's adjustment. Therefore, this hypothesis proposes the marital relationship sets the emotional tone and functioning of other family relations, and ultimately, children's adjustment (Belsky, 1984; Cowan & Cowan, 2002; Harold et al., 2004). However, it can be hypothesised that this proposed direction of effects could be reversed at every stage of the model (Bell, 1968; Bell & Harper, 1977). For example, children's adjustment (symptoms of depression and aggression) could influence parents' level of marital satisfaction or how parents behave towards their children (Belsky, 1984). Similarly, it is possible that parent-child relations influence the marital relationship, whereby one or both parents who have a negative relationship with their child may experience a negative relationship with their partner. For example, there is evidence that a child with a difficult temperament (often indicated by excessive crying) or behaviour problems contributes to the development of ineffective parenting (Bell & Harper, 1977; Belsky et al., 1991; Lytton, 1990; Sampson & Laub, 1994). In turn, negative parenting may contribute to adverse family environments (Maccoby & Martin, 1983) or general family stress (Belsky, 1984). Furthermore, Christensen and Margolin (1988) speculate that during parent-child conflict, the other parent may enter to protect the child or criticise the parent, turning parent-child conflict into family-wide conflict. However, despite Bell's proposal that children influence parents (Bell, 1968; Bell & Harper, 1977) the majority of research does not consider this possibility (Crockenberg & Leerkes, 2003). The assumption that parents have more influence on children than children do on parents

may derive from research into early child development when children are dependent on their parents for survival, in terms of the provision of food and shelter (Maccoby & Martin, 1983). In addition, the assumption that the marital relationship determines the quality of parent-child relations may be due to the temporal order of relations, whereby the marital relationship exists before the arrival of the child (Cowan & Cowan, 2002; Gottman & Wilson, 1995).

There are some longitudinal studies that address the direction of effects between the marital and parent-child relationship, and their influence on children's adjustment. For example, Belsky, Youngblade, Rovine and Volling (1991) measured the marital relationship before the birth of the child, and parent-child interactions when the child was 3 years old. They found that patterns of marital change across the three years predicted parent-child behaviour during observation sessions, particularly an increase in fathers' intrusive behaviour, which led to a more disobedient child. Harold et al., (1997) found adolescent perceptions of marital conflict are more likely to predict their perceptions of parent-child relations than the converse. This suggests that the quality of the marital relationship informs children's experience of parent-child behaviour. In particular, a high level of marital conflict predicted children's perception of hostile parent behaviour directed towards them (Harold & Conger, 1997; Harold et al., 1997). Cummings and Davies (1994) agree that children are more likely to view parent-child conflict as being more hostile after witnessing marital conflict than children who have not witnessed such conflict. Harold et al., (2004) provide longitudinal evidence that marital conflict activates a 'chain-of-events', whereby children's feeling of security in the context of the marital relationship determined their perception of security within the parent-child relationship which was concurrently related to their maladjustment. Furthermore, Harold et al., (2004) investigated the influence of children's behaviour on

their perception of marital and parent-child relations. They found that children's internalising symptoms increased their perception of negative marital relations and insecurity in the parent-child relationship, particularly, children's symptoms of depression decreased their perception that parents can be depended upon and are available for their needs. This study suggests that children's maladjustment may influence parent-child relations, in addition to parent-child relations influencing their adjustment. Therefore, future studies should incorporate measures of children's adjustment at the first measurement point of the study.

One further study has attempted to address how child behaviour can influence parent behaviour. Conger and Ge (1999) examined changes in emotional expression (both positive and negative) of parents and children during adolescence (from age 12 to 14 years old). Specifically, they investigated how the expression of conflict (measured as overt hostility or negative affect) and cohesion (operationalised as observable warmth and support or positive affect) by either parent or child influenced the others' behaviour. For the relationship between parent and adolescent expression of hostility, they found that expressions of hostility by the adolescent predicted an increase in parents' hostility a year later. This pattern of effects is mirrored for parents' expression of hostility towards the adolescents, as parents' hostility predicted an increase in adolescents' hostility a year later. In terms of expressions of parent-child warmth however, the pattern of relations were not so consistent and only warmth expressed by either parent or child during the first year (from age 12-13) influenced the others' level of warmth. This study suggests that expression of affect between parents and children are important influences on one another during adolescence.

Finally, Patterson and Fisher (2002) claim some parenting behaviour may reflect greater influence of parent or child behaviour, for example they suggest that harsh or

abusive discipline may represent a greater influence of the child's behaviour on the parent than vice-versa. However, many researchers state that parent-child relations should be considered to be bidirectional (influence flows from parent to child and child to parent) or reciprocal (ongoing mutual influence between parent and child; Cowan & Cowan, 2002; Conger & Ge, 1999). Parenting may therefore best be conceptualised as a set of interactive processes whereby parents and children react to each other and influence each other from moment to moment (Maccoby, 1992; Bugental & Goodnow, 1998). Therefore, many researchers agree that the influence of parent and child behaviour cannot be reduced to a single point in time, but there is an ongoing transaction between parent and child that influences one another (Crockenberg & Leerkes, 2003; Udry, 2003). Nevertheless, the majority of research suggests that parents influence their children to a greater extent than children influence their parents (Maccoby & Martin, 1983), and longitudinal studies suggest a temporal order that begins with the chain of events initiated by marital conflict (Harold & Conger, 1997; Harold et al., 1997; Harold et al., 2004). Furthermore, Cowan and Cowan (2002) suggest that the field of developmental psychopathology is less concerned with the ultimate cause of children's maladjustment, but ongoing influences which nudge children towards increasing or decreasing psychological and behavioural adjustment, and how different outcomes may occur from seemingly similar environments, all of which are likely to contribute to understanding processes within the family that combine to multiply determine children's development (Cicchetti & Rosgosh, 1996; Cowan et al., 1994; Sroufe & Rutter, 1984).

The conclusions that may be drawn from the theoretical and empirical evidence reviewed in this chapter suggest that in order to further understanding into the mechanisms that may account for the impact of marital conflict on children's adjustment, the positive and negative affective quality of parent-child relations

(characterised by warmth and hostility) merits closer attention. In addition, research is needed that is able to examine the direction of influence between marital conflict and the affective quality of parent-child relations, because evidence reviewed indicates that the affective quality of the parent-child relationship may influence the level of marital conflict, yet very few studies have examined this hypothesis using longitudinal data. Similarly, the direction of effects between positive and negative parent-child affect and children's adjustment should be examined to discover whether children's internalising symptoms and externalising problems influence parents' expression of warmth and hostility towards children. These questions are particularly pertinent for children in early adolescence as it has been postulated that children of this age group may influence other family relations (Crouter & Booth, 2003). Finally, the empirical review suggests that future research should consider the role of parent and child gender when examining the interrelationships between marital conflict, parent-child affect and children's adjustment. It is possible that different patterns of influence may be evident when considering the marital relationship and mother-child and father-child relations, or when considering parent-child relations between mothers, fathers, sons and daughters.

Summary

This chapter, in company with the body of literature discussed in Chapter 1, has reviewed the theoretical and empirical evidence for the relationship between marital conflict, parent-child relations and children's adjustment, highlighting several issues that have not yet been addressed around the examination of two mechanisms that may account for children's adjustment to a discordant marital relationship including the affective quality of parent-child relations and children's cognitions of marital and parent-child relations. A large body of evidence has been noted that suggests that hostility engendered by marital conflict is likely to spillover into the parent-child

relationship, which in turn, may account for children's internalising symptoms and externalising problems. However, the presence of parent-child hostility does not necessarily imply this will be accompanied by a complete absence of parent-child warmth, yet there is a dearth of research that examines the relative effects of parent warmth versus expressions of hostility for children's adjustment in the context of marital conflict. For example, it may be that the occurrence of parent-child hostility outweighs the role of parent-child warmth in protecting children's feelings of security in the parent-child relationship which is linked to children's maladjustment in the context of a discordant marital relationship. In addition, Chapter 1 indicated that children's cognitions of family relations are also likely to provide a mechanism through which the effects of marital conflict on children's adjustment are explained. How these two mechanisms combine to account for children's maladjustment in the context of interparental conflict is relatively unexplored. Initial research suggests that marital conflict provides the context in which children evaluate parent-child relations (Harold et al., 2004) and children's feelings of threat and self-blame (Grych et al., 2003). However, it is possible that marital conflict determines the level of parent-child warmth and hostility, and the quality of parent-child relations provides the context in which children appraise the marital and parent-child relationship, which in turn determines their adjustment to marital conflict.

Attention will now turn to consider the role of parent-child affect in more detail, particularly the lack of consistent conceptualisation and measurement of the affective quality of parent-child relations. The relatively neglected role of parent-child warmth will be discussed, including theoretical and empirical evidence that has considered the consequences of positive affect within parent-child interactions on children's adjustment. Chapter 3 will also discuss research that has investigated the role of parent-

child hostility, and conclude that further research is needed that considers both parent-child warmth and hostility to gain further insight into how the quality of parent-child relations may determine children's perceptions of family relations, which in turn may combine to account for children's adjustment in the context of marital conflict.

CHAPTER 3

Chapter 1 introduced two mechanisms that have been proposed to account for the relationship between marital conflict and children's adjustment, including the quality of the parent-child relationship and children's perceptions of marital and parent-child relations. Chapter 2 focused on empirical evidence regarding the link between marital conflict, the quality of the parent-child relationship and children's adjustment and highlighted that the affective quality of the parent-child relationship is likely to provide further insight into the processes that may be set in motion by the presence of marital conflict. In particular, it was noted that the relative influence of positive and negative affect expressed during parent-child interactions may have implications for children's adjustment in the context of interparental conflict. Furthermore, it was suggested that the link between the quality of the parent-child relationship and children's adjustment may be mediated by children's perceptions of marital and parent-child relations in the context of a discordant marital relationship. The present chapter considers how parent-child affect may be defined and measured, particularly positive parent-child affect which has been relatively neglected in comparison to parent-child negativity.

The role of parent-child hostility engendered from marital conflict has been examined by many researchers, and evidence converges to suggest that parent-child hostility may exacerbate the negative effects of marital conflict on children's adjustment (Harold & Conger, 1997; Harold et al., 1997; Margolin & John, 1997). However, while theories of socialisation (specifically, parenting behaviour) consider parental warmth to play an important role in the development of children's adjustment (Baumrind, 1967; Maccoby & Martin, 1983), its role within parent-child relations and the broader context of family relations has been relatively neglected. This is an important issue to address as children are likely to experience both warmth and hostility from their parents, even in

the context of a discordant marital relationship (Fauchier & Margolin, 2004; Margolin & John, 1997; Vandewater & Lansford, 1998). Therefore, the relative role of positive and negative parent-child relations as determinants of children's adjustment is important to identify. For example, parent-child hostility may be expressed relatively infrequently in comparison to parental warmth, however, hostility may have a greater influence on children's adjustment and therefore increase children's distress in the climate of a hostile interparental relationship, such that expressions of parent-child warmth have little effect on children's adjustment when estimated in company with parent-child hostility. In order to investigate the role of parent-child warmth, theories of parental socialisation and empirical evidence that suggests parental warmth may have important implications for children's adjustment will be reviewed. In particular, the wide variation in the definition of parent-child warmth employed across studies will be highlighted (e.g., support, acceptance, responsiveness, affection and praise). The limited research that has considered the role of parent-child warmth on children's adjustment in the context of marital conflict means that discussion is warranted in order to identify aspects of positive parent-child affect that may contribute to children's adjustment. This chapter, together with Chapters 1 and 2, provide a conceptual platform for the empirical studies that follow.

Theoretical perspectives of parent affect

There are few theoretical frameworks to guide research on the influence of parental affect on child development (Dix, 1991; Maccoby, 1992; MacDonald, 1992; Paley et al., 2000; Rohner, 1986). Attachment theory (outlined in Chapter 1) addresses the development and consequences of the affective tie or emotional bond between parent and child, and it may be assumed that warm parents increase the probability of secure parent-child attachment. Furthermore, secure parent-child attachment is linked with

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positive developmental outcomes in children (Cassidy & Shaver, 1999; Waters & Cummings, 2000). However, empirical evidence suggests the formation of a secure parent-child relationship is determined by parent sensitivity and responsiveness to children's needs (to accurately perceive child signals and respond appropriately) rather than the expression of parental warmth (Cummings & Cummings, 2002). For example, there is evidence that an attachment relationship can occur even in the presence of parental maltreatment (Rajecki, Lamb & Obsmacher, 1978). LeVine and LeVine (1966) observed mother-child relationships in Kenya and reported that despite mother-child interactions appearing aloof and lacking in affection, mothers were highly sensitive and responsive to infant needs. Similarly, Ainsworth (1967) reported that Ugandan mothers did not engage in warm, affectionate parental behaviours but a secure parent-child attachment was formed. Thus, while parental warmth may increase the probability of a secure parent-child attachment, it is not necessary for the formation of secure attachment relations (Cummings & Cummings, 2002). This suggests that parental warmth may serve an additional function other than to facilitate close parent-child relations (Cummings & Cummings, 2002). Several studies have confirmed this, for example, Lay, Waters and Park (1989) reported that parental warmth elicited positive affect in children which in turn, increased children's compliance in following parents' instructions.

MacDonald (1992) agrees that the attachment relationship provides a separate function from parental warmth, in that the primary function of the attachment bond is to provide the child security in the face of threat, and the role of the affectional system is to facilitate cohesive, psychologically rewarding family relationships. He claims that while attachment is evident in virtually all species, close relationships characterised by warmth are not (as confirmed by Ainsworth, 1967 and LeVine & LeVine, 1966). MacDonald

(1992) states that parental warmth produces pleasure for the child, and as such, conceptualises the affectional system as an evolved reward system whereby pleasurable interactions that are characteristic of warm parent-child relations maintains a relationship that is evaluated positively by both parent and child (Tronick, 1982). Furthermore, MacDonald (1992) suggests a relationship of warmth and affection between parent and child encourages children to adopt parent values and comply with parent discipline requests, consistent with social learning principles (Bandura, 1965, Mischel, 1976). In addition, parental warmth and attachment security are often related as a highly responsive mother is often also warm towards her child (Clarke-Stewart, 1973; MacDonald, 1992). Indeed, studies suggest that reciprocal positive parent-child interactions are characteristic of securely attached infants, at least in Western societies (Ainsworth et al., 1978; Waters, Wippman & Sroufe, 1979; Isabella & Belsky, 1991; Main & Cassidy, 1988). MacDonald's conceptualisation of parental warmth suggests it to be a trait-like dimension of parent behaviour. However, parent warmth may be better conceptualised as a process, consisting of many parent-child interactions and influenced by the broader family environment (Belsky, 1999; Cummings & Cummings, 2002; Sroufe, 1990). Therefore, a theory that outlines factors that affect parents' ability to express warmth towards their children is likely to be more useful.

An alternative perspective regarding parental warmth is proposed by Dix (1991), who suggests that emotions are at the heart of parental competence (and incompetence) and vital to effective parenting. He argues that in harmonious parent-child relationships emotions are, on average, positive because parents manage interactions so both child and parent concerns are promoted. In distressed relations however, chronic negative emotion is both a cause and consequence of interactions that undermine parents' goals and child development (Dix, 1991). Indeed, there is evidence that negative parent

emotion promotes insensitive, abusive and coercive parenting (Ainsworth et al.1978, Patterson, 1982) and positive emotions promote patient, sensitive care, parent-child bonding, comfort, and encouragement for children (Ainsworth et al., 1978; Belsky, 1984). Dix suggests that strong emotion is a daily correlate of parenting, and that conflictual parent-child interactions are estimated to occur around three to fifteen times per hour in families with young children (Dunn & Munn, 1985; Lee & Bates, 1985; Patterson, 1982) and even more with aggressive children (Patterson, 1982). In cohesive parent-child relationships, parents' positive emotions are proposed to occur about twice as frequently as negative emotions (Jersild, Woodyard & Del-Solar, 1949). Dix (1991) proposes parents' emotions may reflect the health of parent-child relations more than any other single consideration, and constitute barometers for the quality of parenting.

Nevertheless, an emphasis on distressed families led to research that often only considered the dysregulatory effects of negative emotion on parenting and children's adjustment (Dix, 1991). However, many suggest that some degree of negative emotion in parent-child interactions is inevitable as parents must instil in children certain behaviours that may conflict with children's immediate wishes, e.g., complete homework rather than socialise (Baumrind, 1967; Maccoby, 1980; Zahn-Waxler, Radke-Yarrow & King, 1979), but that emotions aroused in parents can mobilise or undermine parenting. For example, an absence of positive emotion experienced by parents in response to a child playing happily can lead to unresponsive parenting that is activated too infrequently, or lacks persistence and intensity. Conversely, strong negative emotions are likely to interfere with parents' cognitions and may decrease parents' sensitivity to children's needs (Dix, 1991). Importantly, emotions are also proposed to disrupt parenting if they are poorly matched to the parent-child interaction. For example, parents who bring emotions from another situation into the parent-child

interaction, such as anger with a spouse, may mean parents experience inappropriate emotion for child rearing tasks (Frijda, 1986). Finally, Dix (1991) concludes that positive and negative parental affect should be studied separately as they are not just the mirror image of one another.

Socialisation research is concerned with how parent behaviour promotes the acquisition of positive behaviour necessary for children to adapt to a particular society and thus research focuses on identifying characteristics on which parents differ from one another. These characteristics are then related to individual differences in children, often identifying typologies of parenting styles (systematic classification of parenting behaviour, such as Baumrind's typologies discussed in Chapter 2) based on certain dimensions such as warmth and control (Maccoby & Martin, 1983). In this research, parent warmth is often considered to be a dimension of parenting style. Darling and Steinberg (1993) distinguish between 'parenting styles' and 'parenting practices', whereby parenting styles are made up of a constellation of attitudes towards the child which constitute an emotional climate. Parenting practices consist of specific parent behaviours, usually discipline techniques that are expressed in the context of a particular parenting style, e.g., physical punishment, monitoring of the child's whereabouts. Parenting styles are indicated from parent-child interactions across a wide range of situations and are proposed to moderate the influence of specific parenting practices (Darling & Steinberg, 1993). For example, firm control (a parenting practice) tempered by parent warmth (a parenting style) has been reported to encourage academic achievement (Melby & Conger, 1996). Similarly, there is evidence that the effects of harsh parenting (a parenting practice) may vary according to parenting style, whereby physical discipline that occurs in the context of a cold parent-child relationship void of parent-child warmth, is associated with children's aggression. However, the same

parenting behaviour that occurs in the context of warm parent-child relations may have negligible negative effects (Deater-Deckard & Dodge, 1997).

Dimensions of parent-child relations have been identified in several factor analytic studies of the parent-child relationship (Maccoby & Martin, 1983). These studies consistently revealed two broad categories, one relating to affect or emotion of parents (e.g. warmth/hostility) and one to discipline style (e.g. control/autonomy). A review of studies reveals that although the terms used to label these dimensions vary, the underlying similarities of the dimensions are consistent (Darling & Steinberg, 1993). For example, Symonds (1939) reported the affective dimension of acceptance/rejection, Baldwin (1955) emotional warmth/hostility, Schaefer (1959) love/hostility, and Sears, Maccoby and Levin (1957) warmth and permissiveness, and Becker (1964) warmth/hostility. Furthermore, the two dimensions of parental affect and control emerged regardless if measurement included observation of parent-child interaction (Baldwin, Kalhorn & Breese, 1949) or questionnaires with child or parent report (Schludermann & Schludermann, 1970; 1983). The dimensions of warmth and control are suggested to be related but distinct constructs (Martin, 1975; Maccoby & Martin, 1983). This means that knowing how warm or hostile parents are does not reveal how controlling they are, as warm parents can be strict or lax and rejecting parents can be very warm or hostile (Rohner, 1986). The parental characteristics suggested to define or represent warmth varies, but early studies of parenting behaviour included the withdrawal of love, praise for appropriate child behaviour and contingent giving of affection and acceptance (e.g. Becker, 1964; Maccoby & Martin, 1983). These early accounts of warmth focused on psychoanalytic and learning theory perspectives, whereby the expression of parental warmth was considered to allow children to inhibit aggressive impulses, and reward desired behaviour (Maccoby & Martin, 1983).

Therefore, early studies on the role of parental warmth focused on how parents shape the child's behaviour. However, recent conceptualisations of the role of parental warmth expand the notion of parent behaviour that contributes to children's adaptive development, rather than as a simple control of child behaviour (Baumrind, 1983; Dix, 1991; MacDonald, 1992). For example, Baumrind's (1967) conceptualisations of parenting styles identified four qualitatively different types of parenting styles identified in Chapter 2 (authoritarian, permissive, rejecting and authoritative). Her category of authoritative parenting includes warmth and has been consistently related to outcomes in children characterised by competent social behaviour and academic achievement, rather than just appropriate child behaviour as conceptualised by earlier accounts (Maccoby & Martin, 1983; e.g., Baldwin, 1955).

Defining parent warmth and hostility

This thesis focuses on the role of parent warmth and hostility in accounting for children's behavioural and psychological well being whilst also considering what may be an important determinant of parent-child affect: the quality of the marital relationship. In order to accurately measure parent-child affect, definitions of warmth and hostility should be reviewed. Previous research typically studied parent warmth as one element of a broader constellation of parenting practices (e.g. warmth, control, monitoring) or to represent one facet of a parenting style (Baumrind, 1971; Ge et al., 1996). In contrast, the role of parent-child hostility and its implication for children's adjustment has been more frequently considered independently of other behaviours (e.g. Harold & Conger, 1997; Scaramella et al., 1999). Moreover, parent warmth has been operationalised in many different ways and captures a broader range of behaviour than considered in early studies, encompassing concepts such as involved parenting (spending time with children) and expressions of love and affection. For example,

researchers have used several indicators of parent behaviour to express warmth, including being supportive and involved (Bronstein, Clauson, Stoll & Abrams, 1993), initiating activities and being responsive to the child (Gardner, 1994), giving instructions, making positive comments and talking to the child (Kavanagh, Youngblade, Reid & Fagot, 1988), employing proactive teaching with affection (Pettit, Bates & Dodge, 1993) and being a supportive presence and respecting child autonomy (Pianta & Caldwell, 1990). In particular, the dimension of supportive parenting is frequently employed to represent positive parent behaviour which includes concern for the child's feelings, an interest in the child's activities, love and acceptance, helping with problems and reinforcing child accomplishments (Simons, Beaman, Conger & Chao, 1993; Pettit et al., 1997; Russell & Russell, 1997; Weiss, Dodge, Bates & Pettit, 1992). Therefore, measures of parent-child warmth are often not limited to affective (or emotional) indicators, but are mixed with disciplinary style measures (i.e., use of specific techniques including positive reinforcement or child monitoring). This means that the majority of studies which propose to look at the effect of parent-child warmth on children's adjustment often are unable to distinguish whether the disciplinary measure or the affective aspect of warmth is important for children's well being. Conversely, parental hostility can be considered to be a variant of the control dimension revealed from the early factor analytic studies that identified emotional and discipline factors (Maccoby & Martin, 1983). For example, studies often investigate a construct of 'hostility' made up of hostile, coercive parental behaviour including harsh discipline or physical punishment (e.g., Pettit & Bates, 1989; Pettit et al., 1997). Furthermore (as opposed to parental warmth), parent-child hostility has been widely studied due to its hypothesised link with children's maladjustment (Conger et al., 1994; Patterson, Reid & Dishion, 1992). In general, dimensions of parent-child hostility are more frequently

universally agreed-upon, often including ratings of hostility and the use of angry parental behaviour (e.g., shouting, belittling and criticising the child; Simons, Whitbeck, Melby & Wu, 1994). However, as with studies investigating the role of parent-child warmth, definitions of parent-child hostility often include both disciplinary and affective dimensions together, thus limiting conclusions that can be drawn. It remains unclear therefore, if affective (e.g. hostile, warm) and disciplinary dimensions (e.g., using warmth to reinforce good behaviour, using coercive control to control misbehaviour) have unique contributions to children's emotional and behavioural adjustment as these two dimensions are often confounded in empirical studies.

Rohner (1986) conducted research to define and study parental acceptance and rejection and developed a theory of parental acceptance-rejection (PAR) in order to describe and account for the effects of parental affect on children's well being. He proposes that parental acceptance refers to the level of warmth, affection and love parents give their children which can be expressed physically (hugging, smiling etc.) and verbally (praise, compliments etc.). In particular, Rohner argues that parents are likely to express both warmth and hostility. For example, parents who behave in a warm manner towards their children for most of the time occasionally become angry, irritable and express elements of rejection, whilst some children rarely experience parental affection or approval. Rohner (1986) defines parental rejection as the absence or significant withdrawal of warmth, affection or love, that can be expressed in several forms including hostility and aggression, indifference and neglect, and undifferentiated rejection (a lack of concern for the child so the child feels 'unloved'). Behavioural (e.g. hitting) and verbal (e.g. sarcasm, cursing, belittling) forms of rejection are proposed to be manifestations of aggression and neglect. Neglect suggests the parent fails to attend to the needs of the child, including either physical needs such as food and shelter, or

psychological needs such as the parent being physically present, but emotionally unavailable (e.g., not interacting with the child). Rohner (1986) suggests this form of parental behaviour is likely to occur due to indifference or anger (e.g., when the child is reminiscent of an ex-spouse). An interesting category included by Rohner (1986) is undifferentiated rejection, which he suggests refers to children's feeling of being unloved or rejected by the parent without there being any of the positive indicators of overt or covert neglect or aggression. This dimension implies that it is necessary to obtain the child's perception of parent behaviour (i.e., their feelings of being accepted or rejected by parents). Furthermore, Rohner's (1986) theory predicts that the child is likely to respond as if they have been rejected (regardless of whether this is confirmed by observers) and therefore manifest adjustment problems (Rohner, 1986).

The relative role of parental warmth and hostility in determining children's adjustment

Paley, Conger and Harold (2000) conducted a study in which they assessed the relative role of parental warmth and hostility in predicting children's social adjustment. Importantly, they identified a possible mechanism through which parent hostility expressed towards the child predicted negative outcomes for children. They found that high levels of parental hostility relative to warmth led children to view their parents as being untrustworthy and unsupportive. This negative perception of parents in turn was related to children perceiving their peer relationships with similar distrust, which was reflected in children's poor peer relations. Furthermore, this study highlighted that even in the context of parental warmth, parental hostility has a greater influence on children's social adjustment. From a review of around 800 studies on parental rejection, Rohner (1986) agrees that parental rejection often has greater consequences for children's adjustment than parental warmth. Rohner claims parental rejection by itself is sufficient to produce maladjustment, whereas parental acceptance alone is not sufficient to

produce positive outcomes in children. For example, knowing children feel accepted is not always sufficient for predicting positive psychological adjustment as unrelated events can occur and lead to difficulties that are known to be related to children's maladjustment e.g. parental divorce, parent psychopathology, economic pressure (Rohner, 1986).

For instance, parent rejection has been linked to conduct disorder (Nielsen, 1983); delinquency (Conger & Miller, 1966), impairment of moral development (Hoffman, 1970), poor academic adjustment (Chan, 1981), and problematic peer relations (Levy, 1943). Nevertheless, Rohner (1986) reported children are generally treated with warmth by their parents, but that warmth and hostility have differential influences on children's adjustment. For example, he reports from a large sample of (over 700) children aged 7-11 years old, low warmth (coldness) does not generate the same degree of hostility and aggression in children as does parental rejection including hostility and neglect. On average, the warmth scale was not as strongly associated with child outcomes as the parental hostility measures (Rohner, 1986). This was confirmed in another study whereby perceived rejection was associated with around 50% of variation in child reported outcomes (aggression, dependence, negative self-esteem, emotional instability), whereas parental warmth accounted for 27% of variation in children's adjustment outcomes. Furthermore, Rohner (1986) attempted to estimate the relative contribution of parental acceptance and rejection by comparing the four possible combinations of parent behaviour, e.g. cold and rejecting, warm and rejecting, cold and nonrejecting and warm and nonrejecting. He reported a hierarchy of most to least damaging forms of parenting for children's adjustment ranging from cold and rejecting (consistently associated with the most maladjustment), warm and rejecting, cold and nonrejecting and warm and nonrejecting (consistently associated with the least level of

maladjustment). This conceptualisation suggests that parental affect may occur as an absence of positive emotion rather than the presence of negative affect (Maccoby & Martin, 1983). Indeed, there is evidence that parental withdrawal of love is linked to children's internalising symptoms (Coopersmith, 1967). Similarly, Chapman and Zahn-Waxler (1982) reported parent withdrawal of love was more powerful than any other discipline technique in predicting child compliance, which may be due to child anxiety which motivates compliance (Maccoby & Martin, 1983).

However, the influence of parenting styles on children's adjustment is not equivalent across all cultures and contexts. To illustrate, authoritarian parenting has been found to have differential effects depending on social economic status, whereby this parenting style is related to negative outcomes in middle class samples, but positive outcomes for low income families (Baldwin, Baldwin & Cole, 1990). This suggests it is important to focus on the context in which parenting behaviour occurs (Bronfenbrenner, 1986). Many researchers agree contextual factors are important in determining family process (Belsky, Rovine & Fish, 1989; Patterson, 2002; Sampson & Laub, 1993; Snyder, 1991). For example, Dix (1991) highlighted the role of emotion in influencing parenting behaviour, and Chapter 2 provided evidence that negative emotion in the marital relationship is likely to spillover into parent-child interactions (Erel & Burman, 1995).

A series of studies conducted by Pettit, Bates and colleagues attempted to address the relative role of parents' supportive behaviour and harsh discipline, in particular they assessed the claim that proactive parental involvement may prevent the development of behaviour problems (Holden, 1985; Kuczynski, 1983; Maccoby, 1983). In their first study, Pettit and Bates (1989) observed mother-child interaction on several occasions between 6 months to 4 years of age. They found proactive maternal

involvement (affectively positive exchanges between mother and child), was strongly related to the relative absence of children's adjustment problems. Moreover, early displays of family coercion were predictive of problem behaviour at age 4, but not as strongly as the absence of early positive interaction. Pettit and Bates (1989) concluded the absence of positive maternal behaviour is as important in the development of children's behaviour problems as the presence of negative maternal behaviours. A second study by Pettit, Bates and Dodge (1997) confirmed the importance of considering both positive and negative parent behaviour with an older age group of children (age 5-11 years old). They found supportive parenting (mother-child warmth, proactive teaching, inductive discipline) in middle childhood predicted child adjustment at age 11, even after controlling for the effects of earlier adjustment and harsh parenting (harsh, physical discipline). In addition, high levels of supportive parenting reduced the effects of family adversity (including single parent family and economic stress) on later behaviour problems. Importantly they considered the effect of parent warmth and hostility individually, rather than combining each aspect as an indicator of 'parenting', suggesting a differential combination of supportive and harsh parenting might have differential effects on child adjustment. These studies suggest that both warmth and hostility should be measured, as several combinations of parent behaviour may exist. Children's maladjustment may be due to a combination of an absence of supportive parenting and a presence of hostile parenting, but that harsh parenting alone may be sufficient to produce child behaviour problems (Pettit et al., 1997).

Contextual factors as determinants of parental affect

It has been suggested that the family's social and economic situation can have a considerable impact on parenting and the quality of parent-child interactions (Conger & Elder, 1994; Maccoby & Martin, 1983). Contextual factors thought to affect parenting

include poverty, parent psychopathology (particularly maternal depression), difficult temperament, parent unemployment, parent upbringing, and family structure (Belsky, 1984; Conger & Elder, 1994; Rohner, 1986). As discussed in Chapter 2, the quality of the marital relationship has been proposed to be a key influence on parent-child relations (Engfer, 1988; Easterbrooks & Emde, 1988). In particular, it has been suggested that a cohesive marital relationship might facilitate the expression of positive parent-child affect, whereby the marital relationship operates as a support system for parents (Belsky, 1981; 1984; Goldberg & Easterbrooks, 1984). Conversely, evidence suggests a discordant interparental relationship acts as a stressor or catalyst for hostile parent-child interactions (Erel & Burman, 1995). Indeed, there is evidence of a link between stress and negative emotion (Clark & Watson, 1988; Lewinsohn & Libet, 1972) and between support and positive emotion (Belsky, 1984; Pagel & Becker, 1987). At a very basic level, any kind of stressor that impacts on parents is likely to affect their ability to parent (Dix, 1991). For example, Dumas (1986) reported that mothers displayed more aversion to the same child behaviour when an aversive interaction had taken place a few hours before the parent-child exchange, than when no such aversive event occurred before the parent-child interaction. Simple experiments provide more evidence that parents under stress are less effective, yet effects may vary depending on the age of the child. For example, one study reported that parents reduced their level of interaction with young children (playing less, unresponsive to child bids for help) when they also had to complete another cognitive task. However, parents of older children did not reduce their parent-child interactions when preoccupied with another task, but were more critical and interfering with their children (Zussman, 1980). These studies suggest stress is likely to impact on parents' emotions expressed toward their children, particularly for older children (Belsky, 1984; Patterson, 1982). Marital conflict is conceptualised as a

significant stressor (Emery, 1982; Cummings & Davies, 1994) and negative emotions are likely to impact parent-child interaction (Erel & Burman, 1995; Krishnakumar & Buehler, 2000).

A discordant interparental relationship is likely to influence parents' level of warmth and hostility they express toward their children. For example, Hetherington, Cox and Cox (1982) reported that a year following divorce mothers became more authoritarian and decreased their responsiveness and affection toward their children. Similarly, Wallerstein and Kelly (1981) observed 'diminished parenting' occurred at the time of divorce, due to parents' preoccupation with marital conflict. They concluded parents' emotional distress that frequently accompanies divorce reduced parents' ability to sustain interaction and communication with their children. However, Maccoby and Martin (1983) claim that crises do not always disrupt family functioning and social support (particularly relations with a spouse) is important for mothers' ability to sustain effective parental behaviour. Belsky (1984) agrees with this assertion claiming parenting is multiply determined, and sources of contextual stress and support can have direct or indirect effects. For example, a discordant marital relationship is likely to directly influence the quality of parent-child relations, but could also constitute an indirect effect by first influencing parents' psychological adjustment (e.g., depression), which then disrupts parenting.

Belsky (1984) reviewed the impact of three potential sources of influence on parenting including parent personality (enduring characteristics of the individual), children's temperament and contextual sources of support (e.g., a supportive spouse) and stress (e.g., living in social isolation and work hassles). Belsky (1984) concluded the marital relationship is the primary contextual factor that accounts for the quality of parenting. Specifically, he claims a discordant marital relationship diminishes parents'

ability to parent effectively, while a cohesive, supportive marital relationship provides emotional and practical support for parents (Belsky, 1984). Belsky suggests the marital relationship has the potential to have the most positive and most negative effect on parental functioning because of the large emotional investment in marriage as opposed to other contextual factors (e.g., work hassles). This claim is supported by several empirical studies, for example, Crnic, Greenberg, Robinson and Ragozin (1984) found that the most significant predictor of a mother's positive attitude toward parenting was her level of marital satisfaction. Conversely, parents who experience a high degree of discord are more likely to be hostile towards their children (Harold & Conger, 1997). Furthermore, Chapter 2 reviewed the substantial body of evidence that suggests spillover of marital hostility is likely to occur in the parent-child relationship (Erel & Burman, 1995).

Measuring parent affect in the context of the marital relationship

In general, parents' warmth and hostility has been conceptualised in two ways: as a continuum, or as two distinct dimensions that have different consequences for children's adjustment. For example, Rohner (1986) claims warmth can be placed on a continuum from low (or no warmth) to high which he calls the 'warmth dimension', whereby one end represents parental acceptance and the other, parental hostility and rejection. Other conceptualisations consider parent affect as more than a simple continuum of hostile to warm, but as a ratio of parent warmth to hostility, or the balance between parents' positive and negative affect (Paley et al., 2000). For example, in the marital literature it is suggested that a ratio of positive to negative spouse behaviour is the best predictor of the stability of the marriage (Wilson & Gottman, 1995). Specifically, Gottman (1993) states the presence of negative affect alone is not sufficient to predict marital discord, there must also be an absence of positive affect. Adopting

this conceptualisation of parent behaviour to account for children's adjustment provides several advantages. First, this definition allows the researcher to consider a wider range of parent behaviour. Defining warmth and hostility as separate ends of a continuum does not allow for the possibility that some parents may be both warm and hostile towards their children on different occasions, depending on contextual factors. For example, there is evidence that a supportive marital relationship increases the probability parents will be warm towards their children, however marital tension or discord is likely to spillover into the parent-child interactions (Belsky, 1984; Goldberg & Easterbrooks, 1984; Harold & Conger, 1997). Furthermore, Simons, Whitbeck, Conger and Melby (1990) state that the presence of hostility is not just the absence of warmth and a parent may lack warmth without being overtly hostile. This is supported by evidence that parental warmth and hostility are usually correlated, but the association is often modest (Ge et al., 1996; Paley et al., 2000) suggesting that they are somewhat independent of one another. Second, it is likely that parental warmth and hostility have different implications for children's internalising symptoms and externalising problems (Margolin & John, 1997). For example, early studies linked parent-child hostility to an increase in externalising problems (Patterson et al., 1992; Simons, Wu, Conger & Lorenz, 1994), and parent-child warmth to a decrease in internalising symptoms (Burbach & Bordin, 1986; Downey & Coyne, 1990). However, there is evidence that both warmth and hostility are linked to both internalising symptoms and externalising problems (Ge et al., 1996; Scaramella et al., 1999). Third, a ratio of behaviour is able to consider the relative effects of parents' warmth and hostility on children's adjustment. For example, it may be that even if parents express warmth towards their children more frequently than they express hostility, infrequent expressions of hostility may have a lasting impact on children's adjustment. Paley et al., (2000) suggest that the weight or impact of parental

warmth and hostility may be affected by the context in which the behaviour occurs (i.e., the marital relationship) and the meaning of the behaviour for the individual (the child interpretation of parental behaviour). This suggests that models should incorporate measures of marital conflict, parent warmth and hostility and children's adjustments, along with children's perceptions of parent-child relations.

Reporter of parent-child affect

Parenting is suggested to be a co-constructed process, whereby both parent and child play active roles in interpreting the meaning of the other's behaviour (Parke, 2002), which suggests both parent and child report of parent-child affect should be considered. Nevertheless, most studies rely on observational techniques (coding parent-child interaction) or rely on just child or parent report of the parent-child relationship (e.g., Ge et al., 1996; Margolin & John, 1997). However, it is possible the pattern of relations may vary as a function of who reports on the parent-child relationship (Cook & Goldstein, 1993). Many studies suggest children's perceptions of parent behaviour are important. For example, Deater-Deckard and Dodge (1997) suggest that if the child believes parent discipline is inappropriate or an indication of hostility then it is likely to adversely influence the child. However, if parenting is viewed as normative and an appropriate display of positive parenting by the child, then the effects of physical discipline on children's adjustment may not be negative. They suggest the meaning a child applies to a particular parental behaviour is based on his or her active construction of the current status of the parent-child relationship (Deater-Deckard & Dodge, 1997). In addition, Powers, Welsh and Wright (1994) suggest different parental behaviours may convey the same meaning of warmth, or the same parent behaviour may be interpreted differently by different children. For example, one mother may offer her child sweets while another mother gives her child a hug, however both children may subjectively

understand their mother's affection for them from these different behaviours (Powers et al., 1994). Similarly, the same parent behaviour may be interpreted differently by different children. For example, during a parent-adolescent discussion, a father may suggest that his son's reasoning is flawed. One child may judge this behaviour as a sign of interest and respect, which may lead to the child's appraisal that his father values the interaction. In turn, the boy may respond in a positive manner, strengthening the father-son relationship. Alternatively, the son may interpret this behaviour as dismissing and scornful, therefore feel angry. This in turn is likely to lead to a decreased father-son interaction which over time may decrease the quality of the father-son relationship (Powers et al., 1994). Further evidence for the importance of assessing children's perception of the parent-child relationships is provided by Rohner's (1986) theory of parental acceptance-rejection, which is based on the assumption that behaviour is affected more (but not exclusively) by the way individuals perceive or interpret events than by objective events themselves. For example, Kagan (1978) stated that, "evaluation of a parent as hostile or accepting cannot be answered by observing the parents' behaviour...Parental love is a belief held by the child, not a set of actions by the parent" (pg., 57).

Nevertheless, it is also important to assess parents' perceptions of the quality of the parent-child relationship. Aside from being influenced by the marital relationship, parents' behaviour towards their children may be influenced by their perceptions of child behaviour, and therefore may partly account for why parents are warm or hostile towards their children. For example, mothers of aggressive boys tend to attribute more negative dispositions to their children (Dix & Lochman, 1990; Patterson, 1982). Once established, these expectations may induce negative emotion in parents even when child behaviour is not particularly negative (Brunk & Henggeler, 1984). In turn, this may lead

to parents being more hostile towards their children, as suggested by Dix (1991). However, parents may be more inclined to report less negativity (Cook & Goldstein, 1999) due to their desire to be perceived in a more positive light (Grych et al., 2003). Furthermore, the parent-child relationship is a dyadic relationship between the child and each parent and therefore the perceptions of both parties are likely to provide unique information. Indeed, when parent and child reports are combined, Schwarz et al., (1985) found that combining parent and child report of parents' behaviour produced a more reliable measure than just parent or child report alone. As such, obtaining both child and parent perceptions of the parent-child relationship is likely to increase understanding into how this important relationship influences children's adjustment (Compas et al., 2001; Grych et al., 2003).

Summary

This chapter provided theoretical and empirical evidence that parent-child warmth has important implications for children's adjustment, and may be particularly important for children whose parents' engage in frequent marital conflict. As the research reviewed above suggests, parent-child affect has been defined in a number of different ways, and rarely have the determinants of parental affect been considered along with measures of children's adjustment. That is, the majority of research has either considered the role of parent-child affect in influencing children's symptoms of maladjustment (e.g., Ge et al., 1996; Kim, Conger, Lorenz & Elder, 2001; Scaramella et al., 1999; Paley et al., 2000; Pettit, Bates & Dodge, 1993), or how the quality of the marital relationship (specifically, the presence of marital discord) predicts the quality of the parent-child relationship (Coiro & Emery, 1998; Belsky et al., 1991; Brody et al., 1986). In addition, only a small number of studies examine both positive and negative parental behaviour; the majority consider either warmth (Burman et al., 1987;

Vandewater & Lansford, 1998), or hostility (Harold & Conger, 1997; Lindahl et al., 1997; Margolin et al., 1996) to predict children's adjustment. Very few studies have considered a family-wide model of effects that considers a more complete picture of influences on children's well being over time, including both levels of marital conflict, parent-child warmth or hostility and children's adjustment. The work of Harold and Conger, (1997), Harold et al., (1997) and Vandewater and Lansford (1998) have adopted a family-wide model, but each has only considered either warmth or hostility.

Several researchers reviewed in this chapter (Rohner, 1986; Harold & Conger, 1997; Deater-Deckard & Dodge, 1997) and theoretical frameworks outlined in Chapter 1 suggest that children's perceptions of parent behaviour may provide a mechanism through which family processes influence children's adjustment (Grych & Fincham, 1992; Kerns et al., 1996; Harold & Conger, 1997). For example, it is possible that parental warmth and hostility may influence children's appraisals of the parent-child relationship, specifically, how much they feel they can trust and depend on their parents (Paley et al., 2000). Therefore, the presence of parent-child hostility expressed in the context of marital conflict is likely to lead to children having a negative representation of their parents, while parent-child warmth may protect children's positive representation of parent-child relations, so they are not disrupted in the presence of interparental conflict. This possibility remains to be tested. Finally, considering levels of warmth and hostility will likely provide greater clarity on the processes that influence children's well being (Fauchier & Margolin, 2004) and be more representative of family life. Considering the relative effects of parent warmth and hostility may increase the explanatory power of models proposed to account for child adjustment. This hypothesis will be addressed in the remaining chapters of this thesis. While Chapter 2 reviewed substantial evidence regarding the relationship between the marital relationship and

parent-child relations, the direction of effects is rarely subject to comprehensive statistical tests across time. Furthermore, evidence suggested that the quality of the parent-child relationship has implications for children's adjustment, however as suggested by some researchers (e.g. Bell, 1968; Brunk & Henggeler, 1984) children may affect parents' behaviour towards them, yet this proposition is rarely subject to thorough empirical tests. The first two studies presented in Chapters 4 and 5 therefore will consider the direction of influence between the marital and parent-child relationship, and the parent-child relationship and children's adjustment. In addition, how the perspective of the parent and child may differ across relationships when considered within the context of a prospective longitudinal design will also be examined. Two subsequent studies described in Chapter 6 will combine the relationships examined in Chapter 4 and 5 into a single theoretically integrative model. The first study presented in Chapter 6 tests the hypothesis that parent-child warmth and parent-child hostility accounts for children's adjustment to marital conflict experienced two years earlier, and study two extends this model by introducing the role of children's perceptions of the marital and parent-child relationship. Specifically, Study 2 examines how the affective quality of the parent-child relationship may determine children's appraisals of threat and self-blame derived from marital conflict and children's perceptions of parent-child insecurity, and how these appraisals in turn may account for children's adjustment to interparental conflict. This series of interlocking studies therefore will be among the first to systematically consider the proposed direction of effects between marital conflict, parental warmth and hostility and children's emotional and behavioural problems. In addition, the studies that follow will address the conceptually important question concerning the relative impact of parent-child warm, responsive behaviours versus

hostile, rejecting behaviours on children's psychological and behavioural well being engendered within the context of discordant interparental relations.

CHAPTER 4

Introduction

Building on the literature presented in Chapters 1 to 3 of this thesis, the goal of this chapter is to examine the nature of the relationship between marital conflict, parent-child hostility and parent-child warmth and to consider whether conflict occurring between parents has a stronger influence on the parent-child relationship than the converse. This study returns to themes considered in Chapter 3 regarding the need for prospective, longitudinal research to consider questions relating to the direction of effects between different family subsystems (marital; parent-child) as well as examining issues relating to the assessment of these relationships and their conceptualisation. A further goal of this study is to test for the effects of gender for mothers, fathers, sons and daughters, and in doing so, address the dearth of research that adequately captures the gender-based dynamics of family relationships.

The majority of theoretical perspectives reviewed in Chapter 1 propose that the quality of the marital relationship determines the quality of the parent-child relationship. For example, social learning theory predicts that marital conflict is likely to be reproduced in the parent-child relationship via modelling, whereby children imitate parents' hostile conflictual behaviour in their own interactions with parents (Christensen & Margolin, 1988). The emotional security hypothesis proposes that marital conflict is likely to threaten the emotional bond between parents and children whereby children exposed to marital conflict feel less secure in other family relations, including the parent-child relationship (Davies & Cummings, 1994). However, family systems theory predicts that while marital conflict has implications for the parent-child relationship, the parent-child relationship is also likely to influence the marital relationship. Indeed, family systems theory proposes mutual influences within families whereby each family

member or subsystem (e.g., marital, parent-child) influence, and are influenced by one another (Cox & Paley, 1997). Chapter 2 presented a conceptual model of the hypothesised direction of influence between marital conflict, parent-child relations and children's adjustment. Specifically, the model proposed that marital conflict determines the level of positivity and negativity expressed in the parent-child relationship rather than the converse. While contemporary theoretical perspectives argue that the marital relationship is fundamental to family functioning, such that it is like a conductor of an orchestra (Harold, Pryor & Reynolds, 2001) there is a dearth of appropriate longitudinal data that has tested this hypothesis together with the alternative hypothesis that other family relations, including children's behaviour or the relationships between parent and child, influence the marital relationship (Bell & Harper, 1977; Cox et al., 2001).

The majority of research reviewed in previous chapters regarding the nature of the relationship between marital conflict and parent-child relations was based on cross-sectional designs (i.e., measuring all relations at only one point in time), so that it is impossible to establish the direction of effects (Cowan & Cowan, 2002; Grych et al., 2003). Therefore, while a substantial body of research reports an association between marital conflict and parent-child relations (e.g., Erel & Burman, 1995; Goldberg & Easterbrooks, 1984), questions remain regarding how these subsystems influence one another. Prospective longitudinal research is necessary in order to distinguish between three possible hypotheses. The first hypothesis proposes that the level of marital conflict predicts the affective quality of parent-child relations (Fincham, Grych & Osborne, 1994; Harold & Conger, 1997). A second hypothesis is that the quality of the parent-child relationship determines the level of marital conflict (Almeida et al., 1999). A third possibility is that both hypotheses are likely whereby the quality of parent-child relations and level of marital conflict are intertwined, exerting ongoing reciprocal influences on

one another (Cowan & Cowan, 2002). This chapter describes a study that examines the interplay between marital and parent-child relations using a prospective, longitudinal design. Specifically, this study assessed marital conflict, parent-child warmth and parent-child hostility using a two-wave longitudinal design in order to examine how these three constructs influence and are influenced by one another.

Marital conflict and the parent-child relationship

As discussed in Chapter 2, several empirical studies have reported a link between marital conflict and the quality of parent-child relations, with the majority of studies providing support for the spillover hypothesis whereby the presence of marital conflict negatively influences parent-child relations (Erel & Burman, 1995; Krishnakumar & Buehler, 2000). However, the largest meta-analysis conducted to date included only a small proportion (just under 10%) of longitudinal studies due to the limited number that exist (Erel & Burman, 1995). The authors were therefore unable to distinguish the impact of the marital relationship on the parent-child relationship from the impact of the parent-child relationship on the marital relationship. Nevertheless, the large number of studies reviewed by Erel and Burman (1995) did allow them to conclude that a positive parent-child relationship is less likely to exist in the presence of a discordant marital relationship, a conclusion confirmed by subsequent reviews (Coiro & Emery, 1998; Krishnakumar & Buehler, 2000).

The small numbers of longitudinal studies conducted thus far suggest the quality of the marital relationship determines the emotional quality of the parent-child relationship (e.g., Harold & Conger, 1997; Owen & Cox, 1997), both for well functioning and discordant marital relations. For example, Lewis, Owen and Cox (1988) reported that a cohesive marital relationship measured before the child was born predicted the level of parental warmth and sensitivity during parent-child interactions,

while parents' who experienced a discordant marriage displayed less investment and competency with their children one year later. Other studies confirm this relationship, but only for the father-child relations. For example, two studies also measured the quality of the marital relationship before the birth of the child (along with other potential determinants of the parent-child relationship) and found marital quality most consistently predicted the quality of father-child relations six to nine months after the birth of the child (Feldman, Nash & Aschenbrenner, 1983). Second, Owen and Cox (1997) reported that low pre-birth marital quality predicted a reduction in sensitive, involved parenting and insecure parent-child attachment (particularly for fathers) one year later. However, Lindahl et al., (1997) reported that pre-birth marital quality predicted how much children were exposed to marital conflict 5 years later, but was not predictive of the affective quality of parent-child relations. Rather, they found that current marital quality was most closely related to parents' sensitive and supportive parenting behaviour. Lindahl et al., (1997) concluded that pre-birth marital quality is not a good predictor of later parent-child relations due to the substantial adjustment that the marital relationship undergoes after the birth of the child. These studies suggest it is important to measure how the quality of the marital relationship may influence parent-child relations later in the child's life, and suggest that changes in the marital relationship may exert different effects on mother-child and father-child relations.

In addition to the lack of longitudinal studies that investigate the relationship between marital and parent-child relations, there is a paucity of research that has examined whether parent-child relations influence the level of marital conflict. Some research suggests that the parent-child relationship can influence the marital relationship. For example, Margolin et al., (1996) assessed tensions expressed in the marital and parent-child relationships over a period of two weeks, and reported that

parent-child tension was as likely to spillover into the marital relationship as marital tension was to negatively influence parent-child relations. Similarly, Almeida et al., (1999) found that daily tension in the marital relationship was likely to spillover into the parent-child relationship, but only for father-child relations. These results require further investigation.

Few studies have considered whether marital conflict influences positive aspects of the parent-child relationship (e.g., warmth, affection). Some authors have concluded that parent-child warmth is likely to be difficult to maintain in the context of marital conflict (Erel & Burman, 1995), although this has rarely been examined in the context of parent-child hostility. More often, the assumption of low parent-child warmth is made in the presence of parent-child hostility, yet Simons et al., (1993) warn against the assumption that high parental warmth accompanies low parental hostility and vice versa. Indeed, Chapter 2 reviewed evidence for the compensatory hypothesis which proposes that parents in a discordant marriage may seek intimacy and affection in the parent-child relationship in order to compensate for a negative interparental relationship (Engfer, 1988; Goldberg & Easterbrooks, 1984). Cox et al., (2001) also suggest that some parents may be able to maintain a positive parent-child relationship in spite of a negative marital relationship because they are able to separate their marital tension from disrupting their parenting duties. Indeed, McHale and Cowan (1996) suggest parents who are better able to regulate their emotions are most likely to be able to prevent marital anger continuing during parent-child interactions. While this hypothesis has rarely been subject to empirical tests, Katz and Gottman (1997) reported that some parents were able to maintain warm, supportive parent-child relations in the face of marital conflict. However, this conclusion was derived from a small number of families and was based on cross-sectional data. Therefore, it is important to further investigate

the relationship between marital conflict and parent-child warmth, which may have consequences for children's adjustment independent of the presence or absence of parent-child hostility (Margolin & John, 1997; Pettit et al., 1997).

Few studies have assessed the relationship between marital and parent-child functioning during adolescence, yet this may be a time when the child's behaviour is particularly influential on family functioning (Stice & Barrera, 1995; Simons, Whitbeck, Beaman & Conger, 1994). There is evidence for an association between marital conflict and parent-adolescent relations, for example Amato and Booth (1996) reported that marital conflict that occurred when children were 10 years old predicted low parental affection 8 to 12 years later. Harold and Conger (1997) found marital conflict increased parent-child hostility a year later for mid-adolescents, aged 12 to 15 years. Almeida et al., (1999) reported that spillover of tension from the marital relationship to the parent-child relationship was more common in households that included adolescents than younger children. They argue that parents may be more likely to attempt to protect younger children from the effects of marital conflict. In addition, Almeida et al., (1999) suggest that parents may be more likely to have more serious disagreements about adolescents, and this frustration may then be directed towards the children themselves. There is also evidence that spillover of conflict from the marital to parent-child relationship may be more likely in adolescence due to the fact that older children are more likely to intervene in parents' marital disputes or react to interparental aggression with their own aggression, perhaps due to the longer history of exposure to marital conflict (Davis, Hops, Alpert & Sheeber, 1998). These reactions to marital conflict by adolescents (increased intervention and anger in response to interparental conflict) may lead to adolescents' becoming the target of displaced parental anger. Finally, Cox et al., (2001) suggest that adolescents (more so than younger children) may be resentful of the

disrupted parenting often characteristic of parents who are caught up in marital conflict, especially when they see their parents' engage in frequent unresolved discord. Overall, research suggests that during adolescence, the parent-child relationship appears sensitive to the effects of marital conflict.

The role of parent and child gender

Several studies have reported that the pattern of relations between marital conflict and parent-child relations varies according to parent and child gender (Harold & Conger, 1997; Cowan, Cowan & Heming, 1989; Osborne & Fincham, 1996; Parke & Tinsley, 1987). However, the findings from the various studies are inconsistent. For example, some studies have demonstrated that spillover of negative affect from the marital relationship to parent-child relations is more like for the father-child than mother-child relationship (Brody et al., 1985; Belsky, Youngblade, Rovine & Volling, 1991). Belsky et al., (1991) suggest that that this may be a consequence of fathers' role in the family being less well defined in comparison to the distinct child-care roles traditionally adopted by mothers. Men may find it more difficult to separate their roles as husband and father (Simons et al., 1993). In addition, Almeida et al., (1999) proposed that fathers usually spend less time involved in daily child-care activities which means mothers may be exposed to a greater range of daily parent-child tensions (Rubin, 1995). In contrast, father-child interactions that are more limited may not experience these daily tensions, and thus increases the influence of marital conflict on parent-child relations when it occurs (Almeida et al., 1999). Nevertheless, the greater likelihood of poor father-child relations in the context of marital conflict has not been confirmed by at least two literature reviews (Coiro & Emery, 1998; Erel & Burman, 1995) and alternative findings have been reported. For example, Frosch, Mangelsdorf and McHale (2000) found interparental hostility measured when the child was six

months of age predicted less secure mother-child (but not father-child) attachment at age 3. Others conclude that mother-child and father-child relations are equally disrupted in the context of marital conflict (Erel & Burman, 1997; Goldberg & Easterbrooks, 1984).

The association between the marital and parent-child relationship has also been reported to differ for boys and girls. For example, one study suggested that marital conflict was more consistently related to negative parent-son than parent-daughter relations (Cowan, Cowan & Heming, 1989). This is consistent with the literature that demonstrates boys are more likely to be exposed to marital conflict and child rearing disputes than girls (Block et al., 1981; Hetherington et al., 1982). In contrast, there is some evidence that fathers are particularly likely to withdraw from girls as a consequence of marital conflict (Amato, 1986; Belsky, Rovine & Fish, 1989). McHale (1995) reported that marital conflict affected parenting differently depending on the gender of the child, whereby parents of boys were more likely to display hostile-competitive parenting. In contrast, discrepant parenting was most likely to occur during interactions with girls, whereby one parent withdrew (particularly fathers) while the other was highly involved in the context of a discordant marital relationship. McHale (1995) suggested that these gender differences may be a function of parents placing greater mutual investment in sons than daughters which may increase the likelihood that they will stay together. In turn, this may increase the likelihood that boys will be exposed to marital conflict while girls do not decrease the emotional distancing parents may experience in the context of marital discord, and thus are more likely to be exposed to discrepant parenting. Finally, McHale (1995) also found that lower parent-child warmth increased with high levels of marital conflict irrespective of child gender, although a trend was found towards lower parent-son warmth. These results indicate that while boys and girls are equally likely to experience decreased parent-child warmth,

boys are more likely to experience parental hostility than girls, and therefore it is important to study how the pattern of results may vary for boys and girls.

Considering how the pattern of results may vary according to parent and child gender, literature reviewed in Chapter 2 suggested the opposite sex parent-child dyad may be most vulnerable to spillover from marital discord (O'Leary, 1984). This predicts that the father-daughter and mother-son relationship may be more vulnerable to negative parent-child relations in the context of marital conflict (Cowan, Cowan & Kerig, 1993; Davies & Lindsay, 2001; Osborne & Fincham, 1996). Indeed, Kerig, Cowan and Cowan, (1993) reported fathers were more negative and less assertive with daughters than sons. Osborne and Fincham (1996) reported marital conflict was more strongly associated with a negative mother-son relationship. However, one study suggests a stronger link between marital and parent-child relations for same-sex dyads, reporting mother-daughter and father-son dyads were most consistently linked to the quality of the marital relationship (Simon, Lorenz, Conger & Wu, 1992). Finally, the meta-analytic review by Erel and Burman (1995) concluded that gender of parent or child did not consistently moderate the relationship between marital conflict and parent-child relations. That is, for those studies categorised as having high methodological quality, results suggested that the mother-child and father-child relationship was equally disrupted for boys and girls in the context of marital conflict. However, it is argued that more research is needed to ascertain whether gender of parent or child influences the association between the marital and parent-child relationship (Erel & Burman, 1995; Cox et al., 2001).

Comparing different reporters of family relations

A further consideration that may influence the pattern of findings when investigating the interplay between marital and parent-child relationship functioning is

whose perspective of family relationships is assessed, specifically, whether mother, father or child report of marital and parent-child relations is considered. While the majority of early research only considered parents' report of relations (particularly mothers; Phares, 1996), current research now highlights the importance of assessing the child's perspective of family relations (Grych & Fincham, 1990; Harold & Conger, 1997) particularly when assessing the impact of these relations on children's well being (Tein et al., 1994; Rohner, 1986). The child's perspective of the interparental relationship and most importantly, the meaning the child assigns to marital conflict, is a central premise of theoretical frameworks that attempt to explain the impact of interparental conflict on children's adjustment. In particular, the cognitive-contextual framework (Grych & Fincham, 1990) is based on the social cognitive perspective, which suggests that a person's perception of the world contributes more to explain their behaviour than objective events themselves (Fiske & Taylor, 1991; Lewin, 1951). Specifically, the cognitive-contextual perspective proposes children's perception of the meaning and implications interparental conflict may have for themselves and the family partly determines its impact on their well being (Grych et al., 2003). Children who report a high level of marital conflict are more likely to feel threatened (fearful conflict may threaten their own well-being and the stability of the family) and experience self-blame (i.e., that they are the cause of interparental conflict; Grych et al., 1992). The emotional security hypothesis (Davies & Cummings, 1994) suggests children who witness marital conflict are more likely to experience feelings of emotional distress, have negative perceptions of family stability and be motivated to regulate their exposure to conflict. Children's reports are proposed to offer advantages over parent reports of conflict for understanding the effects of conflict on children because parents may potentially be poor judges of the level of conflict that children are aware of, and children

may interpret interactions as conflictual that parents do not and vice-versa (Grych et al., 2003). Furthermore, children's perceptions of marital conflict are likely to inform their perception of the parent-child relationship. For example, if children perceive frequent interparental conflict they may be more likely to see parents as more hostile towards themselves (Harold & Conger, 1997) or perceive parents as less available and trustworthy (Frosch et al., 2000; Harold et al., 2004; Owen & Cox, 1997).

Nevertheless, parents' perception of the marital relationship is also likely to provide unique information on the marital relationship. Children may not be aware of some marital tension that may subsequently spillover into parent-child interactions, or render parents distracted while attending to their child's needs. In this instance, mothers and fathers have a unique insight into the dynamics of the marital relationship that other family members may not be fully aware of (Wilson & Gottman, 1995). Therefore, parent report of marital conflict is also likely to be important to assess when attempting to investigate the link between marital conflict and parent-child relations.

Turning now to consider reporters of the parent-child relationship, several studies suggest the pattern of results varies according to whether parents or children report on the parent-child relationship (e.g., Paulson & Sputa, 1996; Hill, Bush & Roosa, 2003; Pelton & Forehand, 2001; Sessa, Avenevoli, Steinberg & Morris, 2001). In many studies the correlation between child and parent reports of the same parenting behaviour is moderate (approximately $r = .30$, e.g., Domitrovich & Bierman, 2001; Schwarz, et al., 1985; Tein et al., 1994), suggesting that parents and children can provide unique information about the quality of the parent-child relationship. Some studies suggest children perceive mothers and fathers more similarly than parents or observers perceive parent behaviour, whereby if mothers are perceived as accepting, fathers are also reported as being similarly accepting by children (Schwarz et al., 1985; Tein et al.,

1994). It has been suggested that this may reflect how the child feels about the family in general, rather than being accurate reports of mothers and fathers' behaviour (Tein et al., 1994). However, this has not been confirmed by other studies which have found that children are more likely to rate mothers as warm and accepting and fathers as more rejecting (Johnson, Shulman & Collins, 1991).

In addition, children's perception of parents' behaviour may vary as a function of age. For example, some studies have found that adolescents report more unhappiness in the parent-child relationship than younger children (Dorkey & Amen, 1947), while Litovsky and Duskek (1985) reported that children's perceptions of acceptance from parents decreases with age. A study by Sessa et al., (2001) confirmed this negative view of parents is likely to be specific to adolescence whereby they reported that for reports of mothers' parenting by younger children (5 years old), mothers, observers and children provided equally favourable views (Sessa et al., 2001). Furthermore, there is evidence that adolescents' symptoms of maladjustment influence their perceptions of parental behaviour, whereby maladjusted children are more likely to hold a negative view of parents and see them as rejecting and punitive (Cox, 1970; Schaefer, 1965). Nevertheless, biases may also be present in parents' report of the parent-child relationship. For example, Schwarz et al., (1985) reported parents were biased towards reporting a more favourable image of parenting (more accepting and employing more firm control) than adolescents. It has been suggested this may be because parents' attempt to present a positive image of family relations (Gonzales, Cauce, Friedman & Mason, 1996).

Several authors have concluded that both parents and children provide meaningful information on the parent-child relationship, with very few studies suggesting one reporter (child or parent) is more valid than the other (Aquilino, 1999;

Hill et al., 2003; Schwarz et al., 1985). In order to remedy the potential loss of information resulting from a reliance on one family members' report of the parent-child relationship, some authors argue that reports should be aggregated For example, Schwarz et al., (1985) reported increased reliability (more so than any single rater) of parenting measures when aggregated across two raters e.g. mother-child, mother-father. In conclusion, the majority of research reviewed above suggests that both parent and child report of the marital and parent-child relationship should be assessed simultaneously.

Longitudinal panel designs

Several studies have used longitudinal designs to study the relationship between marital conflict and parent-child relations (Harold & Conger, 1997; Owen & Cox, 1997). The majority of longitudinal studies, however, only measure the proposed predictor (e.g., marital conflict) at the first time point, and the proposed outcome (e.g., parent-child relations) at the second time point. This means that conclusions regarding the direction of effects are limited as the direction can be potentially reversed (that is, the quality of parent-child relations predicts the level of marital conflict), despite the temporal ordering created by a longitudinal design. For example, even if one study finds that marital conflict predicts the quality of parent-child relations at a later point in time, it could be that the level of marital conflict was partly determined by relations between parent and child at an earlier point in time (Cowan & Cowan, 2002). The best predictor of the quality of parent-child relations is a measure of the parent-child relations at an earlier point in time (Stice & Barrera, 1998). Therefore, adding a measure of the proposed dependent variable (e.g. parent-child relations) at the first assessment allows one to assess if the proposed independent variable (e.g., marital conflict) predicts the dependent variable while controlling for across-time stability in the outcome variable.

Employing a cross-lagged panel correlational design provides a conservative test of relations by including a measure of the independent variable at both time points, along with measuring the dependent variable at both time points (Fincham, Beach, Harold & Osborne, 1997). Importantly, cross-lagged panel correlations are able to rule out plausible alternative hypotheses (Kenny, 1979). In addition, if separate measures of one construct (e.g., parent-child relations) are obtained, for example measuring warmth and hostility separately, a cross-lagged panel correlations design can assess the relative influence of the other variable on both warmth and hostility simultaneously. In the present study, this means that the influence of marital conflict on parent-child warmth relative to hostility, and the relative effect of warmth and hostility on marital conflict can be determined. Therefore, panel models are particularly appropriate for addressing the question of whether marital conflict predicts the quality of parent-child relations, or whether parent-child relations contribute to the level of marital conflict. Furthermore, cross-lagged panel correlational models adhere closely to systemic principles of all family members mutually influencing all other members of the family (Cox & Paley, 1997). Therefore, significant cross-lagged effects reflect the relationship beyond that which can be accounted for by the stability of the constructs and the magnitude of their association at one time point (Kandel & Wu, 1995).

In summary, questions remain regarding the possible interplay between marital conflict and parent-child relations, and how this relationship may vary according to parent and child gender and the reporter of family relations. The remainder of this chapter describes a study that considered these issues by employing cross-lagged panel correlational analysis to measures of marital conflict and parent-child relations both assessed twice over a period of one year.

The present study

The present study examines whether marital conflict predicts the level of parent-child hostility and parent-child warmth expressed a year later along with the theoretically plausible alternative that parent-child warmth and parent-child hostility influences the occurrence of interparental discord expressed a year later. The conceptual models that represent these hypotheses across and within-time are presented in Figures 4.1 and 4.2. This study represents an important test of the proposal that marital conflict determines the level of parent-child warmth and hostility, and constitutes the first examination of the alternative hypothesis using statistically advanced cross-lagged panel correlational models. In addition, this study addresses how the pattern of results may vary according to whether parent and child report is employed, and parent and child gender is considered.

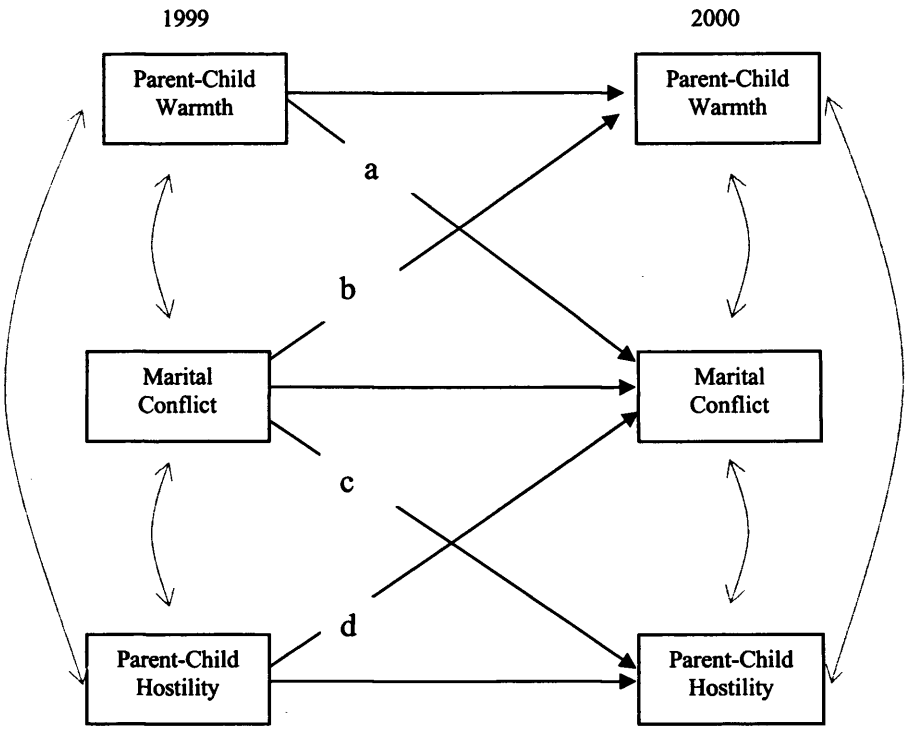


Figure 4.1: The proposed cross-lagged theoretical model (alphabetical labelling refers to paths noted in Table 4.4)

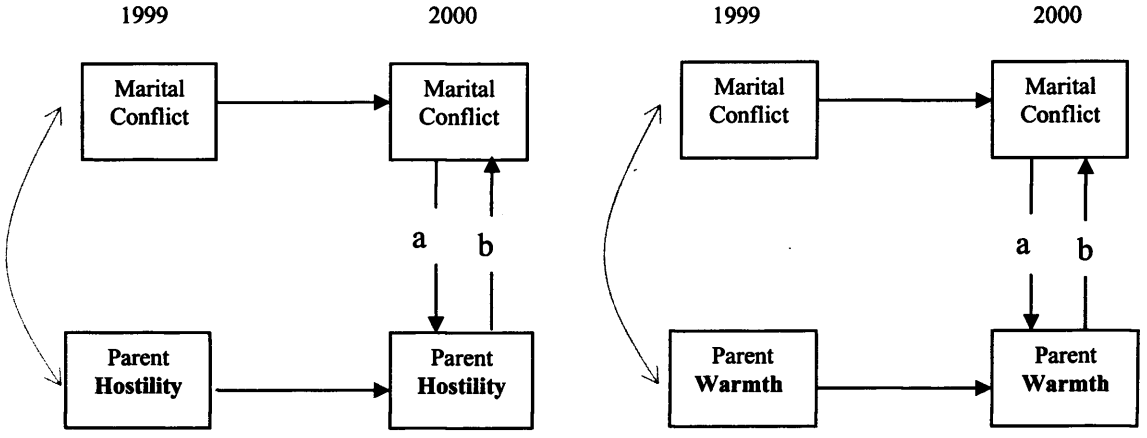


Figure 4.2: The proposed reciprocal theoretical models (alphabetical labelling refers to paths noted in Table 4.5)

Based on the substantial body of empirical research demonstrating spillover from the marital to the parent-child relationship, it was expected that marital conflict would predict high levels of parent-child hostility (Coiro & Emery, 1998; Erel & Burman, 1995). The relationship between marital conflict and parent-child warmth is not so clear, due to the dearth of studies that consider this aspect of parent-child relations. The

research reviewed above presents two possibilities, the first that marital conflict increases parent-child warmth (consistent with the compensatory hypothesis). The majority of evidence supporting this hypothesis is predominantly for mother-child relations only (e.g., Brody et al., 1986). The second possibility is that marital conflict decreases parent-child warmth due to the spillover of marital anger. The spillover hypothesis has primarily been examined by considering an increase in negative aspects of parent-child relations, and studies rarely consider the consequences for parent-child warmth. However, the small numbers of studies that have tested this hypothesis have provided evidence that marital conflict does decrease parent-child warmth (Margolin & John, 1997; Vandewater & Lansford, 1998). In the current study, it was expected that marital conflict would decrease parent-child warmth, consistent with existing findings which support the spillover hypothesis, whereby positive parent-child relations are difficult to maintain in the face of a discordant marital relationship (Erel & Burman, 1995; Krishnakumar & Buehler, 2000; Vandewater & Lansford, 1998).

The research reviewed above provides an inconsistent picture regarding how the link between marital conflict and parent-child relations may vary according to parent and child gender. For example, some studies suggested marital conflict is more likely to increase hostility for father-child relations (e.g. Brody, et al., 1986), particularly the opposite-sex dyad of father-daughter relations (Kerig et al., 1993) and mother-son relations (Osborne and Fincham, 1996). However, others have suggested same-sex dyads are more vulnerable (Simons et al., 1993), or that the marital relationship is unrelated to mother-child relations (Goldberg & Easterbrooks, 1984). Similarly, the study by McHale (1995) suggested that boys may be more likely to experience parenting characterised by hostility, while girls are likely to experience either overinvolved or withdrawn parent behaviour. In contrast, Harold and Conger (1997) reported that both

boys and girls were more likely to experience parent-child hostility in the context of marital conflict. Furthermore, while some studies have reported that mother-child relations may remain positive in the face of marital conflict (Brody et al., 1989; Engfer, 1988) the majority of studies suggest that parent-child warmth decreases for both mothers and fathers in the context of a discordant marital relationship (McHale, 1995; Vandewater & Lansford, 1998). Despite the lack of consistent findings, it was expected that spillover from marital conflict would be more consistent for fathers than mothers as reported by Brody et al., (1986) and Belsky et al., (1991). Furthermore, this relationship was expected to be particularly strong for father-daughter relations (Kerig et al., 1993).

An early adolescent age group was examined as research suggests children of this age are particularly likely to be aware of marital conflict and the possible implications for family relations due to their increased cognitive maturity (Cox et al., 2001; Grych & Fincham, 1990). In addition, some researchers have found the influence of children's behaviour on parents increases as children get older (Kandel & Wu, 1995). In summary, the present study addresses several outstanding questions regarding the dynamic interplay between marital conflict and the parent-child relationship. This study seeks to further explore how spillover may be represented by a lack of warmth as well as the presence of hostility which has rarely been examined, despite research suggesting that both components of parental affect (warmth and hostility) are important for children's adjustment (Pettit et al., 1997; Pettit & Bates, 1989). Furthermore, this study delineates how the relationship between marital and parent-child relations may vary as a function of parent and child gender and in doing so addresses a significant gap in the literature on how boys and girls relations with their parents may be differentially influenced by mothers and fathers' expressions of marital conflict.

Method

Sample

The sample for all of the analyses contained in this thesis derive from a three year longitudinal sample of over 500 school children whose parents provided written consent for them to participate in a study focusing on various aspects of family life and children's socioemotional development. Of these children, 389 parents successfully completed and returned questionnaires during the first year of the study (72% parental response rate). Of families who provided complete questionnaire information at Time 1 (1999), 89% also provided complete information at Time 2 (2000). The sample will be described in detail for this study and only characteristics unique to each subsequent analysis will be noted in the following chapters in order to avoid repetition. For each study, the number of families included differs, although derived from the same sample. This is because each study investigates a different combination of variables at different time points in the study, and because only families with complete information on each subscale were included in each analysis. This method was employed in order to maximise the sample size for each study, so that gender comparisons could be examined. Preliminary analyses indicated that the families included in each of the analyses that follow did not differ from families for whom complete information was not available and therefore excluded on any of the study variables.

Nine schools in South Wales were recruited to the study by virtue of the economic and social conditions associated with their 'catchment' area. The school catchment area requires children living in a specific geographical region to attend one of a prescribed list of schools. Demographic information on families living in a specific school catchment can be accessed by postal code location (Office of National Statistic). Demographic statistics suggest that the overall sample is representative of British

families living in England and Wales with respect to family constitution, parent education, and ethnic representation (Social Trends, 2002).

Because of the nature of the questions investigated in these analyses, children from all family types other than two-parent families were excluded from the present study. Participating children lived in homes where both a male and a female guardian were resident and at least one of these adults was the child's biological parent. Children living with both biological parents constituted 92.3% of the sample, children living with their biological mother and stepfather constituted 6.1%, and children living with their biological father and stepmother constituted 1.6%. Families were predominantly White-European origin (99.6%) with the remaining proportion made up of families from other ethnic groups (0.4% other commonwealth nations e.g., India, Sri Lanka). Approximately 37.1% of mothers and 33.3% of fathers completed secondary education, 32.6% of mothers and 28.7% of fathers completed vocational of technical training and 30.3% of mothers and 38.0% of fathers completed university. The combined sample of children and parents who provided complete information at both time points (1999 and 2000) and who were considered in the present study equalled 247 cases (126 girls and 121 boys). Children ranged in age from 11 to 12 years, with an average age at Time 1 of 11.68, *SD* = 0.48 (girls = 11.67, SD = 0.47; boys = 11.69, SD = 0.48).

Procedure

Following initial contact with schools, parents received a letter inviting them and their children to participate in a research project focusing on the link between everyday family life and children's development. Parents were then further informed about the study during a scheduled parent-teacher evening and given a second letter and a consent form describing the goals and each stage of the project in more detail. No payment was

made to families, but parents were informed that a summary booklet outlining key research findings would be distributed to all families on completion of the study.

Parents received their questionnaires through the post, along with instructions for completing the measures and stamped addressed envelopes for parents to return their questionnaires. Parent questionnaires contained a variety of measures relating to the quality of family interaction, parenting, marital satisfaction, parent and child psychological health, economic conditions, and family demographics. Parents were asked to complete their questionnaires independently, with a separate envelope for mother and father questionnaires and a contact number for concerns or queries provided. Children completed questionnaires during the course of the normal school day. Several researchers were present to answer any questions from individual children. Children were told the questionnaire was confidential and that parents or teachers would not have access to their answers. There was no time limit for children to complete the questions contained in the booklet, and children were reassured there was no right or wrong answers. Their questionnaire packets contained a variety of measures relating to the quality of family interaction, parent-child relations, marital conflict, children's psychological health, economic conditions, and family demographics. As part of an overall debriefing, researchers and children discussed the benefits of successfully negotiating and resolving conflicts between individuals. Children were encouraged to speak about how they felt after completing their questionnaires. No concerns were raised by any children participating in the study.

Measures

Because this study addresses the question of how the pattern of effects may vary according to the reporter of family relations, both child and parent report of marital conflict and parent-child relations were assessed.

Parent's report of marital conflict

Three measures of marital conflict were obtained. The first, the Short Marital Adjustment Test (SMAT; Locke-Wallace, 1959) is a 15-item measure of marital satisfaction, coded for the present study to reflect level of marital dissatisfaction. One item relating to sexual relations was excluded. Questions included, 'Do you confide in your partner?' and 'Do you ever wish you had not married/become involved with your partner?' Husband and wife reports of marital satisfaction had good reliability for both time points assessed by Cronbach's alpha (Time 1: husband, $\alpha = .83$; wife, $\alpha = .78$; Time 2: husband, $\alpha = .82$; wife, $\alpha = .80$). The second measure was a scale included as part of the Iowa Youth and Families Project (IYFP, Melby et al., 1993) and assessed partners' marital hostility. Partners reported on four items including, how often does your partner, 'criticise you or your ideas', and 'shout at you when you disagreed about something'. Response options ranged from '1' (never), to '7' (always). This scale was internally consistent for both husband ($\alpha = .87$) and wife ($\alpha = .88$) reports at Time 1 and Time 2 (husband $\alpha = .87$; wife $\alpha = .87$). The third measure of marital conflict assessed the level of overt marital discord to which children were exposed. The O'Leary Porter Scale (OPS, Porter & O'Leary, 1980) included items such as, 'How often do you and your spouse/partner argue over disciplinary problems in this child's presence?' with response options ranging from '1' (never) to '5' (very often). Alpha coefficients for this scale were good at both time points for both partners ranging from $\alpha = .77$ to .78. Husband and wife responses were summed for all three respective measures to represent composite estimates of parents' marital dissatisfaction ($\alpha = .86$, and .88), marital hostility ($\alpha = .87$ and .87) and overt marital discord ($\alpha = .85$ and .85) for Time 1 and Time 2 respectively.

Children's perceptions of marital conflict

Children completed the Conflict Properties subscale of the Children's Perception of Interparental Conflict Scale (CPIC; Grych et al., 1992) by answering 'true', 'sort of true' and 'not true' to 17 questions reflecting the frequency, intensity and degree of resolution of their parents' disagreements. Sample questions include, 'I often see my parents arguing', 'When my parents have an argument they shout a lot', and 'Even after my parents stop arguing they stay annoyed with each other'. Due to concerns raised during the process of obtaining ethical approval for the study, two items ('My parents have broken or thrown things during an argument' and 'My parents have pushed or shoved each other during an argument') were dropped from the intensity subscale. Alpha coefficients measuring the internal consistency of the scales were high for both Time 1 and Time 2 respectively (frequency, $\alpha = .81$ and .86; intensity $\alpha = .82$ and .84; resolution $\alpha = .76$ and .83). The three scales combined to form the conflict properties scale also had good reliability (Time 1: $\alpha = .90$ and Time 2: $\alpha = .92$).

Quality of the parent-child relationship

The quality of the parent-child relationship was assessed by obtaining children's and parents' perceptions of the level of warmth and hostility expressed by parents towards children.

Parents' report of parent-child warmth and hostility

Both mothers and fathers completed a scale also from the IYFP (Melby et al., 1993) that assessed parents' perception of their behaviour during recent parent-child interactions. The first subscale consisted of 5 items that assessed parents' perceptions of the level of warmth, affection and supportive behaviour they demonstrated towards their child. Items asked how often parents behaved in the following ways towards the child including, 'Act loving and affectionate towards him/her', and 'Let him/her know that

you really care about him/her'. The hostility subscale consisted of 4 items that measured how frequently parents behaved in a hostile manner during parent-child interactions including items such as, 'Get angry at him/her', and, 'Shout at him/her when you disagreed about something'. For both subscales, response options ranged from '1' (never) to '7' (always) so that high scores on the warmth subscale reflected high parent-child warmth and high scores on the hostility subscale reflected high parent-child hostility. Each subscale was internally consistent for both mothers and fathers at Time 1 and Time 2 ranging from $\alpha = .81$ to .89. In some of the following analyses, mother and father reports of warmth and mother and father reports of hostility were combined in order to create measures of 'parent-child warmth' and 'parent-child hostility'. The combined estimates also demonstrated good reliability at both time points (ranging from $\alpha = .84$ to $\alpha = .86$).

Children's perceptions of parent-child warmth and hostility

Children completed an equivalent scale to parents taken from the IYFP (Melby et al., 1993) to assess children's perception of parents' warmth and hostility except the child version contains four additional items. Children reported on mothers and fathers separately. The warmth subscale consisted of 6 items that asked children to report how frequently they perceived parents to behave in a warm, affectionate way towards them in the last month. Response options ranged from 'never' (1) to 'always' (7). For the warmth subscale, items were the same as those for parents with one additional question asking how frequently mothers and fathers, 'Tell you he/she loves you'. The hostility subscale was also the same as the parent version, but contained three extra items asking how often parents, 'Get into an argument with you', 'Insult or swear at you' and 'Call you bad names'. Warmth and hostility were analysed separately for both children's perceptions of mothers and children's perceptions of fathers for which Cronbach's alpha

coefficients were high at Time 1 (warmth: mothers, $\alpha = .82$, fathers $\alpha = .87$ and hostility: mothers $\alpha = .81$, fathers $\alpha = .84$) and Time 2 (warmth: mothers, $\alpha = .91$, fathers $\alpha = .91$ and hostility: mothers $\alpha = .88$, fathers $\alpha = .91$). Children's reports of warmth for mothers and fathers were significantly correlated and so in some instances were analysed as a combined measure of 'parent-child warmth' and 'parent-child hostility' which also demonstrated good reliability (Time 1 parent warmth $\alpha = .89$ and parent hostility $\alpha = .89$; Time 2 parent warmth $\alpha = .89$ and parent hostility $\alpha = .93$).

Results

Preliminary Analysis

The means and standard deviations of parent and child reports of marital conflict and parent-child relations are presented in Table 4.1 for the combined sample and separated by child gender. Generally, there were no significant differences between levels of hostility at Time 1 and Time 2 according to mother, father or child report. Paired t-tests confirmed that these differences were not significant (e.g. child report of parent-child hostility Time 1, $M = 32.09$, Time 2, $M = 32.20$; $t(246) = 0.15, p > .10$). However, both parents and children reported lower father-child than mother-child warmth at both time points (e.g., Time 1: child report: mother warmth, $M = 35.82$, father warmth, $M = 33.61$; $t(246) = 5.97, p < .01$; parent report: mother warmth $M = 30.21$, father warmth $M = 27.43$; $t(246) = 7.76, p < .01$). In addition, both children and parents agreed that parent-child warmth significantly decreased between Time 1 and Time 2 for mothers and fathers (child report: Time 1, $M = 69.42$, Time 2, $M = 66.08$; $t(246) = 4.40$, $p < .01$; parent report: Time 1, $M = 57.63$, Time 2 $M = 55.86$; $t(246) = 5.03, p < .01$). This is consistent with findings by Conger and Ge (1999).

Table 4.1: Means and Standard Deviations for all variables (N = 247; Boys N = 121; Girls N = 126).

	Combined		Boys		Girls	
Variable	M	SD	M	SD	M	SD
Time 1 (1999)						
1. Child report of mother warmth	35.82	5.51	35.67	5.19	35.96	5.83
2. Child report of father warmth	33.61	7.06	33.61	6.64	33.90	7.46
3. Child report of parent warmth	69.42	11.26	68.98	10.53	69.85	11.95
4. Mother report of warmth	30.21	4.00	29.99	3.93	30.41	4.07
5. Father report of warmth	27.43	5.15	27.30	5.18	27.55	5.14
6. Parent report of warmth	57.63	7.30	57.29	7.32	57.96	7.29
7. Child report of martial conflict	26.06	7.07	25.73	6.80	26.38	7.33
8. Parent report of marital conflict	111.33	39.73	111.22	36.53	111.43	42.72
9. Child report of mother hostility	16.03	6.05	16.83	6.41	15.26	5.60
10. Child report of father hostility	16.06	6.67	16.43	6.78	15.70	6.58
11. Child report of parent hostility	32.09	11.45	33.26	11.44	30.96	11.38
12. Mother report of hostility	11.84	3.50	11.74	3.51	11.94	3.51
13. Father report of hostility	11.42	3.73	11.69	3.66	11.16	3.78
14. Parent report of hostility	23.26	6.11	23.44	6.11	23.10	6.12
Time 2 (2000)						
15. Child report of mother warmth	34.28	6.95	34.75	5.89	33.83	7.84
16. Child report of father warmth	31.80	7.79	32.07	7.19	31.55	8.34
17. Child report of parent warmth	66.08	13.60	66.82	12.14	65.38	14.87
18. Mother report of warmth	29.36	4.01	29.42	3.96	29.29	4.08
19. Father report of warmth	26.51	4.92	26.17	4.82	26.83	5.00
20. Parent report of warmth	55.86	7.12	55.60	7.15	56.12	7.11
21. Child report of marital conflict	25.57	7.31	24.32	6.28	26.78	8.02
22. Parent report of marital conflict	113.88	40.20	115.06	36.60	112.75	43.49
23. Child report of mother hostility	16.09	7.01	15.52	6.13	16.64	7.75
24. Child report of father hostility	16.10	7.86	15.66	7.23	16.54	8.42
25. Child report of parent hostility	32.20	13.69	31.18	12.52	33.18	14.70
26. Mother report of hostility	11.87	3.82	11.81	3.94	11.92	3.72
27. Father report of hostility	11.60	3.80	11.81	3.83	11.40	3.78
28. Parent report of hostility	23.47	6.57	23.62	6.67	23.32	6.51

There were few gender differences between boys and girls' reports of levels of marital conflict, parent-child warmth and parent-child hostility (also consistent with Conger & Ge, 1999). For example, boys and girls reported a similar level of parent-child warmth at Time 1 (boys: $M = 68.98$, girls: $M = 69.85$; $t(245) = 0.61, p > .10$) and similar levels of parent-child hostility at Time 2 (boys: $M = 31.18$, girls: $M = 33.18$; $t(245)$ 1.15, $p > .10$). However, one exception was found whereby boys reported higher mother-child hostility ($M = 16.83$) at Time 1 than girls ($M = 15.26$; $t(245) = 2.10, p < .05$). Parent report also confirmed that boys and girls experienced similar levels of warmth and hostility (e.g., parent report of warmth at Time 2: parent-son warmth, $M = 55.60$, parent-daughter warmth, $M = 56.12$; $t(245) = 0.58, p > .10$). Finally, in terms of reports of marital conflict only one significant difference emerged whereby girls reported higher levels of marital conflict at Time 2 (2000) than boys (girls: $M = 26.78$, boys: $M = 24.32$; $t(245) = 2.68, p < .01$).

The intercorrelations between child and parent report of marital conflict, parent-child warmth and parent-child hostility are presented in Table 4.2. Generally, the pattern of correlations supports the theoretical models (presented in Figures 4.1 and 4.2) whereby marital conflict was significantly associated with parent-child hostility and parent-child warmth for child reports and parent reports.

Child report

Children's reports of parent-child warmth were negatively correlated with their report of parent-child hostility at Time 1 ($r = -.44, p < .01$) and Time 2 ($r = -.58, p < .01$). Similar to previous studies (Schwarz et al., 1985), there was a high correlation between children's perception of mother-child and father-child behaviour for both warmth (Time 1: $r = .60, p < .01$; Time 2: $r = .70, p < .01$) and hostility (Time 1: $r = .62, p < .01$; Time 2: $r = .69, p < .01$).

Table 4.2: Intercorrelations Among All Indicators of Theoretical Model (N = 247; †p <.10. *p <.05. ** p <.01.)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Time 1 (1999)																		
1. Child report of mother warmth	-																	
2. Child report of father warmth	.60**	-																
3. Child report of parent warmth	.86**	.92**	-															
4. Mother report of warmth	.25**	.10	.18**	-														
5. Father report of warmth	.17**	.24**	.24**	.26**	-													
6. Parent report of warmth	.26**	.23**	.27**	.73**	.85**	-												
7. Child report of marital conflict	-.31**	-.42**	-.41**	-.11†	.01	-.01	-											
8. Parent report of marital conflict	-.17**	-.09	-.14*	-.27**	-.26**	-.33**	.31**	-										
9. Child report of mother hostility	-.43**	-.25**	-.37**	-.09	-.06	-.09	.45**	.13*	-									
10. Child report of father hostility	-.31**	-.42**	-.41**	-.19**	-.11†	-.18**	.55**	.19**	.62**	-								
11. Child report of parent hostility	-.41**	-.38**	-.44**	-.16*	-.09	-.15*	.56**	.18**	.89**	.91**	-							
12. Mother report of hostility	-.23**	-.07	-.16*	-.16*	-.12†	-.17**	.09	.22**	.29**	.21**	.28**	-						
13. Father report of hostility	-.17**	-.07	-.12†	-.13*	-.26**	-.25**	.10	.21**	.31**	.30**	.34**	.42**	-					
14. Parent report of hostility	-.24**	-.08	-.17**	-.17**	-.23**	-.25**	.11†	.25**	.35**	.31**	.37**	.83**	.86**	-				
Time 2 (2000)																		
15. Child report of mother warmth	.55**	.35**	.49**	.30**	.14*	.26**	-.28**	-.24**	-.26**	-.19**	-.25**	-.23*	-.14*	-.22**	-			
16. Child report of father warmth	.39**	.54**	.53**	.15*	.21**	.23**	-.31**	-.21**	-.19**	-.28**	-.26**	-.11†	-.15*	-.16*	.70**	-		
17. Child report of parent warmth	.51**	.49**	.56**	.24**	.19**	.27**	-.32**	-.24**	-.24**	-.26**	-.28**	-.18**	-.16*	-.20**	.91**	.93**	-	
18. Mother report of warmth	.24**	.05	.15*	.67**	.22**	.52**	-.06	-.23**	-.05	-.11†	-.09	-.19**	-.11†	-.17**	.36**	.19**	.29**	-
19. Father report of warmth	.16*	.21**	.21**	.22**	.68**	.60**	-.07	-.21**	-.01	-.08	-.05	-.12†	-.27**	-.23**	.21**	.21**	.23**	.26**
20. Parent report of warmth	.24**	.17**	.23**	.53**	.59**	.71**	-.08	-.27**	-.04	-.12†	-.09	-.19**	-.25**	-.26**	.35**	.25**	.32**	.75**
21. Child report of marital conflict	-.22**	-.26**	-.27**	-.02	.05	.03	.73**	.37**	.25**	.33**	.32**	.06	.13*	.11†	-.38**	-.42**	-.43**	-.02
22. Parent report of marital conflict	-.08	-.02	-.05	-.14*	-.14*	-.18**	.28**	.74**	.13*	.15*	.16*	.13*	.20**	.20**	-.14*	-.15*	-.16*	-.23**
23. Child report of mother hostility	-.38**	-.30**	-.37**	-.17**	-.01	-.10	.45**	.23**	.52**	.44**	.54**	.29**	.30**	.35**	-.59**	-.47**	-.57**	-.13*
24. Child report of father hostility	-.23**	-.31**	-.30**	-.12†	-.03	-.09	.40**	.24**	.35**	.53**	.49**	.25**	.35**	.35**	-.37**	-.54**	-.50**	-.09
25. Child report of parent hostility	-.32**	-.33**	-.36**	-.15*	-.02	-.10	.46**	.26**	.47**	.53**	.56**	.29**	.35**	.38**	-.52**	-.55**	-.58**	-.12†
26. Mother report of hostility	-.15*	.04	-.04	-.20**	-.10	-.18**	.00	.17**	.22**	.14*	.20**	.70**	.36**	.62**	-.27**	-.07	-.18**	-.37**
27. Father report of hostility	-.07	.02	-.02	-.02	-.19**	-.15*	.12†	.24**	.26**	.21**	.26**	.36**	.62**	.59**	-.16**	-.14*	-.16*	-.17**
28. Parent report of hostility	-.13*	.04	-.04	-.13*	-.17**	-.19**	.07	.24**	.28**	.20**	.26**	.61**	.57**	.70**	-.25**	-.12†	-.20**	-.32**

Table 4.2 (cont'd): Intercorrelations Among All Indicators of Theoretical Model (N = 247; †p <.10. *p <.05. ** p <.01.)

Variable	19	20	21	22	23	24	25	26	27	28
Time 2 (2000)										
19. Father report of warmth	-									
20. Parent report of warmth	.84**	-								
21. Child report of marital conflict	-.08	-.07	-							
22. Parent report of marital conflict	-.25**	-.30**	.40**	-						
23. Child report of mother hostility	-.08	-.13*	.59**	.19**	-					
24. Child report of father hostility	-.10	-.13*	.56**	.27**	.69**	-				
25. Child report of parent hostility	-.10	-.14*	.63**	.26**	.91**	.93**	-			
26. Mother report of hostility	-.18**	-.33**	.04	.16*	.26**	.17**	.23**	-		
27. Father report of hostility	-.35**	.34**	.22**	.37**	.29**	.30**	.32**	.49**	-	
28. Parent report of hostility	-.31**	-.39**	.15*	.31**	.32**	.27**	.32**	.86**	.86**	-

Intercorrelations between children's reports of marital conflict appeared more stable between Time 1 and Time 2 ($r = .73, p < .01$) than their report of parent-child warmth ($r = .56, p < .01$) and parent hostility between Time 1 and Time 2 ($r = .56, p < .01$). Children's perceptions of marital conflict were associated with low parent warmth ($r = -.41, p < .01$) and high parent-child hostility ($r = .56, p < .01$) within time, and across time (marital conflict at Time 1 and parent-child warmth at Time 2, $r = -.32, p < .01$ and hostility, $r = .46, p > .01$). Conversely, children's perception of high warmth at Time 1 was associated with low marital conflict at Time 2 ($r = -.27, p < .01$) and high parent-child hostility at Time 1 was associated with high marital conflict a year later ($r = .32, p < .01$). All correlations between children's perception of the marital relationship and the quality of mother-child and father-child relations were significant (e.g. child report of marital conflict at Time 1 and mother warmth at Time 2, $r = -.28, p < .01$ and father warmth at Time 2, $r = -.31, p < .01$), and in all instances this correlation appeared higher for the father-child than mother-child relationship (e.g., Time 1 mother-child warmth, $r = -.31, p < .01$; and father-child warmth, $r = -.42, p < .01$).

Table 4.3 presents the same intercorrelations for boys and girls perceptions of the marital and parent-child relationship separately. The association between boys and girls' perceptions of the marital and parent-child relationship were similar for most associations (e.g., marital conflict Time 1 and parent hostility Time 2, boys, $r = .42, p < .01$; girls, $r = .49. p < .01$). However, the association between perceptions of marital conflict in 1999 and parent-child warmth a year later was higher for girls ($r = -.41, p < .01$) than boys ($r = -.20, p < .05$). There were several differences between boys and girls and mothers and fathers when considering warmth or hostility. Marital conflict was associated with girls' perceptions of decreased mother-daughter ($r = -.38, p < .01$) and father-daughter ($r = -.37. p < .01$) warmth a year later.

Table 4.3: Intercorrelations among all indicators of theoretical model for Boys (N = 121; below diagonal) and Girls (N = 126; above diagonal)
(†p <.10. * p <.05. ** p <.01.)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Time 1 (1999)																		
1. Child report of mother warmth	-	.61**	.87**	.36**	.16†	.31**	-.29**	-.17†	-.45**	-.33**	-.41**	-.21*	-.21*	-.25*	.56**	.36**	.50**	.33**
2. Child report of father warmth	.58**	-	.92**	.15†	.28**	.28**	-.43**	-.02	-.29**	-.44**	-.40**	.01	-.12	-.07	.36**	.50**	.47**	.09
3. Child report of parent warmth	.86**	.92**	-	.27**	.25**	.33**	-.41**	-.09	-.40**	-.44**	-.45**	-.10	-.18*	-.17†	.50**	.49**	.54**	.22*
4. Mother report of warmth	.11	.04	.08	-	.24**	.73**	-.08	-.25**	-.11	-.19*	-.16†	-.16†	-.10	-.16†	.31**	.08	.21*	.65**
5. Father report of warmth	.19*	.21*	.22*	.28**	-	.84**	-.00	-.18*	.03	-.06	-.02	-.07	-.24**	-.19*	.06	.13	.10	.11
6. Parent report of warmth	.19*	.17†	.20*	.74**	.86**	-	-.05	-.27**	-.04	-.15	-.10	-.14	-.23**	-.22*	.21*	.14	.19*	.45**
7. Child report of martial conflict	-.35**	-.40**	-.43**	-.14	.03	-.06	-	.34**	.44**	.57**	.54**	.05	.08	.08	-.38**	-.37**	-.41**	-.11
8. Parent report of marital conflict	-.17†	-.18†	-.20*	-.28**	-.36**	-.41**	.26**	-	.07	.16†	.13	.18*	.12	.18*	-.25**	-.18*	-.23**	-.21*
9. Child report of mother hostility	-.43**	-.22*	-.35**	-.06	-.13	-.12	.48**	.19*	-	.74**	.92**	.34**	.27**	.36**	-.40**	-.36**	-.35**	-.12
10. Child report of father hostility	-.28**	-.39**	-.38**	-.20*	-.16†	-.21*	.55**	.23*	.51**	-	.94**	.21*	.31**	.31**	-.27**	-.33**	-.33**	-.17†
11. Child report of parent hostility	-.40**	-.35**	-.42**	-.15	-.16†	-.19*	.59**	.24**	.86**	.88**	-	.29**	.31**	.36**	-.35**	-.32**	-.37**	-.16†
12. Mother report of hostility	-.27**	-.17†	-.23*	-.16†	-.18*	-.21*	.13	.27**	.26**	.22*	.27**	-	.41**	.83**	-.22*	-.06	-.15†	-.25**
13. Father report of hostility	-.11	.01	-.05	-.16†	-.27**	-.28**	.13	.32**	.34**	.29**	.36**	.45**	-	.85**	-.21*	-.20*	-.23*	-.25**
14. Parent report of hostility	-.22*	-.09	-.16†	-.19*	-.26**	-.29**	.15†	.35**	.35**	.30**	.37**	.85**	.86**	-	-.26**	-.16†	-.22*	-.30**
Time 2 (2000)																		
15. Child report of mother warmth	.54**	.35**	.49**	.32**	.25**	.35**	-.12	-.22*	-.14	-.10	-.14	-.26**	-.06	-.19*	-	.69**	.91**	.37**
16. Child report of father warmth	.43**	.60**	.59**	.23*	.32**	.35**	-.24**	-.25**	-.14	-.22*	-.21*	-.17†	-.10	-.16†	.72**	-	.92**	.16†
17. Child report of parent warmth	.52**	.53**	.59**	.29**	.31**	.37**	-.20*	-.25**	-.15	-.18*	-.19*	-.23*	-.09	-.18*	.91**	.94**	-	.28**
18. Mother report of warmth	.13	.01	07	.69**	.34**	.61**	.01	-.25**	.02	-.06	-.02	-.12	.04	-.04	.35**	.22*	.30**	-
19. Father report of warmth	.10	.15	.14	.28**	.71**	.65**	.03	-.18†	.02	-.07	-.03	-.19*	-.28**	-.28**	.20*	.26**	.25**	.32**
20. Parent report of warmth	.14	.11	.13	.58**	.66**	.78**	.02	-.26**	.02	-.08	-.03	-.19*	-.17†	-.21*	.33**	.30**	.34**	.77**
21. Child report of marital conflict	-.21*	-.23*	-.25**	-.06	.06	.01	.67**	.24**	.22*	.24**	.26**	.10	.08	.10	-.19*	-.28**	-.26**	.02
22. Parent report of marital conflict	-.11	-.14	-.15	-.18*	-.18*	-.23*	.24**	.73**	.18*	.19*	.21*	.19*	.22*	.24**	-.17†	-.18*	-.19*	-.21*
23. Child report of mother hostility	-.38**	-.22*	-.32**	-.25**	-.09	-.20*	.35**	.27**	.51**	.42**	.54**	.30**	.32**	.37**	-.42**	-.40**	-.44**	-.14
24. Child report of father hostility	-.30**	-.32**	-.35**	-.28**	-.13	-.24**	.44**	.37**	.29**	.51**	.47**	.29**	.27**	.33**	-.41**	-.49**	-.49**	-.10
25. Child report of parent hostility	-.36**	-.29**	-.36**	-.28**	-.12	-.24**	.42**	.35**	.42**	.50**	.53**	.31**	.32**	.37**	-.44**	-.48**	-.50**	-.13
26. Mother report of hostility	-.15	-.01	-.08	-.25**	-.24**	-.30**	-.07	.16†	.16†	.07	.13	.62**	.30**	.53**	-.31**	-.11	-.22*	-.40**
27. Father report of hostility	-.04	-.03	-.04	-.16†	-.31**	-.31**	.04	.28**	.28**	.22*	.28**	.35**	.62**	.57**	-.14	-.14	-.15	-.22*
28. Parent report of hostility	-.11	-.02	-.07	-.24**	-.32**	-.36**	-.02	.26**	.26**	.17†	.24**	.57**	.53**	.65**	-.26**	-.15	-.21*	-.37**

Table 4.3 (cont'd): Intercorrelations among all indicators of theoretical model for Boys (N= 121; below diagonal) and Girls (N = 126; above diagonal)
($^{\dagger}p < .10$. * $p < .05$. ** $p < .01$.)

Variable	19	20	21	22	23	24	25	26	27	28
Time 1 (1999)										
1. Child report of mother warmth	.20*	.33**	-.24**	-.05	-.38**	-.17†	-.30**	-.15	-.10	-.14
2. Child report of father warmth	.25**	.23**	-.30**	.07	-.36**	-.31**	-.36**	.09	.07	.09
3. Child report of parent warmth	.26**	.31**	-.30**	.02	-.41**	-.28**	-.37**	-.02	-.01	-.01
4. Mother report of warmth	.15†	.48**	-.00	-.10	-.11	.00	-.06	-.15†	.12	-.02
5. Father report of warmth	.65**	.52**	.04	-.11	.05	.04	.05	.04	-.08	-.02
6. Parent report of warmth	.54**	.64**	.03	-.13	-.03	.03	.00	-.06	.01	-.03
7. Child report of martial conflict	-.15†	-.17†	.76**	.31**	.52**	.37**	.49**	.07	.19*	.15†
8. Parent report of marital conflict	-.24**	-.29**	.46**	.75**	.20*	.16†	.20*	.18*	.21*	.23*
9. Child report of mother hostility	-.02	-.09	.34**	.09	.58**	.43**	.56**	.29**	.24**	.30**
10. Child report of father hostility	-.08	-.15†	.43**	.12	.48**	.55**	.57**	.21†	.19*	.23**
11. Child report of parent hostility	-.06	-.13	.42**	.11	.56**	.53**	.60**	.27**	.23*	.28**
12. Mother report of hostility	-.06	-.18	.02	.09	.28**	.21*	.27**	.78**	.37**	.66**
13. Father report of hostility	-.26**	-.32**	.20*	.18*	.29**	.42**	.40**	.44**	.62**	.61**
14. Parent report of hostility	-.19*	-.31**	-.13	-.16†	.34**	.38**	.40**	.71**	.60**	.75**
Time 2 (2000)										
15. Child report of mother warmth	.22*	.37**	-.48**	-.14	-.69**	-.34**	-.56**	-.24**	-.20*	-.25**
16. Child report of father warmth	.18*	.22*	-.51**	-.14	-.51**	-.57**	-.59**	-.03	-.14	-.10
17. Child report of parent warmth	.22*	.32**	-.54**	-.15	-.65**	-.50**	-.63**	-.14	-.18*	-.19*
18. Mother report of warmth	.22*	.73**	-.05	-.24**	-.12	-.09	-.12	-.33**	-.14	-.27**
19. Father report of warmth	-	.83**	-.17†	-.32**	-.11	-.08	-.10	-.07	-.37**	-.25**
20. Parent report of warmth	.85**	-	-.15†	-.36**	-.15†	-.10	-.14	-.24**	-.34**	-.33**
21. Child report of marital conflict	.02	.03	-	.52**	.69**	.59**	.70**	.08	.36**	.25**
22. Parent report of marital conflict	-.16†	-.22*	.25**	-	.17†	.24**	.23*	.17†	.40**	.32**
23. Child report of mother hostility	-.06	-.12	-.42**	.24**	-	.65**	.90**	.31**	.32**	.36**
24. Child report of father hostility	-.15	-.16†	.51**	.33**	.76**	-	.92**	.23**	.40**	.36**
25. Child report of parent hostility	-.12	-.15	.50**	.31**	.93**	.95**	-	.29**	.40**	.40**
26. Mother report of hostility	-.29**	-.42**	-.01	.16†	.20*	.10	.16†	-	.51**	.87**
27. Father report of hostility	-.34**	-.35**	-.06	.34**	.26**	.19*	.24**	.47**	-	.87**
28. Parent report of hostility	-.36**	-.45**	-.03	.29**	.27**	.17†	.23†	.86**	.85**	-

However, for boys, marital conflict at Time 1 was associated with boys' perception of low father-child warmth at Time 2 ($r = -.24, p < .01$) but was unrelated to boys' perception of mother-child warmth a year later ($r = -.12, p > .10$). For parent-child hostility, marital conflict at Time 1 was consistently associated with high parent-child hostility one year later both for boys (e.g., mother-son hostility, $r = .35, p < .01$; father-son hostility, $r = .44, p < .01$) and girls, (mother-daughter hostility, $r = .52, p < .01$, father-daughter hostility, $r = .37, p < .01$). As reported for the combined sample, boys and girls' perceptions of parent-child warmth and parent-child hostility at Time 1 were related to their report of marital conflict at Time 2 and in general, the associations were higher for girls than boys although both were significant. For example, parent-child warmth at Time 1 was associated with both boys and girls' report of low marital conflict a year later (mother-child warmth: boys, $r = -.21, p < .05$, girls, $r = -.24, p < .01$; father-child warmth: boys, $r = -.23, p < .05$, girls, $r = -.30, p < .01$). Associations were also stronger for girls for the relation between mother-child hostility at Time 1 and marital conflict a year later (boys, $r = .22, p < .05$; girls, $r = .34, p < .01$) but were equally significant for father-child hostility (boys, $r = -.24$ and girls, $r = .43$, both significant at $p < .01$).

Parent report

Turning now to consider the pattern of correlations for parents' report of the marital and parent-child relationship, Table 4.2 indicates that parent-child warmth was negatively correlated with parent-child hostility at Time 1 ($r = -.25, p < .01$) and Time 2 ($r = -.39, p < .01$). This pattern was found for both mothers and fathers' reports (correlations ranged from, $r = .16, p < .05$ to $.37, p < .01$). Mothers and fathers' reports of parent-child warmth ($r = .26, p < .01$ for Time 1 and Time 2) and parent-child hostility (Time 1: $r = .42, p < .01$; Time 2: $r = .49, p < .01$) were moderately correlated at

both time points. Parents' report of marital conflict was generally associated with self-reported levels of parent-child warmth and hostility. Within time, parents' reports of marital conflict were associated with low parent-child warmth (e.g., $r = -.33, p < .01$), and high levels of marital conflict associated with high parent-child hostility (e.g., Time 2, $r = .31, p < .01$). This association between parent report of marital conflict and parent-child relations was also significant across time, with parent report of marital conflict at Time 1 associated with high parent-child hostility ($r = .24, p < .01$) and low parent-child warmth ($r = -.27, p < .01$) a year later. In addition, high levels of parent-child hostility in 1999 was associated with high levels of marital conflict at Time 2 ($r = .20, p < .01$), conversely, high levels of parent-child warmth at Time 1 was associated with low marital conflict a year later ($r = -.18, p < .01$). As with child reports of mothers and fathers, maternal and paternal reports of the parent-child relationship were similarly associated with their perception of marital conflict. For example at Time 1, mothers and fathers reported low parent-child warmth and high marital conflict (mothers, $r = -.27, p < .01$, fathers $r = -.26, p < .01$), and high marital conflict and high mother-child hostility ($r = .22, p < .01$) and father-child hostility ($r = .21, p < .01$). However, there were some differences in the magnitude of the relationship between mother and fathers' reports of marital conflict and parent-child hostility, whereby the relationship appeared higher for fathers than mothers. For example, within Time 2 the relationship between fathers' reports of marital conflict and father-child hostility was higher ($r = .37, p < .01$) than mothers' reports of marital conflict and mother-child hostility ($r = .16, p < .05$). Furthermore, father report of father-child hostility in 1999 indicated a higher association with marital conflict a year later ($r = .20, p < .01$) than mother-child hostility ($r = .13, p < .05$).

Examining Table 4.3 reveals differences between parents' report of the associations between marital conflict and parent-child relations for sons and daughters separately. Parents' report similar low levels of parent-child warmth for boys and girls when marital conflict is high within time (e.g. Time 1: parent-son warmth, $r = -.41, p < .01$; parent-daughter warmth, $r = -.27, p < .01$) and across time (marital conflict at Time 1 to parent-child warmth at Time 2: boys, $r = -.26, p < .01$ and girls, $r = -.29, p < .01$). However, the relationship between marital conflict and parent-child hostility demonstrates interesting differences for mothers and fathers and boys and girls. For example, at Time 1 there was a stronger relationship between parents' report of marital conflict and parent-son ($r = .32, p < .01$) than parent-daughter hostility ($r = .18, p < .01$). Specifically, marital conflict was significantly related to mother-daughter hostility ($r = .18, p < .05$), not father-daughter hostility ($r = .12, p > .10$). However, at Time 2 marital conflict was associated with similar high levels of parent-child hostility for both sons ($r = .29, p < .01$) and daughters ($r = .32, p < .01$). This relationship was stronger for father-child relations. For example, the relationship between fathers' perceptions of marital conflict and parent-child hostility was higher for both sons ($r = .34, p < .01$) and daughters ($r = .40, p < .01$) at Time 2 than the association between mothers' perceptions of marital conflict and mother-child relations (for sons, $r = .16, p < .10$ and daughters, $r = .17, p < .10$). Looking at the relations across time, parents' report of marital conflict at Time 1 was associated with an increase in parent-child hostility a year later for boys ($r = .26, p < .01$) and girls ($r = .23, p < .05$). However, for boys, this association was stronger for father-son than mother-son hostility ($r = .28, p < .01$ and $r = .16, p < .10$ respectively). Finally, considering how parent-child relations at Time 1 were associated with marital relations a year later suggests levels of parent-son warmth, but not parent-daughter warmth was related to the level of marital conflict parents' reported a year later

(for sons, $r = -.23, p < .05$; for daughters, $r = -.13, p > .10$). In contrast, while parent-child hostility was associated with high marital conflict a year later for boys (mother-son, $r = .19, p < .05$; father-son, $r = .22, p < .05$), only father-daughter hostility was related to fathers' subsequent reports of marital conflict ($r = .16, p < .10$). Mother-daughter hostility was unrelated to later levels of marital conflict ($r = .09, p > .10$).

Associations between different reporters

The following section considers correlations between child report of one variable and parent report of the other in order to assess the association between child and parent report of the same construct (e.g., marital conflict, parent-child warmth) and the relationship between child report of one construct (e.g., the marital relationship) and parent report of the other (e.g., parent-child hostility). Child and parent reports of marital conflict were correlated at Time 1 ($r = .31, p < .01$) and Time 2 ($r = .28, p < .01$). In most instances, the correlation between mother, father and child reports of the affective quality of the parent-child relationship were moderately correlated as found in previous studies (Schwarz et al., 1985; Tein et al., 1994). For example, child report of parent-child warmth was moderately correlated with parent report of parent-child warmth at Time 1 ($r = .27, p < .01$) and Time 2 ($r = .32, p < .01$) and child and parent report of parent-child hostility was correlated at both time points (Time 1, $r = .37, p < .01$ and Time 2, $r = .32, p < .01$). In most instances, parent report of marital conflict was associated with child report of parent-child relations. For example, parent report of marital conflict was associated with child report of warmth ($r = -.14, p < .05$) and hostility ($r = .18, p < .05$) at Time 1 and Time 2 (warmth, $r = -.16, p < .05$; hostility, $r = .26, p < .01$). One correlation was not significant whereby parent report of marital conflict was unrelated to child report of father-child warmth ($r = -.09, p > .10$). This pattern was also evident across time, whereby parent report of marital conflict at Time 1

was correlated with children's perception of low parent-child warmth (e.g., mothers, r = -.24, p <.01; fathers, r = -.21, p <.01) and high parent-child hostility (e.g., mothers, r = .23, p <.01; fathers, r = .24, p <.01). However, considering the correlations for the alternative hypothesis, that parent-child relations influences the marital relationship, child report of parent-child relations at Time 1 were related to parent report of marital conflict at Time 2, only when considering parent-child hostility (marital conflict and mother-child hostility, r = .13, p <.05 and father-child hostility, r = .15, p <.05).

In contrast, child perception of marital conflict was generally unrelated to parent perception of parent-child warmth, within Time 1 and Time 2 (with one exception within Time 1, child perception of marital conflict was related to mother report of mother-child warmth, r = -.11, p <.10). Considering parent-child hostility revealed that child report of marital conflict was related to parent report of parent-child hostility for mothers and fathers (r = .11, p <.10) at Time 1, and at Time 2 child report of marital conflict was related to father report of father-child hostility (r = .22, p <.05). Across time, this pattern was replicated, whereby child report of marital conflict at Time 1 was only related to father report of father-child hostility at Time 2 (r = .12, p <.10). Finally, the correlations regarding parent-child relations at Time 1 and marital conflict at Time 2 suggested that only father report of father-child hostility at Time 1 was related to child perception of marital conflict at Time 2 (r = .13, p <.05).

In summary, marital conflict measured at Time 1 was associated with high parent-child hostility and low parent-child warmth a year later, as confirmed by both parents and children's reports. Furthermore, the converse was also true, whereby both parent and child report of parental warmth at Time 1 was associated with low marital conflict measured a year later, and high parent-child hostility at Time 1 was associated with high marital conflict at Time 2. The association between marital conflict and

parent-child hostility was more consistent than the association between marital conflict and parent-child warmth, and furthermore, this association between marital conflict and parent-child warmth was more often significant for girls than boys. In addition, the relationship between parents' perception of marital conflict and parent-child relations was more consistent for fathers than mothers (as reported by previous studies, e.g., Brody et al., 1986). There was moderate agreement between parent and child report of the marital and parent-child relationship as found in previous studies (Grych et al., 2003; Kim & Ge, 2000).

Parent report of the marital relationship was more consistently related to child report of the parent-child relationship than child report of marital conflict and parent report of the parent-child relationship. Therefore, the pattern of associations indicates that the combination of parent report of the marital relationship and child report of the parent-child relationship should be investigated further. Indeed, conceptually, it may be appropriate to use parent report of the marital relationship, as the child is not normally directly involved in this dyadic relationship while perceptions of husband and wife are likely to be key determinants of quality of the relationship (Brody, Arias & Fincham, 1996; Fincham et al., 1997). However, this does not negate the importance of children's perception of marital conflict, as Chapter 1 discussed theoretical frameworks which proposed that children's perception of marital conflict is likely to be an important consideration when attempting to understand how children are influenced by exposure to interparental discord (Davies & Cummings, 1994; Grych & Fincham, 1990; Harold et al., 1997). It is also conceptually meaningful to include both parent and child reports of the parent-child relationship, as both members' perception of the dyad is likely to contribute to the quality of this relationship (Brody et al., 1996). In addition, a combination of both parent and child report of parent-child relations is preferable as

models that employ only one reporter of family relations are more susceptible to inflated correlations due to method variance (Cook et al., 1991). Therefore in the analyses that follow, models will be tested employing three variants of reporters including child report of marital conflict and parent-child relations, parent report of marital conflict and parent-child relations and parent report of marital conflict and child and parent report of parent-child relations combined. Results will be presented separately for all three combinations of reporters.

Structural Equation Modelling

Structural equation modeling (SEM: LISREL, 8.52, Joreskog & Sorbom, 1996) using maximum likelihood estimation was used to test the theoretical models presented in Figures 4.1 (cross-lagged) and 4.2 (reciprocal models) that were presented earlier in this chapter.

Cross-lagged model tests

For the models estimating cross-lagged effects between marital conflict and parent-child relations, stability coefficients were high for marital conflict, parent-child warmth and parent-child hostility according to all reporters (e.g., for the combined model, marital conflict, child report: $\beta = .79, p < .01$, parent report: $\beta = .77, p < .01$). However, in most instances the stability coefficients of parent warmth and hostility was higher for parent than child report. For example, the stability coefficient for parent-child warmth was higher between 1999 and 2000 for parent report ($\beta = .69, p < .01$) than child report ($\beta = .47, p < .01$) and parent report of parent-child hostility was higher than child report ($\beta = .66, p < .01$ and $\beta = .43, p < .01$ respectively). In most instances, the stability of marital conflict was higher than the stability of parent-child relations, particularly from the child's perspective. For example, boys' report of marital conflict and parent-child relations reveals the stability of marital conflict was higher ($\beta = .80, p < .01$) than

their perception of parent-child warmth ($\beta = .58, p < .01$) and hostility ($\beta = .45, p < .01$). Whereas mothers' report of marital conflict across the two years was of similar stability to her report of parent-child relations (marital conflict, $\beta = .77, p < .01$; warmth $\beta = .63$, $p < .01$; hostility, $\beta = .68, p < .01$).

Table 4.4 presents the significant cross-lagged paths for all three variants of reporters. The alphabetical labelling of the crossed-lagged paths within the table from *a* to *d* are noted on the conceptual model presented earlier in Figure 4.1. Due to the strict assumptions of cross-lagged panel correlational tests, it may be inappropriate to consider paths significant at $p < .10$. Therefore, only paths that are significant at $p < .05$ or above will be noted in the following discussion of results.

As can be seen from Table 4.4, child report and the combined reporter models (columns 1 and 3) produced a very similar pattern of results, with the least number of significant paths derived from models estimated using parent report of marital and parent-child relations. Due to the volume of model tests, only a selection of figures will be included in addition to Table 4.4. Specifically, child reported models will be presented in order to aid discussion of the significant gender comparisons that were noted only for models estimated with child reports.

Table 4.4: Significant standardised cross-lagged path estimates of the theoretical model (Figure 4.1) for three variants of reporters: child report of marital and parent-child relations, parent-report of marital and parent-child relations, and parent report of the marital relationship and parent and child report of the parent-child relationship. Combined sample: N = 247; Boys, N = 121; Girls, N = 126.

[Path a: parent-child warmth Time 1 to marital conflict Time 2; Path b: marital conflict Time 1 to parent-child warmth Time 2; Path c: marital conflict Time 1 to parent-child hostility Time 2; Path c: parent-child hostility Time 1 to marital conflict Time 2].

Model	Estimated Path	Child report of marital conflict and parent-child warmth and hostility	Parent report of marital conflict and parent-child warmth and hostility	Parent report of marital conflict, child and parent report of the parent-child relationship
Combined	a	--	--	--
	b	-.13*	--	-.14*
	c	.22*	--	.15*
	d	--	--	--
Mothers	a	--	--	--
	b	-.14*	--	-.13*
	c	.27**	--	.14*
	d	--	--	--
Fathers	a	--	--	--
	b	-.12*	--	-.14*
	c	.16*	.13*	.16*
	d	--	--	--
Boys	a	--	--	--
	b	-- †	--	--
	c	--	--	.18*
	d	--	--	--
Girls	a	--	--	--
	b	-.25* †	--	-.18*
	c	.25*	.11*	.14*
	d	--	--	--
Boys – Mothers	a	--	--	--
	b	--	--	--
	c	-- †	--	--
	d	--	--	--

Model	Estimated Path	Child report of marital conflict and parent-child warmth and hostility	Parent report of marital conflict and parent-child warmth and hostility	Parent report of marital conflict, child and parent report of the parent-child relationship
Boys – Fathers	a	--	--	--
	b	-- †	-- †	--
	c	.22*	--	.26*
	d	--	--	--
Girls –Mothers	a	--	--	--
	b	-.27*	--	-.14*
	c	.37** †	--	.16*
	d	--	--	--
Girls – Fathers	a	--	--	--
	b	-.20* †	-.11[a] †	-.19*
	c	--	.15*	--
	d	--	--	--

Note: *p <.05. ** p <.01.
-- indicates a non-significant path.
† indicates a significant gender comparison.

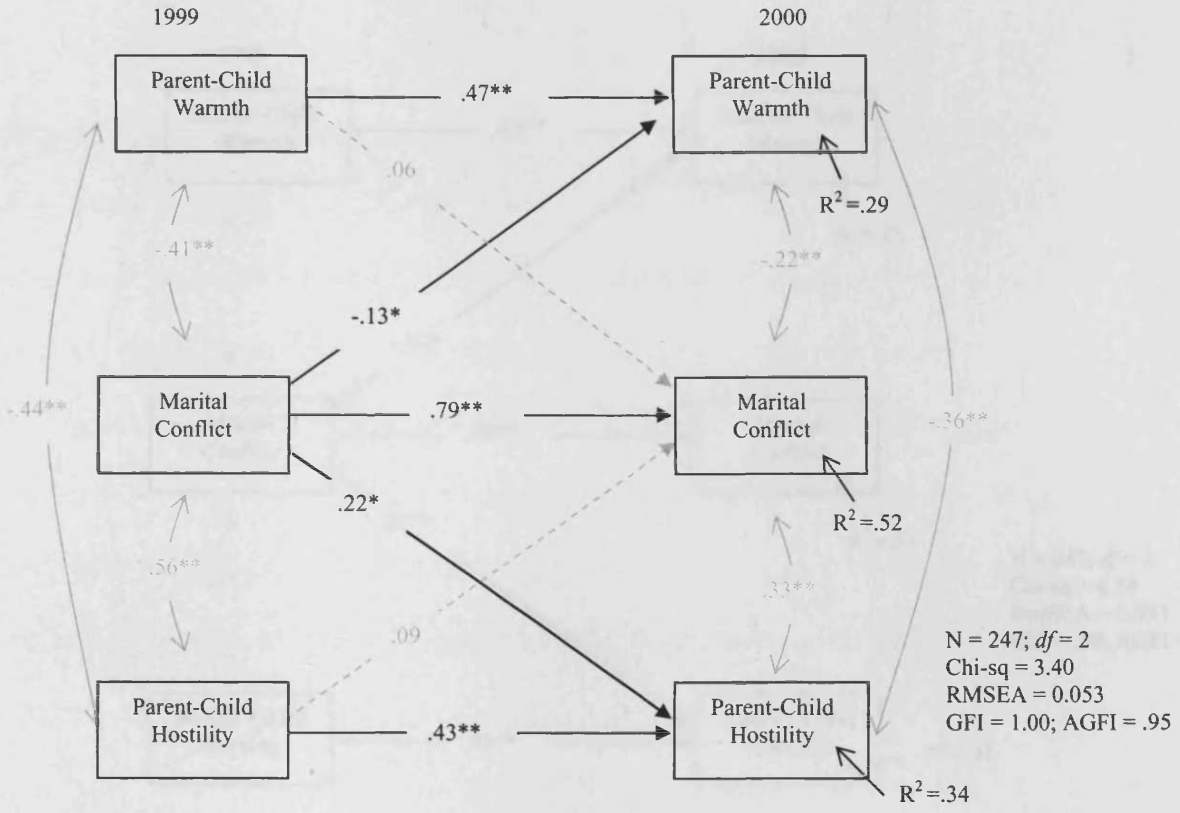


Figure 4.3: Maximum likelihood estimation of children's perception of marital conflict, parent-child hostility and parent-child warmth at Time 1 and Time 2. *p<.05, **p<.01

The most consistent pattern according to child and combined reporter models indicates that marital conflict predicted the level of parent-child warmth and hostility. For example, the model presented in Figure 4.3 demonstrates that children's perceptions of marital conflict in 1999 predicted children's reports of low parent-child warmth (β = -.13, p <.05) and high hostility (β = .22, p <.05) one year later, whilst controlling for earlier levels of marital conflict and parental warmth and hostility. In addition, this model suggests that the alternative hypothesis, that the level of parent-child affect determines the degree of interparental conflict, was not supported, therefore, parent-child warmth did not predict increased marital conflict a year later (β = .06, p >.10), and parent-child hostility assessed at Time 1 was unrelated to marital conflict at Time 2 (β = .09, p >.10). This pattern is replicated by models estimated with parent report of marital conflict and both parent and child report of parent-child relations as can be seen from Table 4.4.

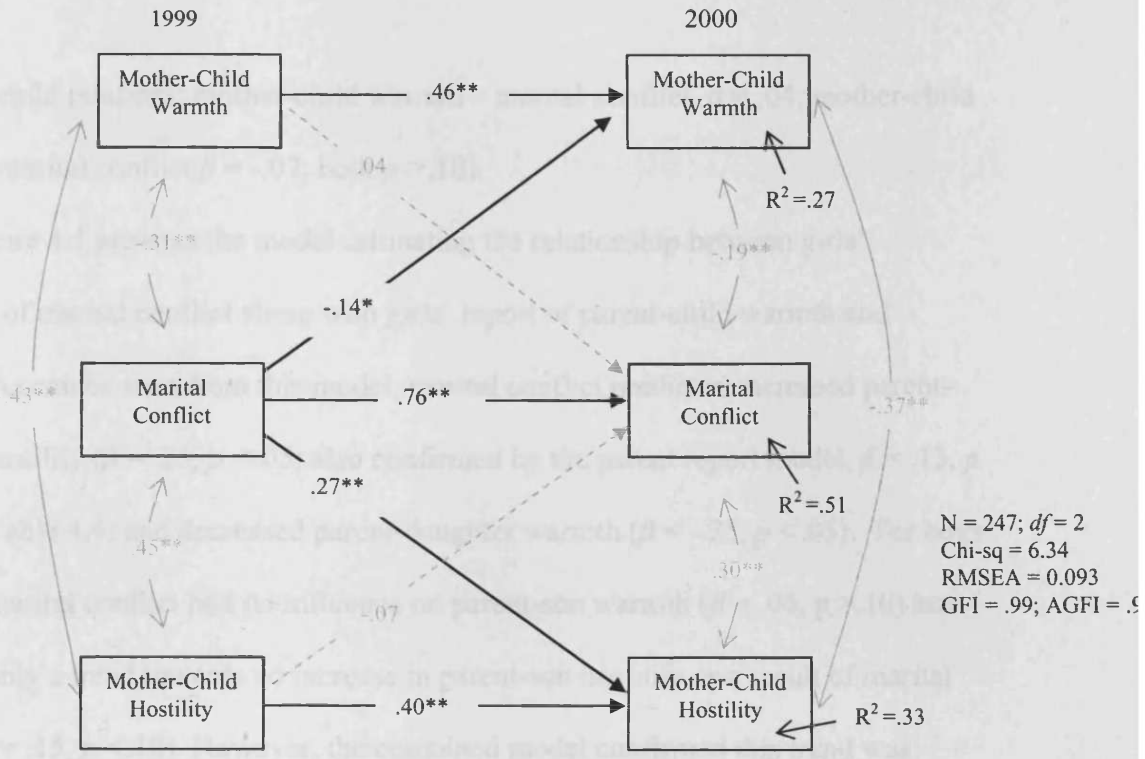


Figure 4.4: Maximum likelihood estimation of children's perception of marital conflict, mother-child hostility and mother-child warmth at Time 1 and Time 2. *p<.05, **p<.01

This pattern is also confirmed when considering mother-child and father-child relations, whereby marital conflict predicted warmth and hostility, not vice-versa. For example, Figure 4.4 illustrates the pattern of results for mother-child relations. As can be seen, children's perceptions of marital conflict predicted a decrease in their perception of mother-child warmth (β = -.14, p <.05) and an increase in their perception of mother-child hostility (β = .27, p <.01). As can be seen from Table 4.4, this pattern was also noted for father-child relations (marital conflict – father-child warmth, β = -.12, p <.05; marital conflict – father-child hostility, β = .16, p <.05) and further confirmed by the combined reporter model for mothers and fathers. In addition, the parent report model confirmed that fathers' report of marital conflict predicted fathers' perception of subsequent hostility (β = -.13, p <.05). As for the combined sample model tests just described, the alternative hypothesis was not significant (e.g., for the child report model

of mother-child relations; mother-child warmth – marital conflict, $\beta = .04$; mother-child hostility – marital conflict $\beta = -.07$, both $p > .10$).

Figure 4.5 presents the model estimating the relationship between girls' perception of marital conflict along with girls' report of parent-child warmth and hostility. As can be seen from this model, marital conflict predicted increased parent-daughter hostility ($\beta = .25$, $p < .05$; also confirmed by the parent report model, $\beta = .13$, $p < .05$, see Table 4.4) and decreased parent-daughter warmth ($\beta = -.25$, $p < .05$). For boys however, marital conflict had no influence on parent-son warmth ($\beta = .06$, $p > .10$) and indicated only a trend towards an increase in parent-son hostility as a result of marital conflict ($\beta = .15$, $p < .10$). However, the combined model confirmed this trend was significant for boys ($\beta = .13$, $p < .05$).

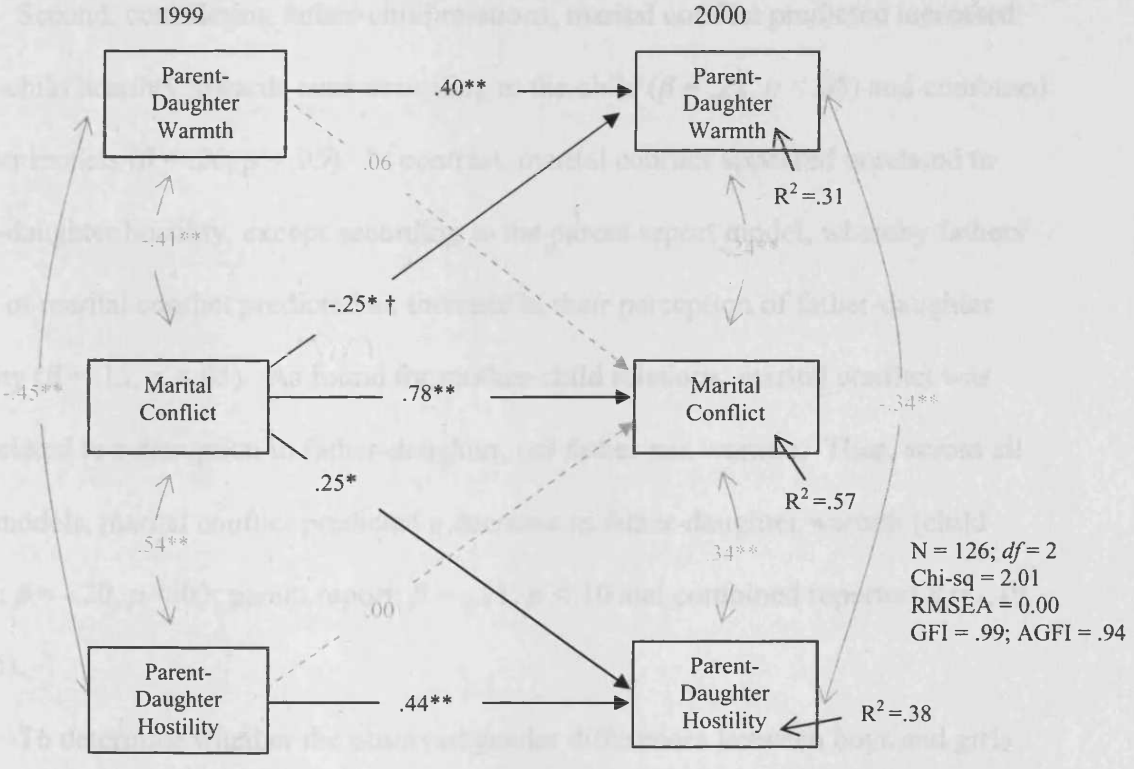


Figure 4.5: Maximum likelihood estimation of girls' perceptions of marital conflict and girls' perceptions of parent-child relations (parent-daughter hostility and parent-daughter warmth) at Time 1 and Time 2. *p<.05, **p<.01. † indicates a path that is significantly different from boys.

The pattern of significant effects when considering both parent and child gender (from Table 4.4) confirmed that marital conflict only influenced parent-child warmth expressed towards girls, not boys. First, considering significant paths for mother-child relations, marital conflict influenced only the expression of affect from mothers to daughters whereas mother-son relations appeared unaffected by marital conflict. Thus, girls' perceptions of marital conflict decreased girls' perception of mother-daughter warmth (β = -.27, p <.05) and increased perceptions of mother-daughter hostility (β = .37, p <.01), also confirmed by the combined reporter model (β = -.14, β = .16, both p <.05 for mother-daughter warmth and hostility respectively). In contrast, marital conflict was unrelated to mother-son warmth (β = .07, p >.10) and hostility (β = .12, p >.10).

Second, considering father-child relations, marital conflict predicted increased father-child hostility towards sons according to the child (β = .22, p <.05) and combined reporter models (β = .26, p <.05). In contrast, marital conflict appeared unrelated to father-daughter hostility, except according to the parent-report model, whereby fathers' report of marital conflict predicted an increase in their perception of father-daughter hostility (β = .15, p <.05). As found for mother-child relations, marital conflict was only related to a disruption in father-daughter, not father-son warmth. Thus, across all three models, marital conflict predicted a decrease in father-daughter warmth (child report: β = -.20, p <.05; parent report: β = -.11, p <.10 and combined reporter: β = -.19, p <.05).

To determine whether the observed gender differences between boys and girls were significant, stacked model tests were conducted (Bollen, 1989). Stacked model tests are conducted by imposing equality constraints on the path of interest and observing whether there is a significant change in the chi-square value (which indicates

the degree of fit). If the equality constraints lead to a significant change in χ^2 per change in the degrees of freedom, this suggests that the path in question is significantly different for boys and girls. Stacked models tests revealed that three gender differences were significant, but only for models estimated with child reports, except one which was confirmed by parent report also. First, the finding that marital conflict decreased girls' perceptions of parent-daughter warmth but was unrelated to boys' perceptions of parent-child warmth was significant ($\Delta\chi^2 = 7.12$, $p < .01$). Second, marital conflict increased girls' perceptions of mother-daughter hostility significantly more than boys' perceptions of mother-son hostility ($\Delta\chi^2 = 5.87$, $p < .05$). Finally, marital conflict decreased girls' perceptions of father-daughter warmth but was unrelated to boys' perceptions of father-son warmth ($\Delta\chi^2 = 3.06$, $p < .10$), which was also confirmed by the parent-report model ($\Delta\chi^2 = 4.20$, $p < .05$).

There are several statistics included to the right of the figures that present the model tests that allow an evaluation of the how well the model represents the data. Firstly, the chi-square statistic (χ^2) indicates the degree of similarity between the estimated model and the original data. For example, a chi-square value of below 4.61 (for 2 degrees of freedom) would indicate the estimated model does not significantly differ to the data. A second statistic that can be used to estimate the degree of fit between the structural model and the data is the Goodness-of-Fit Index (GFI) and the Adjusted-Goodness-of-Fit Index (AGFI). For these statistics, a value of above .90 would indicate the model provides a good representation of the data. Finally, a Root Mean Squared Error of Approximation value (RMSEA) of 0.05 or below would indicate there is no discrepancy between the covariation matrix calculated by the model and the population covariation matrix (Kelloway, 1998). Therefore the fit indices of the models

presented are good, with χ^2 ranging from 2.01 to 6.34 (for 2 *df*), RMSEA from 0.000 to 0.093, GFI = 1.00 to .99, AGFI from .95 to .91.

In summary, the presence of marital conflict predicted low levels of parent-child warmth and high levels parent-child hostility for both mothers and fathers a year later according to the child report and combined reporter models. However, results differed according to child gender, but only for parent-child warmth. Thus, marital conflict predicted an increase in parent-child hostility for boys and girls, but was only related to a decrease in parent-child warmth for girls. Results also differed according to both parent and child gender. In terms of parent-child hostility, for boys, marital conflict predicted an increase in parent-child hostility for both mothers and fathers, but for girls only an increase in mother-daughter, not father-daughter hostility was found. For parent-child warmth however, marital conflict predicted a decrease for parent-daughter relations (mothers and fathers) but was unrelated to parent-son warmth. Finally, parent report models indicated few significant effects between parents' report of marital conflict and parents' report of the level of warmth and hostility expressed in parent-child interactions. No evidence was found for the alternative hypothesis, that parent-child relations influenced marital conflict.

Reciprocal Model tests

Reciprocal model tests were conducted to complement and extend the cross-lagged model tests. Reciprocal models examine the direction of effects simultaneously within time, whilst controlling for earlier levels of both constructs. In other words, reciprocal models examine whether marital conflict influences parent-child relations and the quality of parent-child relations influence marital conflict at the same point in time, whilst controlling for earlier levels of marital conflict and parent-child relations.

Table 4.5: Significant standardised reciprocal path estimates of the theoretical model (Figure 4.2) for three variants of reporters: child report of marital and parent-child relations, parent-report of marital and parent-child relations, and parent report of the marital relationship and parent and child report of the parent-child relationship. Combined sample, N = 247; Boys, N = 121; Girls, N = 126.

[Path a: marital conflict to parent-child relations, Path b: parent-child relationship to marital conflict, all within Time 2]

Model	Estimated Path	Child report of marital conflict and parent-child warmth and hostility		Parent report of marital conflict and parent-child warmth and hostility		Parent report of marital conflict, child and parent report of the parent-child relationship	
		Hostility	Warmth	Hostility	Warmth	Hostility	Warmth
Combined	a	.42**	-.23*	14*	-.17*	19*	-.22*
	b	.14[a]	-.11[a]	--	--	--	--
Mothers	a	.45**	-.21*	--	-.14*	.14*	-.17*
	b	--	--	--	--	--	--
Fathers	a	.33**	-.23*	.19*	-.14*	.21*	-.21*
	b	.15*	--	.12*	--	--	--
Boys	a	.37*	-- †	--	-- †	.23*	--
	b	-- †	--	--	--	--	--
Girls	a	.41**	-.34* †	.17*	-.26* †	.17*	-.29*
	b	26* †	--	--	--	--	--
Boys – Mothers	a	.31**	-- †	--	--	--	--
	b	--	--	--	--	--	--
Boys – Fathers	a	.42**	--	.18*	-- †	.31*	-- †
	b	-- †	--	--	--	--	--
Girls – Mothers	a	.48**	-.33* †	--	-.17*	.15*	-.20*
	b	.15[a]	--	--	--	--	--
Girls – Fathers	a	.24*	-.30*	.20*	-.23* †	.16*	-.29* †
	b	.27* †	--	.16*	--	--	--

Note: [a]p <.10. *p <.05. ** p <.01.
-- indicates a non-significant path.
† indicates a significant gender difference

Table 4.5 presents the results of model tests for the combined sample and each subgroup comparison (mothers, fathers, boys and girls) for all variations of reporters. Only the reciprocal paths within Time 2 are reported in the table, and the conceptual model presented earlier (Figure 4.2) indicates the alphabetical paths labelled in the table (a: marital conflict to parent-child relations; b: parent-child relations to marital conflict). Once again, due to the volume of model tests only two models will be presented as a supplement to the table.

Similar to cross-lagged model tests, stability estimates between marital conflict, parent-child warmth and parent-child hostility were high across the two time points (e.g., for the combined reporter models: hostility model, marital conflict, $\beta = .73, p < .01$, parent-child hostility, $\beta = .63, p < .01$, warmth model: marital conflict, $\beta = .76, p < .01$, parent-child warmth, $\beta = .61, p < .01$). Furthermore, as found for the cross-lagged models assessing the same constructs, parent report of the parent-child relationship was often higher in stability than child report of the parent-child relationship (e.g., for hostility, child report: $\beta = .41, p < .01$, parent report: $\beta = .67, p < .01$. For warmth, child report: $\beta = .49, p < .01$, parent report: $\beta = .67, p < .01$).

As can be seen from Table 4.5, the majority of model tests indicate only the path from marital conflict to the parent-child relationship was significant. This suggests the association between marital conflict and parent-child relations was unidirectional, that is, marital conflict influenced the level of parent-child warmth and parent-child hostility whilst controlling for earlier levels of marital conflict and parent-child relations, but the level of parent-child warmth or parent-child hostility did not influence marital conflict. The model examining the pattern of relations employing the combined reporter model will be discussed first, before considering differences between parent and child report models. Figure 4.7 presents the combined sample for parent-child warmth and parent-

child hostility. This model suggests that marital conflict increased parent-child hostility ($\beta = .19, p < .05$) and decreased parent-child warmth ($\beta = -.22, p < .05$) whilst controlling for earlier levels of each construct. However, the path from parent-child hostility to marital conflict ($\beta = .02, p > .10$) and from parent-child warmth to marital conflict ($\beta = .08, p > .10$) were nonsignificant.

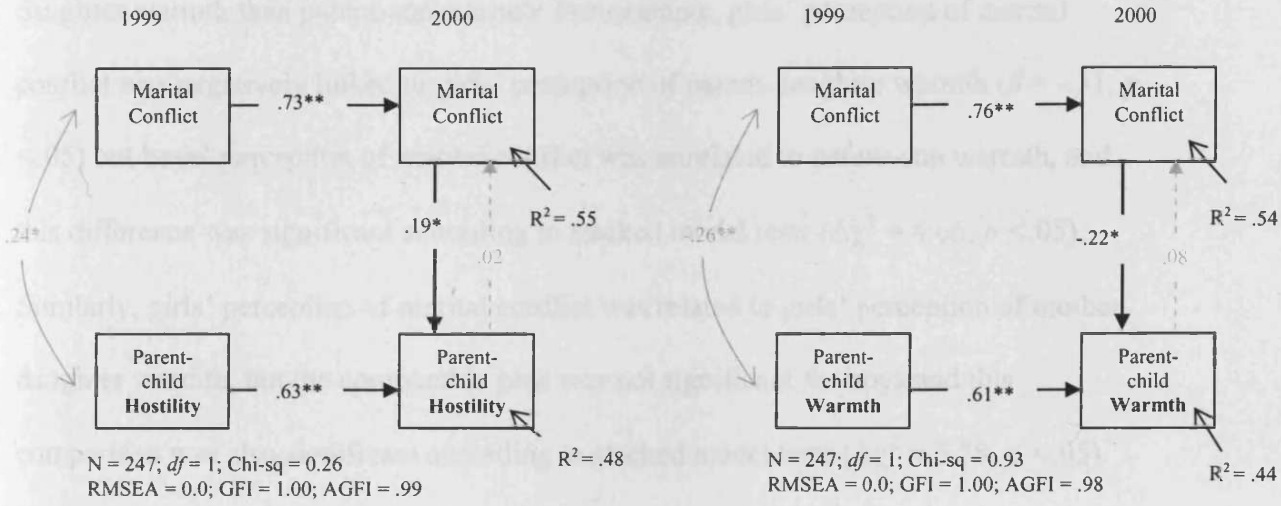


Figure 4.7: Maximum likelihood estimation of the combined reporter model of marital conflict and parent-child hostility at Time 1 and Time 2, and a separate model of the relations between marital conflict and parent-child warmth and Time 1 and Time 2. $^{\dagger}p<.10$, $*p<.05$, $**p<.01$.

The influence of marital conflict on parent-child hostility was replicated for all subgroup comparisons except mother-son relations, whereby marital conflict was unrelated to mother-son hostility ($\beta = .14, p > .10$). The pattern for parent-child warmth was slightly less consistent, whereby marital conflict only predicted a decrease in parent-daughter, not parent-son warmth. For example, marital conflict was negatively linked to father-daughter warmth ($\beta = -.29, p < .05$) but unrelated to father-son warmth ($\beta = -.02, p > .10$) and this was significantly different according to stacked model tests ($\Delta\chi^2 = 3.21, p < .10$).

As for cross-lagged model tests, models estimated with child report generally confirmed the pattern noted from models estimated with combined reporters. Thus,

child report consistently confirmed marital conflict increased parent-child hostility for all gender comparisons (e.g., marital conflict to: mother-child hostility, $\beta = .45, p < .01$; father-child hostility, $\beta = .33, p < .01$; parent-son hostility, $\beta = .37, p < .01$; parent-daughter hostility, $\beta = .41, p < .01$). In addition, as also noted for the combined reporter models, children's perception of marital conflict was more consistently related to parent-daughter warmth than parent-son warmth. For example, girls' perception of marital conflict was negatively linked to girls' perception of parent-daughter warmth ($\beta = -.31, p < .05$) but boys' perception of marital conflict was unrelated to parent-son warmth, and this difference was significant according to stacked model tests ($\Delta\chi^2 = 4.66, p < .05$). Similarly, girls' perception of marital conflict was related to girls' perception of mother-daughter warmth, but the comparable path was not significant for boys and this comparison was also significant according to stacked model tests ($\Delta\chi^2 = 6.58, p < .05$).

However, for some of the gender comparisons estimated with child report of marital conflict and parent-child relations, reciprocal effects were suggested, whereby parent-child relations influenced children's perception of marital conflict in addition to the effect of marital conflict on parent-child relations. For these instances where reciprocal effects were suggested (e.g., the child report model of the combined sample for warmth and hostility) further tests were conducted to investigate if a change in model fit occurred when the two reciprocal paths were constrained to be equal. Results suggested that constraining the two reciprocal paths to be equal produced a significant change in the chi-square statistic, suggesting that the paths were not equal and one effect was stronger than the other. For example, for the child report hostility model, the effect from marital conflict to parent-child hostility ($\beta = .42, p < .01$) was stronger than the path from parent-child hostility to marital conflict ($\beta = .14, p < .10$; $\Delta\chi^2 = 23.13, p < .01$). Similarly, the path from parent-child warmth to marital conflict ($\beta = -.11, p < .10$) was

lower in significance than the path from marital conflict to parent-child warmth (β = -.23, p <.05; $\Delta\chi^2$ = 6.51, p <.05). Nevertheless, some reciprocal effects remained significant for the models estimating parent-child relations for girls. Thus, according to the child report model (see the first model of Figure 4.8), marital conflict increased girls' perception of mother-daughter hostility (β = .48, p <.01) and girls' perception of mother-daughter hostility increased their perception of marital conflict (β = .15, p <.10) suggesting that the effects of marital conflict and mother-daughter hostility are bidirectional ($\Delta\chi^2$ = 1.97, p >.10).

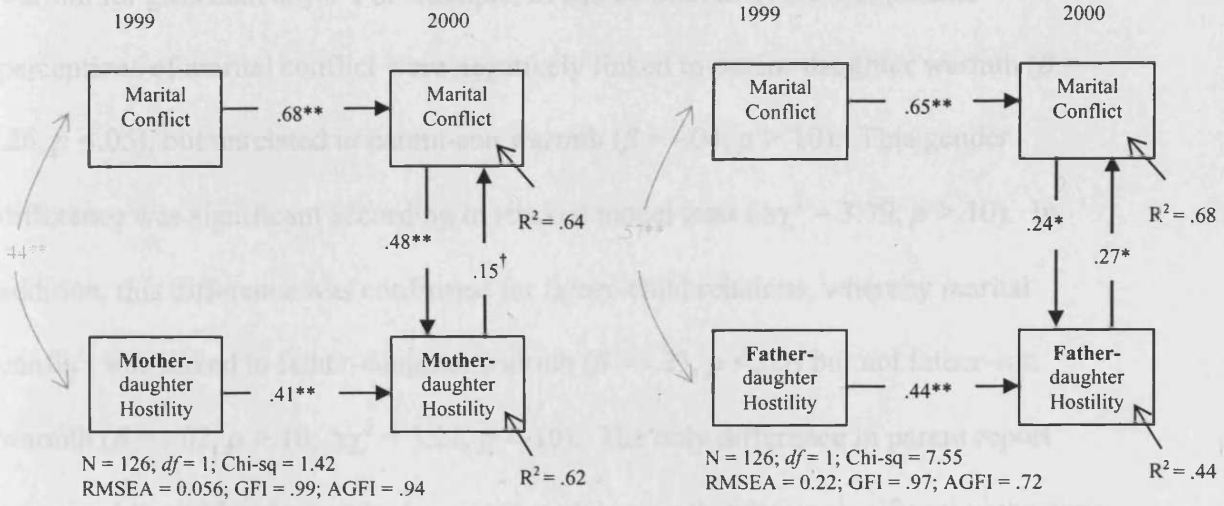


Figure 4.8: Maximum likelihood estimation models for girls' report of marital conflict and **mother-daughter** hostility at Time 1 and Time 2, and marital conflict and **father-daughter** hostility at Time 1 and Time 2. †p<.10, *p<.05, **p<.01.

Furthermore, equality constraints indicated that a reciprocal relationship was apparent between father-daughter hostility and this was consistent across reporters (child report, parent report and combined reporter models). For example, for the child report model presented in Figure 4.8 (second model) marital conflict increased father-daughter hostility (β = .24, p <.05) and father-daughter hostility increased marital conflict (β = .27, p <.05; $\Delta\chi^2$ = 0.00, p >.10). Additional stacked model tests confirmed the finding that only girls' perception of marital conflict influenced their appraisals of parent-child

hostility, whereas boys' perceptions of marital conflict were unrelated to their appraisal of parent-child hostility add this was significant ($\Delta\chi^2 = 4.15, p < .05$). The difference between boys and girls' perceptions was also significant for girls' perceptions of father-daughter hostility in comparison to boys' perceptions of father-son hostility ($\Delta\chi^2 = 5.93$, $p < .05$).

Finally, the pattern indicated by models estimated with parent report of relations also replicated, to a large extent, findings noted for child and combined reporter models. Thus, parent report of parent-child warmth was more consistently linked to parent-child warmth for girls than boys. For example, as can be seen in Table 4.5, parents' perceptions of marital conflict were negatively linked to parent-daughter warmth ($\beta = -.26, p < .05$), but unrelated to parent-son warmth ($\beta = -.04, p > .10$). This gender difference was significant according to stacked model tests ($\Delta\chi^2 = 3.79, p > .10$). In addition, this difference was confirmed for father-child relations, whereby marital conflict was linked to father-daughter warmth ($\beta = -.23, p < .05$) but not father-son warmth ($\beta = -.02, p > .10$; $\Delta\chi^2 = 3.21, p < .10$). The only difference in parent report compared to child and combined reporter models, was that fewer significant paths were noted for relations between marital conflict and parent-child hostility, particularly for mothers' report. Therefore, for parent reports marital conflict was unrelated to parent-son hostility ($\beta = .11, p > .10$), mother-child hostility ($\beta = .07, p > .10$), and mother-daughter hostility ($\beta = .10, p > .10$), whereas these paths were significant for child and combined reporter models.

Fit indices of the models presented were adequate, with χ^2 ranging from 0.21 to 7.55 (for 1 *df*), RMSEA ranged from 0.00 to 0.22, GFI ranged from 1.00 to .97 and AGFI ranged from .99 to .72 for the models presented.

In summary, the majority of reciprocal model tests indicated a unidirectional relationship between marital conflict and parent-child warmth and hostility, whereby marital conflict increased parent-child hostility and decreased parent-child warmth. As found for the cross-lagged models tests, marital conflict was more consistently related to parent-child hostility. Marital conflict was related to decreased parent-child warmth for girls but not boys. In particular, marital conflict was related to high parent-child hostility for boys and girls, and mothers and fathers across all reporters. One exception noted across several tests was that marital conflict was unrelated to parent-child hostility when relations were estimated using mother report. Specifically, mother report of conflict was unrelated to her report of mother-son and mother-daughter hostility. In addition, for all models except child report, marital conflict was unrelated to mother-son hostility. Furthermore, a reciprocal relationship was noted between marital conflict and father-daughter hostility whereby marital conflict increased father-daughter hostility while father-daughter hostility increased marital conflict, and this was replicated across reporters.

Discussion

This study examined the interplay between marital conflict, parent-child warmth and parent-child hostility. The cross-lagged and reciprocal models simultaneously assessed the influence of marital conflict on parent-child warmth and hostility, and the influence of parent-child warmth and hostility on marital conflict within time and across time, whilst controlling for earlier levels of marital conflict and parent-child relations. In general, support was found for the hypothesis that marital conflict is an important determinant of the quality of parent-child relations, consistent with previous studies (e.g., Harold & Conger, 1997; Harold et al., 2004). While the presence of marital

conflict predicted an increase in the level of parent-child hostility and a decrease in parent-child warmth, the relationship was more consistent for the link with parent-child hostility. Across time (for the cross-lagged model tests), no evidence was found for the alternative hypothesis that the quality of parent-child relations influences the level of marital conflict. However, there was some evidence that parent-child hostility influenced marital conflict within time (according to reciprocal model tests), but only for certain models. Specifically, girls' perception of fathers' hostility increased their appraisals of marital conflict and this was confirmed across parent and child-reported models, suggesting that a bidirectional relationship may indeed exist between marital conflict and father-daughter hostility. Interesting gender differences were observed whereby marital conflict was more consistently related to father-child than mother-child relations and predicted a decrease in parent-child warmth for girls, but not boys. In addition, the pattern of results varied according to whether child or parent report of relations was employed, whereby child report and combined reporter models indicated more significant links between the marital and parent-child relationship than models estimated using parent report of all constructs. The possible explanations for these findings will be noted.

The finding that marital conflict predicts increased parent-child hostility both within time and across time whilst controlling for earlier levels of marital conflict and parent-child hostility is consistent with the large body of evidence for the spillover hypothesis whereby marital anger is likely to spillover into parent-child interactions characterised by parent hostility (Coiro & Emery, 1998; Erel & Burman, 1995; Harold & Conger, 1997). No evidence was found to support the compensatory hypothesis, whereby marital conflict predicts an increase in parent-child warmth, consistent with the previous reviews (e.g., Erel & Burman, 1995). Nevertheless, the results found some

evidence that marital conflict decreased parent-child warmth, which provides further support for the spillover hypothesis whereby marital conflict not only increases parent-child hostility, but also decrease parents' ability to maintain the positive aspects of parent-child relations, specifically, parent-child warmth.

Gender differences

Comparing the pattern of relations for parent gender reveals very few differences emerged between mothers and fathers when considering parent-child relations for the combined sample (not separated by boys and girls). Thus, marital conflict decreased parent-child warmth and increased parent-child hostility within time and across time according to child report and the combined reporter model for both mothers and fathers. Considering variations in the pattern of results according to child gender revealed that marital conflict consistently predicted an increase in parent-child hostility within and across time for boys and girls. In contrast, marital conflict was consistently related to lower parent-child warmth for girls, not boys. This replicates the pattern noted by Vandewater and Lansford (1998) who found marital conflict was related to a decrease in parent-daughter warmth, but unrelated to parent-son warmth. This is also consistent with McHale (1995) whereby parents in a discordant marital relationship were more likely to withdraw from girls than boys in parent-child interactions. The link between marital conflict and decreased parent-daughter warmth was confirmed when considering both child and parent gender. Specifically, marital conflict predicted decreased parent-daughter warmth when considering mother-daughter and father-daughter relations, however marital conflict was unrelated to parent-son warmth. The present results therefore, indicate that parents engaged in marital conflict respond in different ways in their interactions with girls compared with boys. While both boys and girls experience

increased parent-child hostility, for girls, parent-child relations are also characterised by decreased warmth and affection from mothers and fathers.

An interesting pattern of results was found when considering the relationship between marital conflict and parent-child hostility whereby results suggested that marital conflict was related to increased father-son and mother-daughter hostility. This replicates a study by Simons, Lorenz, Conger and Wu (1993), who found a stronger link between marital conflict and same-sex parent-child dyads. However, support was also found for spillover within opposite sex parent-child dyads. Thus, across one year, marital conflict predicted an increase in mother-son hostility and within time boys' perception of marital conflict predicted increased mother-son hostility. Similarly, the model testing father report of relations across time indicated marital conflict increased father-daughter hostility, while tests within time also revealed that marital conflict increased father-daughter hostility across reporters. This finding is consistent with several studies that have revealed that in the context of marital conflict, fathers of daughters display the most negativity towards their children, including withdrawal and low levels of engagement (McHale, 1995; Cowan et al., 1993; Kerig et al., 1993). However, this study extends previous research by documenting these effects while controlling for earlier levels of conflict in the marital and parent-child relationship. More generally, it is argued that the opposite sex relationship between parent and child is susceptible to spillover of negative marital affect because that child is reminiscent of the spouse (O'Leary, 1984).

Finally, there was some evidence for a reciprocal relationship within time between marital conflict and parent-child hostility for girls, having controlled for earlier levels of each measure. Specifically, marital conflict increased father-daughter hostility and father-daughter hostility in turn, predicted increased marital conflict. This reciprocal

relationship also highlights that the father-daughter relationship may be particularly vulnerable to spillover and confirms fathers (more so than mothers) may be less able to compartmentalise the marital and parent-child relationship (Almeida, et al., 1999; Belsky, et al., 1991). In addition, Kerig et al., (1993) argue that children play a role in the perpetuation of negative affect within the family climate. Thus, girls' attempts to gain the attention of a father engaged in emotional distancing may serve to heighten fathers' negativity toward them. In summary, these findings offer important insights into how conflict between parents impacts on the mother-child and father-child relationship for boys and girls differently.

Reporter effects

A different pattern of results was evident depending on whether parents or children reported on relations This is consistent with previous research that has reported a different pattern of relations when employing child or parent report of parent-child relations and children's adjustment (e.g., Hill et al., 2003; Pelton & Forehand, 2001), however there is a general paucity of research that considers differences between reporters regarding the link between marital conflict and parent-child relations (Aquilino, 1999). This study demonstrated less consistent links between marital conflict and parent-child relations for models estimated with parent report, particularly mother report. Almost all model tests estimated with mother report suggested there were no significant relations between marital conflict and parent-child relations (except within time, marital conflict decreased mother-daughter warmth). There are several possible explanations that may account for this pattern of findings. The first is that mothers are able to separate their roles in relation to the marital and parent-child relationship and even in the context of marital conflict, continue to maintain high parent-child warmth and express low hostility in parent-child interactions (Almeida et al., 1999; Cox et al.,

2001; Belsky et al., 1991). However, this could also support the generational stake hypothesis (Acock & Bengston, 1980) whereby parents report more positive parent-child relations because of their investment in the family. This in turn may lead to the creation of a more positive image of parent-child relations by parents than children (e.g., Gonzales, et al., 1996; Schwarz, et al., 1985). However, this hypothesis does not suggest that mothers are more invested in the family than fathers, so therefore is not an adequate explanation for the current findings. There is more support for the latter than the former hypothesis (that mother report is susceptible to bias) because models estimated using child report of mothers and the combined reporter model suggested that marital conflict was related to increased mother-child hostility and decreased mother-daughter warmth. In contrast, while father report of marital conflict was less consistently related to father report of parent-child relations, there were more significant paths reported than for mothers (particularly for father-daughter relations). This supports the hypothesis that marital conflict leads to greater strain in the father-child than mother-child relationship (Almeida et al., 1999; Belsky et al., 1991). A final possibility is that the absence of effects between parent reports of marital and parent-child conflict is a statistical artefact, reflecting high stability in constructs across time. High levels of stability between measures reduces available variance to be explained by other variables of interest. Indeed, when parent report models were tested without the stability of parent-child relations, marital conflict predicted a decrease in parent-child warmth ($\beta = -.27, p < .01$) and an increase in parent-child hostility ($\beta = .24, p < .01$) In conclusion, because the initial zero-order correlations indicated that parent report of marital conflict was related to parent report of parent-child relations, and because parent report of the marital relationship is conceptually likely to provide important information

on the dynamics of the marital dyad (Wilson & Gottman, 1996), parent report of marital conflict is retained for subsequent analyses.

Limitations

This study measured the affective quality of parent-child relations represented by the level of warmth and hostility expressed by parent-child interactions. The affective quality of parent-child interactions however, represents just one aspect of the parent-child relationship. Another aspect of the parent-child relationship that has received considerable attention is the domain of parenting practices, including discipline and child management techniques. As noted in Chapter 2, the socialisation hypothesis (Easterbrooks & Emde, 1988) suggests that marital conflict may disrupt parenting practices in several ways such as parents becoming overly harsh and punitive in reaction to the child's misbehaviour (Margolin & John, 1997) or using inconsistent discipline (being overly harsh on one occasion and lax on another; Emery, Hetherington & Dilalla, 1984). While this represents another potential source of spillover that was not assessed in this study, it may be that this aspect of parent-child relations is more likely to be reciprocally related to marital conflict. For example, it has been demonstrated that child rearing is a frequent source of dispute between parents (Block et al., 1981) and may constitute an aspect of parent-child relations that contributes to marital conflict. This may explain the limited evidence for the alternative hypothesis in this study because only emotional aspects of the parent-child relationship were considered. However, a notable strength of this study was consideration of both hostility and warmth in the parent-child relationship. Previous research has neglected to examine the impact of marital conflict on the affective quality of relations between parents and children and there is a striking absence of research that examines positive and negative affective behaviours simultaneously.

This study assessed relations across a period of one year. It remains unclear whether this is the most appropriate time lag to identify a causal relationship between marital conflict and parent-child relations. The results of the cross-lagged analysis suggest marital conflict predicted parent-child relations a year later, but that effects of marital conflict on the parent-child relationship are also more immediate as indicated by the findings of the reciprocal model tests, particularly according to the child's perspective. In addition, because this study was not experimental, it cannot be ruled out that the relation reported between marital conflict and parent-child relations could be accounted for by consideration of a number of third variables, such as work hassles or economic pressure. However, the longitudinal cross-lagged panel correlational design significantly improves confidence in the inferences made due to the temporal ordering of variables. Therefore, this study overcomes the limitations that characterise cross-sectional studies whereby the pattern of relations could be reversed and provides one of the most comprehensive tests of relations between marital conflict and the parent-child relationship thus far.

In conclusion, this study represents a significant advance on previous research by considering the interplay between marital conflict and parent-child relations in a prospective longitudinal design that controlled for levels of both marital conflict and parent-child relations. In particular, this study confirmed the importance of considering the quality of the marital relationship in order to understand other family relations. In addition, this study considered how marital conflict simultaneously predicted an increase in parent-child hostility and decrease in parent child warmth, relations not previously studied within the same model. Investigating parent-child relations in this way is likely to be more representative of family life, whereby both positive and negative parent-child interactions are likely to occur, even in the context of a discordant marriage. This study

addresses one component of a process-oriented account of the mechanisms that may contribute to account for children's adjustment problems in the context of interparental conflict. That is to say, this study contributes to the aim of identifying process that may account for how marital conflict may influence family relations. The second component of this process, the link between parent-child relations and children's adjustment is examined in Chapter 5.

CHAPTER 5

Introduction

The affective quality of the parent-child relationship is thought to be one of the most important ways in which parents influence child and adolescent development (Maccoby & Martin, 1983). Indeed, a large body of research provides evidence that parent-child hostility increases children's symptoms of maladjustment including aggression and depression (e.g., Scaramella et al., 1999; Harold & Conger, 1997; Margolin & John, 1997). Conversely, research suggests that parent-child warmth may reduce children's symptoms of maladjustment (Fauchier & Margolin, 2004; Margolin & John, 1997). The purpose of this chapter is to examine the nature of the relationship between the affective quality of the parent-child relationship and children's adjustment problems. Chapter 2 presented a conceptual model of the hypothesised direction of influence between parent-child relations and children's adjustment, whereby the level of negative and positive parent-child behaviour was proposed to predict children's adjustment. However, the majority of research reviewed in the previous chapters regarding the influence of parent-child relations on children's adjustment is based on cross-sectional design which means the direction of effects between relations cannot be established (Cowan & Cowan, 2002; Fincham et al., 1994). Cross-sectional data confounds the proposed independent and dependent variables due to the absence of temporal order that may determine how initial levels of the predictor variable account for the levels of the dependent variable later in time. Studies that employ measures derived from the same time point cannot determine if children's adjustment is changed by parent-child relations, or if later adjustment simply represents continuity with earlier adjustment (Cowan & Cowan, 2002). Building on the findings of Chapter 4, which provided more consistent evidence for the influence of marital conflict on parent-child relations rather then the converse, the aim of the present

study is to consider whether parent-child relations, in turn, are related to children's adjustment problems, over and above the influence of initial levels of internalising symptoms and behaviour problems. Specifically, this study assessed parent-child warmth, parent-child hostility, children's internalising symptoms and externalising problems across a one year period, in order to examine the nature of the relationship between these constructs.

While many researchers assume the quality of the parent-child relationship determines children's adjustment (Fauber & Long, 1991), there is evidence that children's behaviour influences parent behaviour (Bell, 1968; Brunk & Henggeler, 1984; Kerr & Stattin, 2003). Therefore, the alternative hypothesis, that children's behaviour (e.g., aggression) determines parents' behaviour during parent-child interactions requires examination. Family systems theory suggests that family subsystems mutually influence one another in an ongoing, reciprocal manner (Bronfenbrenner, 1986; Cox & Paley, 1997). Systemic principles suggest that negative parent-child relations increase children's maladjustment, while children's maladjustment further maintains or may exacerbate negative parent-child relations in a cyclical fashion. Social learning theory is exemplified by the seminal work of Patterson and colleagues (1982; 1992) whose coercive family process model proposes that the maintenance of aggressive and antisocial behaviour in children occurs through a process of reciprocal determinism between the child's behaviour and their environment. The model proposes that children's aggressive behaviour is reinforced by parents when they give in to the child's demands, which reinforces the child's negative behaviour and thus increases the likelihood that the child will engage in aggressive behaviour in the future in order to achieve his or her goals. The child's misbehaviour is therefore both a stimulus for and a response to parents' behaviour. Similar patterns have been found in the literature relating to positive affect, whereby

children whose mothers expressed positive affect responded to their mothers in a positive fashion (Kochanska, 1997). However, there is a paucity of research that considers the interplay between parent-child relations and child adjustment with regard to the role of positive parent child affect, and whether positive affect may reduce the probability of maladjustment within negative family environments.

Parent-child relations and children's adjustment

Chapter 2 reviewed evidence that demonstrated consistent links between parent-child relations and children's maladjustment (Cox et al., 2001; Ge et al., 1996; Scaramella et al., 1999). Studies differ in their conclusions regarding the relative importance of warmth and hostility for children's adjustment. Some studies suggest that parental warmth (including its absence) has stronger links with adjustment than parental control or coercive discipline (Gecas, 1971; Pettit & Bates, 1989; Pettit, Bates & Dodge, 1997). In particular, Pettit and Bates (1989) reported that the absence of positive maternal behaviour was more important for the development of behaviour problems in young children than the presence of coercive maternal behaviour. Another study indicated that the presence of supportive parenting characterised by warmth and awareness of the child's social experiences explained greater variance in children's adjustment than harsh discipline (Pettit et al., 1997). However, other studies suggest parental harsh control (discipline techniques), rejection and hostility have the greatest implications for children's maladjustment (Paley et al., 2000; Rohner, 1986). For example, Paley et al., (2000) employed a measure of parental warmth and hostility whereby both were allowed to contribute to the measure to predict children's social adjustment. They found that parent-child hostility made a greater contribution to the measure of parental affect and therefore decreased adolescents' social adjustment when considered in company with levels of warmth. Similarly, Kandel and Wu (1995) reported a stronger influence of parent-child hostility on children's maladjustment

than parent-child warmth did on reducing children's maladjustment. Due to the mixed conclusions of studies that have investigated the effect of positive and negative parent-child relations, several researchers suggest that the influence of both parent-child warmth and hostility should be considered in the same study (Scaramella et al., 1999; Paley et al., 2000; Pettit et al., 1997). However, with the exception of Paley et al., (2000) and Scaramella et al., (1999) the majority of studies have considered only maternal parent-child behaviour in cross-sectional designs. These constitute substantial limitations, because many suggest that the influence of father-child and mother-child relations for children's adjustment may vary (Phares, 1996; Lamb, 1987) and cross-sectional designs are unable to determine the direction of effects between parent and child behaviour. Both issues will be elaborated and addressed below.

The majority of research regarding the association between parent-child relations and children's adjustment has assumed that child behaviour is shaped by parents (Baldwin & Skinner, 1989; Steinberg, Elmen & Mounts, 1989; Steinberg et al., 1991). Bell (1968) was one of the first to challenge this traditional unidirectional model of socialisation, providing evidence that children also influence their parents' behaviour towards them. Research increasingly recognises that the parent-child relationship is dynamic and reciprocal, with each individual in the dyad modifying the behaviour of the other (Bell & Chapman, 1986; Cook et al., 1991; Lytton, 1990). Brunk and Henggeler (1984) for example, found that when children exhibited conduct-problem behaviour, mothers issued more commands and ignored children, more so than when children exhibited anxious-withdrawn behaviour. Another study compared parent-child interaction when mothers of problem children interacted with children who exhibited no behavioural problems (Anderson, Lytton & Romney, 1986). They found that mothers of children with conduct disorder and unrelated (control) mothers acted more negatively towards conduct disordered

children than non-problem children, suggesting child behaviour influenced parenting. Lytton (1990) proposed the influence of child behaviour on parenting is particularly strong for conduct disorders than other child problems, such as internalising symptoms. Simons et al., (1994) agree, suggesting parenting practices are more likely to be influenced by children's overt externalising problems than covert internalising symptoms. They conducted a study in which they measured the influence of mothers and fathers' parenting on children aged 13 to 14 years across a three-year period. They found internalising did not influence the quality of parenting (level of monitoring, consistency of discipline) or the use of harsh discipline, however externalising problems influenced mothers parenting for sons and daughters, and fathers parenting of sons.

Kandel and Wu (1995) conducted an extensive test of the dynamic relationship between parenting and child behaviour, using longitudinal data to investigate the direction of influence between parents and children of a wide age range (between 3 to 11 years old). They measured parent-child relations and children's adjustment at two time points (over a 6-year period) including positive (feelings of warmth and appropriate monitoring) and negative (punitive discipline) aspects of maternal parenting; and conduct problems and general happiness as indicators of children's adjustment. They found the strength of the relationship between parenting style and child adjustment increased with the age of the child. In many cases, the relationship between parenting and child behaviour was reciprocal, that is both parent and child behaviour influenced each another (tested whilst controlling for earlier levels of both parent and child behaviour). However, results varied according to which aspect of parenting (positive or negative) and child behaviour (aggression or adjustment) was considered. Specifically, negative parenting had a greater influence in increasing children's maladjustment than positive parenting had on reducing negative child behaviour. In addition, children's maladjustment had a greater influence on

both (decreasing) positive and (increasing) negative parenting than children's positive adjustment did on either aspect of parenting. This study suggests that parent and child behaviour should be measured at more than one time-point in order to untangle the influence of parent and child on one another, to further understand the role of parent-child relations on children's adjustment. Furthermore, this study highlights the differential influence of positive and negative aspects of the parent-child relationship on children's adjustment and that children's maladjustment is more likely to influence the parent-child relationship than children's levels of positive adjustment (consistent with Lytton , 1990 and Simons et al., 1994). However, while this study highlights the dynamic relationship between negative and positive dimensions of parental behaviour, Kandel and Wu only considered the influence of maternal parenting. Several authors have argued that both mother and father behaviour should be included in studies of the parent-child relationship (e.g., Phares & Compas, 1992; Davies & Lindsay, 2001). Furthermore, this study did not investigate how children's internalising symptoms (including depression and dysphoria) may influence, or are influenced by, parent behaviour.

Mothers, Fathers, Boys and Girls

In order to increase understanding into the interrelationship between children's adjustment and parent-child relations, it is necessary to consider how relations may differ when considering mothers, fathers, boys and girls (Davies & Lindsay, 2001; Osborne & Fincham, 1996; Parke & Tinsley, 1987). Some studies report that there are variations in the qualitative aspects of parent-child relations (e.g. in level of warmth) according to parent and child gender (Maccoby & Jacklin, 1974). For example, it has been suggested that mothers are more warm and fathers more controlling in their parenting styles (Rohner, 1986), and boys receive more physical punishment and girls more warmth (Phares, 1996; Russell & Russell, 1987). In a meta-analysis of 172 studies examining whether mothers

and fathers treat boys and girls differently, no differences were found in levels of parent warmth, while fathers were found to use more harsh physical punishment with boys, but only in studies based on North American samples (Lytton & Romney, 1991).

It has been suggested that mothers and fathers have different roles in the socialisation of children (Parke & Buriel, 1998). Traditionally, the mother-child relationship was considered to be the most influential relationship for children's development (Bowlby, 1958; Lamb, 1976; Maccoby & Martin, 1983). However, more recent studies have identified instances whereby mother-child and father-child relations are more consistently linked to different indexes of children's adjustment (e.g. academic achievement, depression, aggression). Considering the role of parent-child warmth on children's adjustment, Chen, Lui and Li (2000) for example, reported that mother and father warmth predicted different aspects of adolescents' adjustment. They found mothers' warmth (not fathers) predicted adolescents' emotional adjustment (self-competence and depression), while only levels of father-child warmth predicted adolescents' social and school adjustment and decreased adolescents' aggression (but only for children whose aggression was high at the earlier time point). The role of harsh parenting from mothers and fathers is more mixed, with some suggesting mothers' harsh parenting is more strongly linked to children's externalising than fathers' harsh parenting (Rothbaum & Weisz, 1994), while others suggest fathers' harsh parenting has a more consistent relationship with children's maladjustment than mothers (Stouthamer-Loeber & Lober, 1986). The most comprehensive test of the link between parent-child relations and children's adjustment are studies that consider both parent-child warmth and hostility. Scaramella et al., (1999) conducted a longitudinal study to investigate how mothers and fathers' warmth and hostility influenced changes in adolescent levels of internalising and externalising problems. They concluded that while boys' mean levels of externalising was initially

higher than girls, parental warmth predicted lower internalising and externalising symptoms than otherwise would be expected in adolescence, while parental hostility increased externalising, and was related to higher internalising symptoms for both boys and girls (Scaramella et al., 1999). Therefore, the majority of research suggests that maternal and paternal parenting both contribute to levels of children's adjustment (Ge et al., 1996; Scaramella et al., 1999; Paley et al., 2000; Phares & Compas, 1992).

Finally, a small number of studies have considered both parent and child gender within the same study. For example, Hart, Nelson, Robinson, Olsen & McNeilly-Choque (1998), reported that harsh, physical discipline used by fathers was more strongly associated with girls aggression than boys, whereas mothers' harsh discipline was similarly linked with boys and girls' aggression. However, Deater-Deckard and Dodge (1997) reported that the relationship between harsh parenting and children's aggression was higher for same sex dyads. Chang, Schwarz, Dodge and McBride-Chang (2003) reported that mothers and fathers' harsh parenting had differential effects on children's adjustment. They found that mothers' harsh parenting was linked to indices of children's adjustment that were linked to emotions (decreased ability for children to regulate their emotions) whereas fathers' harsh parenting influenced children's behavioural outcomes only (increased aggression). In addition, fathers' harsh parenting affected sons more than daughters, whereas mothers' harsh parenting affected boys and girls equally. Social learning theory (Bandura & Walters, 1959) suggests children identify more with same-sex parental models so the influence of mothers' parenting should be more strongly related to daughter's adjustment, and fathers' parenting to that of sons. However, the observational learning hypothesis has generally received inconsistent support (Snyder, 1998). For example, Goeke-Morey et al., (2002) found limited evidence to suggest children were more likely to model their same sex parents marital aggression. Given the apparent

inconsistency in the literature regarding the role of gender in the relationship between parent-child relations and child adjustment, more research is needed to understand how the quality of the parent-child relationship may differ as a function of interactions between mothers, fathers, boys and girls.

Comparing different reporters of parent-child relations

A further consideration that may influence the pattern of findings when investigating how the parent-child relationship is linked to children's adjustment is whose perspective of the parent-child relationship is assessed (mother, father or child). While the majority of research has assessed parent-child relations according to parents (particularly mothers' perspective; Phares, 1996), recent research has begun to highlight the importance of assessing the child's perspective of the parent-child relationship (Berardo & Shehan, 1999; Harold 1998). In particular, many researchers suggest that the child's perspective is particularly important when the aim of the study is to assess the impact of parent-child relations on children's adjustment (Tein et al., 1994; Rohner, 1986). This logic derives in part, from the social cognitive perspective, which proposes that a person's perception of the world contributes more to explain their behaviour than objective events themselves (Fiske & Taylor, 1991; Lewin, 1951).

As discussed in Chapter 4, many studies report that the correspondence between child and parent reports of parenting is moderate (approximately $r = .30$; Domitrovich & Bierman, 2001; Schwarz et al., 1985; Tein et al., 1994), suggesting that parent and child perspectives of the quality of parent-child relations are to some extent, unique. Indeed, Tein et al., (1994) suggest children have different definitions or experiences of parenting behaviour. Therefore, as parent and child report of the parent-child relationship may tap into different dimensions of parent behaviour, which should be assessed? Ausubel et al., (1954) suggest that child perception of parent-child relations is more relevant when

attempting to account for children's adjustment than parent report of parent behaviour. Similarly, Serot and Teevan (1961) suggest that children's perception of the emotional tone of the parent-child relationship has a fundamental influence on children's socio-emotional development. They found that well-adjusted children perceived the parent-child relationship as relatively happy and close to their idea of the 'ideal' relationship, according to their personal definition. Finally, the family-wide model of conflict effects (Harold & Conger, 1997) not only confirms that children's perception of marital conflict is important, but also proposes that children's perception of the parent-child relationship is equally important in accounting for their adjustment (Harold & Conger, 1997; Harold, 1998; Harold et al., 2004). This model suggests that marital conflict may lead the adolescent to be more vigilant for similar hostile parenting behaviours which is likely to increase adolescent distress (Harold & Conger, 1997).

There is evidence to suggest that the pattern of results regarding the link between parent-child relations and children's adjustment varies as a function of whether parents or children report on the parent-child relationship (e.g., Paulson & Sputa, 1996; Hill et al., 2003; Pelton & Forehand, 2001; Sessa et al., 2001). For example, Pelton and Forehand (2001) compared how mother and adolescent reports of the quality of the parent-child relationship predicted mother or child reports of adolescent adjustment in families who had experienced parental break-up. They found that the quality of the parent-child relationship only predicted adolescent adjustment when using the same reporter of each construct. Thus, mother report of the parent-child relationship predicted mother perception of adolescent adjustment, and adolescent report predicted adolescent report of adjustment. Similarly, Hill et al., (2003) compared mother and child reports of parents' acceptance and hostile control and found different relations with children's conduct problems in comparison to depressive symptoms. Overall, they found that high parental acceptance

and low levels of family conflict were related to low levels of conduct problems regardless of reporter. However, parent-child hostile control was related to conduct problems and depression only according to mother report, whereas child report of hostile control was unrelated to their maladjustment. This study confirms the importance of including parent report of the parent-child relationship when attempting to account for children's adjustment. Finally, Domitrovich and Bierman (2001) reported that both child (9-11 years old), and mother report of parental warmth and hostility were associated with different aspects of children's social adjustment. Specifically, they discovered that mother's reports of warmth were negatively related to adolescent's aggression and positively related to their adaptive social behaviour with peers (as measured by child interview and peer nomination measures). In contrast, child report of parenting was associated with children's feelings of loneliness and perceived victimisation by peers. To account for these results, Domitrovich and Bierman suggested that mothers described parenting behaviours that influenced child behaviour independent of the child's perception of these behaviours.

These studies also highlight that while child perception is important when attempting to determine the impact of parent-child relations on their adjustment, there is also evidence that parents' report of parent-child relations are linked to children's adjustment (Hoffman, 1960; Sears, Maccoby & Levin, 1957). For example, Michaels, Messe, and Stollak (1983) examined parent and child perception of parent-child behaviour including a category labelled 'love' which consisted of parent and child views of the level of nurturance, affective reward and companionship; and 'punishment' which included expressive rejection and affective punishment. Child and parent perceptions of the parent-child relationship were related to children's adaptive (defined as positive social behaviours including cooperating, questioning and helping) and maladaptive behaviour (including helpless, suspicion and complaining) observed during free play. Michaels et al., (1983)

suggest parent reports of the parent-child relationship may reflect long-term, generalised perceptual styles that may partly account for parents' behaviour towards the child, which in turn has implications for children's adjustment. In summary, several authors have concluded that children and parents provide meaningful information on the parent-child relationship (e.g., Aquilino, 1999; Hill, et al., 2003; Schwarz et al., 1985). With this in mind, both parent and child reports of the parent-child relationship and child adjustment should be assessed when testing hypotheses about the nature of this relationship.

Longitudinal Panel designs

While a small selection of studies have implemented longitudinal designs to study the link between parent-child relations and children's adjustment (Paley et al., 2000; Scaramella et al., 2000), the majority do not control for earlier levels of children's adjustment, which is necessary for a comprehensive test of relations across time (for an exception, see Harold & Conger, 1997). The best predictor of children's adjustment at any time point is a measure of adjustment at an earlier time point (Stice & Barrera, 1998). Therefore, to conduct the most conservative test of whether parent-child warmth and hostility measured at Time 1 predicts any variation in children's internalising symptoms and externalising problems at Time 2, maladjustment must also be included at Time 1 (Harold et al., 2004). This means it can be assessed if the quality of parent-child relations predicts children's adjustment over and above the stability of children's adjustment.

In order to examine the direction of effects between parent child warmth, parent-child hostility and children's adjustment, a cross-lagged panel correlational analysis was employed as was used for the previous study. The logic of cross-lagged panel correlational analyses was outlined in Chapter 4 and so will be briefly reviewed according to the current study. Employing a cross-lagged panel correlational model will allow simultaneous examination of the influence of parent-child relations on children's adjustment and the

influence of children's adjustment on parent-child relations whilst controlling for the stability of parent-child relations and children's adjustment (Fincham et al., 1997). This means that the interplay between parent-child warmth, parent-child hostility, children's internalising symptoms and externalising problems can be assessed which adheres more closely to systemic principles of each family member influencing all other family members (Cox & Paley, 1997).

The remainder of this chapter describes a study that considered these issues by obtaining measures of parent-child relations and children's internalising symptoms and externalising problems both assessed twice over a twelve-month period.

The present study

This study seeks to understand the association between parent-child warmth and parent-child hostility and children's internalising symptoms and externalising problems. Specifically, this study considers the question of whether children's levels of adjustment problems influence the affective quality of the parent-child relationship whilst simultaneously considering if parental warmth or hostility predict children's levels of externalising problems and internalising symptoms within and across time. A further aim of this study is to consider the role of parent and adolescent gender, and how considering possible gender differences provides further insight into how family process may account for change in children's adjustment. Consistent with previous research, parent-child hostility is expected to increase children's maladjustment in the form of both increased levels of aggression (Harold & Conger, 1997; Margolin & John, 1997) and increased feelings of depression (Ge et al., 1996; Scaramella et al., 1999). In addition, the absence of parent-child warmth and affection is expected to increase internalising symptoms and externalising problems (Scaramella et al., 1999; Vandewater & Lansford, 1998), while the

presence of parent-child warmth is expected to serve a protective role against increased levels of externalising problems and internalising symptoms (Scaramella et al., 1999).

In many conceptualisations of parenting (e.g. Baumrind, 1978), varying levels of warmth and control (which can include hostility) are combined to form a single composite of parenting behaviour. Galambos, Barker and Almeida (2003) argue that while each dimension has been separately linked to child adjustment, few studies have examined the relative effect of each aspect of parent-child relations to predict children's adjustment. Combining the two separate dimension of parenting confounds the independent influence of each on children's adjustment. For example, low parent-child warmth is often confounded with high parent-child hostility, so it is difficult to determine the unique effect of each (Pettit, Bates & Dodge, 1997). Indeed, Scaramella et al., (1999) reported that parents high in warmth were also low in expressions of parent-child hostility, concluding it was unclear whether high warmth or low hostility was responsible for decreased externalising. This suggests parent-child hostility and parent-child warmth should be assessed simultaneously within the same framework, but allowed to independently contribute to account for children's adjustment (see the conceptual models in Figures 5.1 and 5.2). However, previous research suggests that considering the relative influence of warmth and hostility in this way may vary the pattern of results. For example, some suggest that parent-child warmth influences children's adjustment above and beyond the influence of parent-child hostility (Pettit & Bates, 1989) and one study reported that high levels of supportive parenting (including warmth) remained an important influence on children's adjustment whilst controlling for levels of parental hostility (Pettit et al., 1997). Nevertheless, others suggest that parent-child warmth is unlikely to influence children's adjustment when considered in the context of parent-child hostility (Rohner, 1986; e.g. Kandel & Wu, 1995; Scaramella et al., 1999). Accordingly, when assessed simultaneously,

parent-child hostility was expected to exert a stronger influence on children's adjustment problems than parent-child warmth.

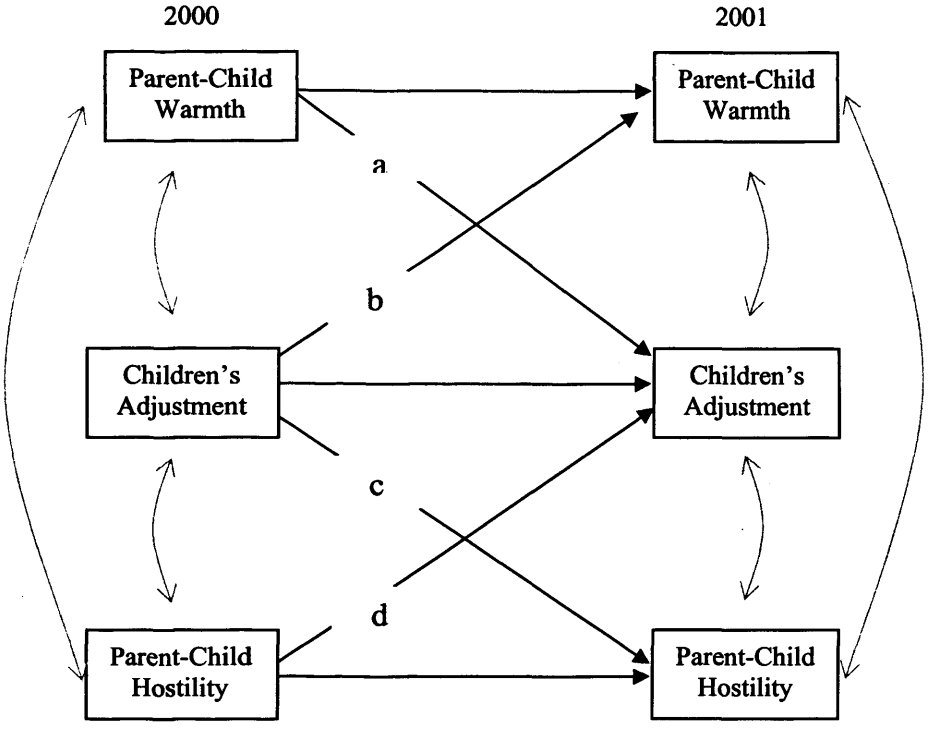


Figure 5.1: The proposed cross-lagged theoretical model (alphabetical labelling refers to paths noted in Table 5.4)

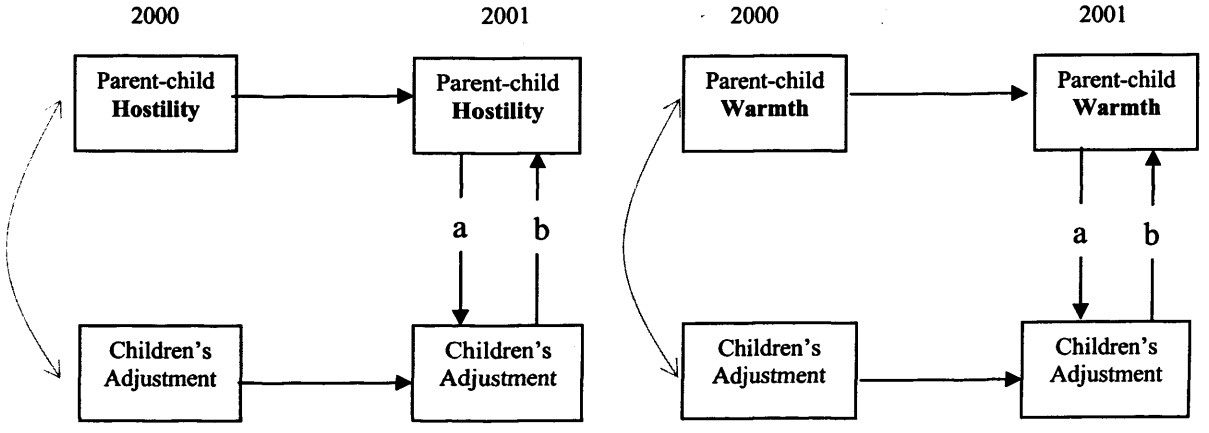


Figure 5.2: The proposed reciprocal theoretical model (alphabetical labelling refers to paths noted in Table 5.5)

Many studies assume the direction of influence is from parent to child, however it is possible that children's behaviour influences the quality of parent-child relations (Bell, 1968; Kandel & Wu, 1995). While consistent with family systems theory, this hypothesis

has rarely been tested (Cox et al., 2001). Previous research reports that children's externalising behaviours exerts a greater influence on parenting than children's internalising symptoms (Lytton, 1990; e.g. Simons et al., 1994). Therefore, it was hypothesised that the link between children's externalising problems and parent-child hostility would be stronger than the relationship between internalising symptoms and parent-child relations. Specifically, it was expected that externalising problems would influence both positive and negative aspects of the parent-child relationship by increasing parent-child hostility and decreasing parent-child warmth.

This study also examines gender differences relating to how the level of warmth and hostility expressed by mothers and fathers towards their children may increase or decrease boys and girls' levels of maladjustment a year later. Based on the findings of Chen et al., (2000) warmth from mothers may be more consistently related to decreased internalising symptoms, while father-child warmth may be most consistently linked to decreased externalising problems. Given the paucity of research that has considered the relationship between parent-child warmth and internalising symptoms separately for boys and girls, the role of child gender was also explored. Likewise, given the limited evidence regarding how child behaviour may influence the parent-child relationship, no predictions were made regarding how the adjustment problems of boys or girls may differentially influence parent-child relations.

Interesting differences were noted in the previous study depending on whether parent or child report of parent-child relations was employed in model tests examining the link between marital and parent-child relations. Therefore, this study also includes parent and child report of parent warmth and hostility in order to examine whether a different pattern of results is evident when considering the link between parent-child relations and children's adjustment. Consistent with social cognitive theory, it was hypothesised that

children's perception of the parent-child relationship would be more consistently related to their adjustment problems (Fiske & Taylor, 1991; Serot & Teevan, 1957). Regarding the alternative hypothesis of children's influence on parent-child relations, it was expected that children's internalising symptoms would predict an increase in their negative perception of parent-child relations (higher hostility and low warmth), consistent with findings by Kim and Ge (2000). However, parent report of parent-child relations were also expected to be related to children's externalising problems and internalising symptoms, consistent with the view that parents can provide valid insights about the parent-child relationship (Tein et al., 1994).

Finally, an early adolescent age group was examined as research suggests the influence of children's behaviour on parents increases as children get older (Kandel & Wu, 1995). While some suggest the parent-child relationship may become less influential during late childhood into adolescence primarily due to the increasing influence of peers (Harris, 1995), the majority of researchers argue that parent-child relations remain equally important during adolescence (Galambos et al., 2003; Lamb et al., 1999). The parent-adolescent relationship is proposed to be particularly important for early adolescents undergoing pubertal change (Lamb et al., 1999). In summary, this study addresses several outstanding questions regarding the dynamic interplay between parent-child relations and children's adjustment. Furthermore, this study delineates how the relationship between parent-child relations and children's adjustment may vary a function of parent and child gender and in doing so addresses a significant gap in the literature on how boys and girls relations with their parents may be differentially influenced by mothers and fathers' expressions of warmth and hostility.

This study, in company with the previous study presented in Chapter 4, provides a test of the conceptual model outlined in Chapter 2. Figure 5.3 demonstrates the two links

in the proposed model, the first link (marital conflict to parent-child relations) depicted in the first box (with a dashed line) was examined in Chapter 4, with the current study examining the relations contained in the right-hand section of the model: the link between parent-child relations and children's adjustment.

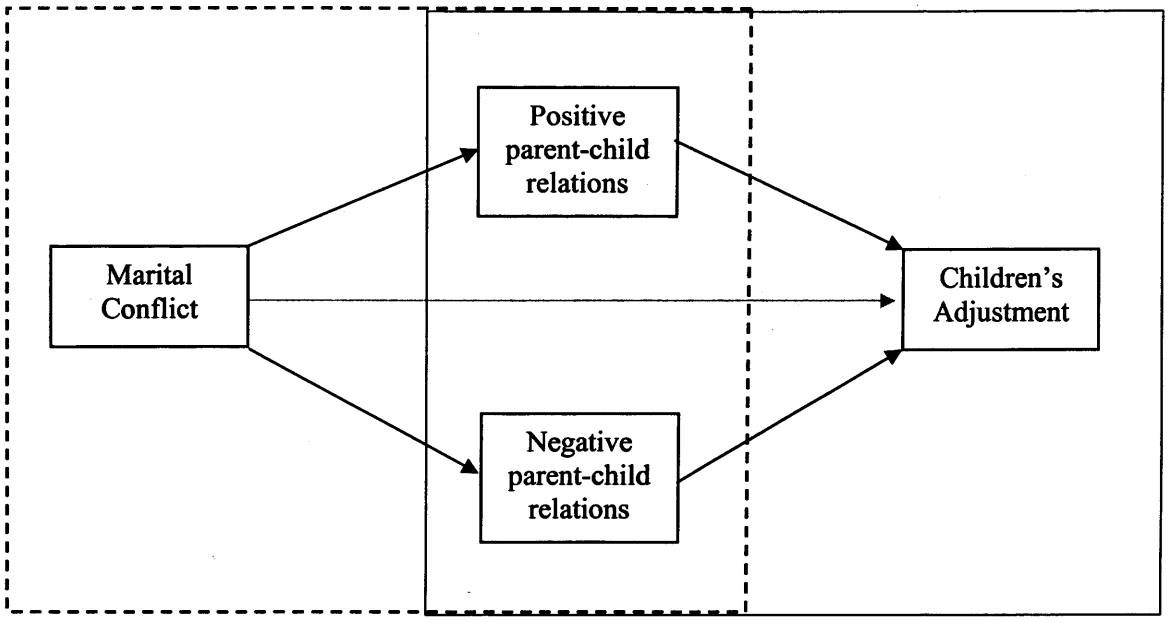


Figure 5.3: The complete conceptual model

Method

Sample

This sample derives from the 3-year longitudinal study described in Chapter 4 and therefore only attributes unique to the current sample will be described. The present study uses information collected from the second (2000, Time 2) and third (2001, Time 3) wave of the study in order to examine the conceptual model presented in Figure 5.3, which will be assessed across three years in Chapter 6. Because the sample for the current study is based on a different time point and includes a different variable than the previous study (children's adjustment as opposed to marital conflict) the sample is lower than was analysed in the previous study due to attrition. Therefore the combined sample of children and parents who

provided complete information at both time points (2000; 2001) and who were considered in the present study equalled 146 cases (75 girls and 71 boys). Children ranged in age from 12 to 13 years, with an average age at Time 2 of 12.67, *SD* = 0.47 (girls = 12.68, SD = 0.47; boys = 12.66, SD = 0.48). Given the questions of interest in the present study, only information from two-parent families was considered (95.2% children lived with both biological parents, 4.1% lived with their mother and stepfather, and 0.7% with their father and stepmother). Families were predominantly White-European (99.3%) with the remaining proportion made up of families from other ethnic groups (0.7% other commonwealth nations e.g., India, Sri Lanka). Approximately 34.3% of mothers and 35.2% of fathers completed secondary education, 30.0% of mothers and 27.6% of fathers completed vocational of technical training and 35.7% of mothers and 37.2% of fathers completed university. The same procedure was followed as outlined in Chapter 4, with one addition; children's teachers completed questionnaires regarding the child's behaviour in their own time.

Measures

Parent report of warmth and hostility

The measures of parent-child warmth and hostility were the same as those described in Chapter 4. For the sample employed in the current study each subscale was internally consistent for both mothers and fathers at Time 2 (Warmth: mothers α = .88, fathers α = .87; Hostility: mothers α = .85, fathers α = .83) and Time 3 (alpha's ranged from α = .81 to .90 for warmth and hostility). In some analyses, mother and father reports of warmth and mother and father reports of hostility were combined in order to create a combined estimate of 'parent warmth' and 'parent hostility'. These variables also had good reliability at Time 2 (parent warmth, α = .85, parent hostility, α = .85) and Time 3 (parent warmth, α = .87 and parent hostility, α = .86).

Children's report of parental warmth and hostility

Children completed the same warmth/hostility scale described in the previous study. Cronbach's alpha coefficients were high for children's reports of mothers and fathers at Time 2 (warmth: mothers, $\alpha = .90$, fathers $\alpha = .92$ and hostility: mothers $\alpha = .88$, fathers $\alpha = .89$) and Time 3 (alpha's ranged from $\alpha = .87$ to .90 for warmth and hostility). Similar to parent report of warmth and hostility, child report of warmth for mothers and fathers were significantly correlated and so also analysed as a combined measure of parent warmth and parent hostility in some of the analyses that follow which also demonstrated good reliability (Time 2: parent warmth, $\alpha = .94$ and parent hostility, $\alpha = .92$; Time 3: parent warmth, $\alpha = .93$ and parent hostility, $\alpha = .91$).

Children's internalising symptoms

Children are argued to be the best reporters of their own internalised state (Achenbach, 1991). With this in mind, this study used two self-report measures of internalising symptoms. Children's internalising symptoms were assessed using the Children's Depression Inventory (CDI; Kovacs, 1981): a widely used measure of depressive symptoms. One item regarding suicidal thoughts was omitted due to ethical concerns. In normal samples of children the CDI is highly correlated with other indicators of internalising symptoms (e.g., anxiety, withdrawal) therefore it may be best considered a broad measure of children's dysphoria rather than depression per se (Harold et al., 1997; Harold & Howarth, 2004). The CDI consisted of 26 items. Each item was expressed as three sentences, for example, 'I am sad once in a while', 'I am sad many times', and 'I am sad all the time', from which children chose one that most closely matched their feelings in the last two weeks. The CDI showed good internal reliability at Time 2 ($\alpha = .90$) and Time 3 ($\alpha = .88$).

Children's externalising problems

Both children and teachers were asked to report on children's externalising problems using the externalising subscale of the Youth Self-Report (YSR) scale and the TRF (Teacher Report Form) both from the CBCL (Child Behaviour Checklist; Achenbach, 1991). Both scales addressed the same child behaviours including, 'Argues a lot', 'Threatens to hurt others', and, 'Teases others'. Teacher and child report of externalising behaviours displayed good reliability for Time 2 (teacher, $\alpha = .94$, child, $\alpha = .82$) and Time 3 ($\alpha = .93$ and $\alpha = .82$ for teacher and child respectively). For the following analyses, child and teacher reports of aggression were added to form a combined estimate of children's externalising problems. Reliability estimates of the combined measures was good (Time 2, $\alpha = .89$; Time 3, $\alpha = .88$). The inclusion of teachers' reports of children's externalising problems provides a further advance over previous studies that do not include more than one reporter of externalising behaviours. Behaviour measured by multi-informants is likely to improve the accuracy with which externalising behaviours are detected by including a more objective measure and avoiding the limitations of potential monoinformant bias.

Results

Preliminary Analysis

The means and standard deviations for all study variables are presented in Table 5.1 for the combined sample and separated by child gender.

Table 5.1: Means and Standard Deviations for all study variables (N = 146; Boys N = 71; Girls N = 75).

	Combined		Boys		Girls	
Variable	M	SD	M	SD	M	SD
Time 2 (2000)						
1. Child report of mother warmth	33.98	6.77	33.51	5.76	34.43	7.61
2. Child report of father warmth	31.48	7.57	30.71	7.13	32.20	7.94
3. Child report of parent warmth	65.46	13.27	64.22	11.76	66.63	14.55
4. Mother report of warmth	28.96	4.30	28.48	4.10	29.41	4.45
5. Father report of warmth	26.18	5.17	25.41	5.02	26.91	5.23
6. Parent report of warmth	55.14	7.60	53.89	7.31	56.32	7.73
7. Internalising (Child)	9.17	7.92	9.08	7.37	9.25	8.45
8. Externalising (Child & Teacher)	10.82	8.15	12.32	10.08	9.40	5.47
9. Child report of mother hostility	15.90	6.64	15.27	5.70	16.51	7.41
10. Child report of father hostility	16.01	7.23	16.20	7.45	15.83	7.06
11. Child report of parent hostility	31.91	12.71	31.47	12.26	32.33	13.19
12. Mother report of hostility	12.09	3.87	12.10	3.74	12.08	4.02
13. Father report of hostility	11.37	3.81	11.44	4.00	11.29	3.66
14. Parent report of hostility	23.45	6.54	23.54	6.47	23.37	6.66
Time 3 (2001)						
15. Child report of mother warmth	32.61	7.12	31.65	6.47	33.52	7.62
16. Child report of father warmth	29.59	8.26	27.94	8.35	31.15	7.91
17. Child report of parent warmth	62.20	13.68	59.59	13.47	64.67	13.51
18. Mother report of warmth	28.85	4.67	27.86	4.82	29.79	4.36
19. Father report of warmth	26.19	5.20	25.54	5.05	26.82	5.30
20. Parent report of warmth	55.04	8.04	53.39	8.27	56.61	7.55
21. Internalising (Child)	9.75	7.57	9.87	7.09	9.65	8.04
22. Externalising (Child & Teacher)	11.54	8.01	13.41	9.74	9.78	5.43
23. Child report of mother hostility	16.55	6.34	16.41	6.07	16.68	6.62
24. Child report of father hostility	17.15	7.83	18.26	8.09	16.09	7.49
25. Child report of parent hostility	33.69	12.58	34.67	12.88	32.77	12.30
26. Mother report of hostility	11.52	3.46	11.51	3.45	11.53	3.50
27. Father report of hostility	11.23	3.76	11.32	3.91	11.14	3.65
28. Parent report of hostility	22.75	6.30	22.84	6.31	22.67	6.34

Paired t-tests were conducted to investigate if mean differences were significant within reporters (e.g., child report of parental hostility at Time 2 and Time 3) and independent samples t-tests were conducted to identify the significant differences between boys and girls. Analyses revealed that both children and parents reported higher warmth from mothers than fathers both in 2000 and 2001, and these four comparisons were significant (e.g., child report, Time 2: maternal warmth, $M = 33.98$, paternal warmth, $M = 31.48$, $t(145) = 5.53, p < .01$. Parent report, Time 3: maternal warmth, $M = 28.85$, paternal warmth, $M = 26.19$, $t(145) = 5.58, p < .01$). However, while mothers and fathers reported a similar level of parent-child warmth at both time points (parent report of warmth Time 2, $M = 55.14$, Time 3, $M = 55.04$) children reported a significant decrease in parent-child warmth from Time 2 to Time 3 ($t(145) = 4.28, p < .01$) from both mothers and fathers (e.g., child report of father-child warmth Time 2, $M = 31.48$ and Time 3, $M = 29.59$, $t(145) = 4.04, p < .01$). While boys and girls experienced similar levels of maternal warmth at both time points (Time 2, $t(144) = 0.82$ and Time 3, $t(144) = 1.60$, both $p > .10$), girls reported higher levels of paternal warmth ($M = 31.15$) than boys ($M = 27.94$; $t(144) = 2.38, p < .05$) at Time 3. Parents' reports of parent-child warmth also indicated higher parent-daughter warmth, e.g. at Time 2, fathers reported greater warmth towards daughters than sons ($t(144) = 1.76, p < .10$) and mothers reported higher mother-daughter ($M = 29.80$), than mother-son warmth ($M = 27.86$) at Time 2 ($t(144) = 2.55, p < .05$).

In contrast to decreasing levels of parent-child warmth over time, both children and parents reported similar levels of mother-child and father-child hostility (e.g., child report of maternal hostility, $M = 15.90$, paternal hostility $M = 16.01$; $t(145) = 0.23, p > .10$). While children's level of internalising symptoms remained at equivalent levels across the year ($t(146) = 1.19, p > .10$), and boys and girls reported similar levels at both time points (e.g., Time 2, $t(144) = 0.03, p > .10$), children's externalising problems significantly

increased from Time 2 to Time 3 (M = 10.82, 2000; M = 11.54, 2001; $t(146) = 1.80, p$ <.10). Furthermore, boys' externalising problems were significantly higher than girls at both time points (e.g., Time 3, boys: M = 13.41, girls: M = 9.77, $t(144) = 2.81, p$ <.01) consistent with previous studies (e.g., Scaramella et al., 1999).

The intercorrelations between parent and child reports of the parent-child relationship and children's adjustment are presented in Table 5.2.

Child report

Children's report of parent-child warmth and parent-child hostility at Time 2 were highly correlated with their report of the same construct a year later (warmth, r = .77, p <.01; hostility, r = .62, p <.01). As reported in previous research, there was a high correlation between children's perceptions of mothers and fathers' affect (e.g., mother and father warmth, r = .71 and mother and father hostility, r = .68, both p <.01 at Time 2), suggesting children tend to perceive similarities in parent affect (Schwarz et al., 1985). However, the correlation between parent-child warmth from mothers and fathers was lower at Time 3 (r = .58, p <.01) with the t-tests above confirming mother-child warmth was higher than father-child warmth (t(145) 5.13, p <.01). As found in Chapter 4, parent-child warmth and parent-child hostility were negative correlated (Time 2, r = -.53 and Time 3, r = -.59 both p <.01).

Children's perception of warmth from mothers and fathers were correlated with low internalising symptoms (mother, r = -.21, p <.05, father, r = -.29, p <.01) and externalising problems (mothers, r = -.24, p <.01 and fathers, r = -.19, p <.05) at Time 2 and Time 3 (correlations ranged from r = -.19, p <.05 to r = -.30, p <.01). Conversely, parent-child hostility was associated with high internalising (r = .50, p <.01) and externalising (r = .37, p <.01) symptoms at Time 2 and Time 3 (r = .44, r = .35, p< .01 for internalising and externalising respectively).

Table 5.2: Intercorrelations among all indicators of theoretical constructs (N = 146; †p <.10. * p <.05. **p <.01.)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Time 2 (2000)																		
1. Child report of mother warmth	-																	
2. Child report of father warmth	.71**	-																
3. Child report of parent warmth	.92**	.93**	-															
4. Mother report of warmth	.30**	.19*	.26**	-														
5. Father report of warmth	.16†	.13	.16†	.26**	-													
6. Parent report of warmth	.27**	.20*	.25**	.76**	.84**	-												
7. Internalising (Child)	-.21*	-.29**	-.27**	.02	-.03	-.04	-											
8. Externalising (Child & Teacher)	-.24**	-.19*	-.23**	-.01	-.18*	-.13	.32**	-										
9. Child report of mother hostility	-.55**	-.47**	-.55**	-.05	-.05	-.06	.48**	.36**	-									
10. Child report of father hostility	-.30**	-.49**	-.43**	-.06	-.06	-.08	.44**	.32**	.68**	-								
11. Child report of parent hostility	-.46**	-.53**	-.53**	-.06	-.06	-.08	.50**	.37**	.91**	.92**	-							
12. Mother report of hostility	-.28**	-.06	-.18*	-.44**	-.24**	-.41**	.13	.24**	.25**	.17*	.23**	-						
13. Father report of hostility	-.07	-.01	-.04	-.17*	-.32**	-.31**	.23**	.27**	.24**	.24**	.26**	.45**	-					
14. Parent report of hostility	-.21*	-.04	-.13	-.36**	-.33**	-.43**	.21*	.30**	.29**	.24**	.29**	.85**	.85**	-				
Time 3 (2001)																		
15. Child report of mother warmth	.71**	.55**	.67**	.30**	.14†	.27**	-.23**	-.22**	-.38**	-.27**	-.36**	-.24**	-.13	-.22**	-			
16. Child report of father warmth	.52**	.75**	.69**	.14†	.21**	.24**	-.24**	-.22**	-.31**	-.35**	-.36**	-.03	-.01	-.02	.58**	-		
17. Child report of parent warmth	.68**	.74**	.77**	.24**	.20*	.27**	-.27**	-.25**	-.39**	-.36**	-.40**	-.14†	-.07	-.13	.87**	.91**	-	
18. Mother report of warmth	.29**	.23**	.28**	.69**	.24**	.55**	.06	-.07	.02	-.05	-.02	-.34**	-.13	-.26**	.26**	.17*	.25**	-
19. Father report of warmth	.12	.16†	.16†	.38**	.75**	.73**	.07	-.16†	-.05	-.10	-.08	-.24**	-.29**	-.31**	.16*	.29**	.26**	.33**
20. Parent report of warmth	.25**	.24**	.26**	.64**	.62**	.79**	.08	-.14†	-.02	-.09	-.06	-.35**	-.26**	-.36**	.25**	.29**	.31**	.79**
21. Internalising (Child)	-.14†	-.21*	-.19*	-.15†	-.08	-.14	.71**	.26**	.27**	.33**	. 33**	.23**	.26**	.29**	-.26**	-.27**	-.30**	-.13
22. Externalising (Child & Teacher)	-.21*	-.13	-.18*	-.04	-.17*	-.14†	.40**	.82**	.28**	.25**	.29**	.33**	.33**	.39**	-.28**	-.19*	-.26**	-.14
23. Child report of mother hostility	-.44**	-.33**	-.41**	-.19*	.00	-.11	.31**	.25**	.51**	.42**	.50**	.33**	.13	.27**	-.58**	-.31**	-.49**	-.17*
24. Child report of father hostility	-.37**	-.51**	-.48**	-.17*	-.11	-.17*	.30**	.26**	.40**	.67**	.59**	.21*	.20*	.24**	-.40**	-.56**	-.55**	-.20*
25. Child report of parent hostility	-.45**	-.49**	-.51**	-.20*	-.07	-.16*	.34**	.29**	.51**	.63**	.62**	.30**	.19*	.28**	-.55**	-.50**	-.59**	-.21*
26. Mother report of hostility	-.16†	-.07	-.12	-.35**	-.09	-.26**	.11	.19*	.14†	.16†	.16*	.65**	.32**	.57**	-.19*	-.08	-.10	-.41**
27. Father report of hostility	-.12	-.12	-.13	-.32**	-.27**	-.36**	.22**	.33**	.32**	.34**	.36**	.42**	.66**	.63**	-.15†	-.08	-.12	-.29**
28. Parent report of hostility	-.16†	-.11	-.14†	-.38**	-.21**	-.36**	.19*	.30**	.27**	.29**	.31**	.61**	.57**	.69**	-.19*	-.05	-.13	-.40**

Table 5.2 (Cont'd): Intercorrelations among all indicators of theoretical constructs
(N = 146; $^{\dagger}p < .10$. *p <.05. ** p <.01.)

Variable	19	20	21	22	23	24	25	26	27	28
Time 3 (2001)										
19. Father report of warmth	-									
20. Parent report of warmth	.84**	-								
21. Internalising (Child)	-.00	-.08	-							
22. Externalising (Child & Teacher)	-.15†	-.18*	.43**	-						
23. Child report of mother hostility	.01	-.09	.43**	.36**	-					
24. Child report of father hostility	-.19*	-.24**	.37**	.27**	.57**	-				
25. Child report of parent hostility	-.12	-.20*	.44**	.35**	.86**	.91**	-			
26. Mother report of hostility	-.18*	-.35**	.20*	.26**	.28**	.23**	.29**	-		
27. Father report of hostility	-.36**	-.40**	.27**	.34**	.31**	.36**	.38**	.52**	-	
28. Parent report of hostility	-.31**	-.43**	.28**	.35**	.34**	.34**	.38**	.86**	.88**	-

Across time, parent-child hostility at Time 2 was more consistently related to children's adjustment problems a year later than parent-child warmth. For example, children's perceptions of father-child warmth were unrelated to their externalising symptoms across time (r = -.13, p >.10), while the remaining correlations between parent-child warmth and adjustment were small to moderate (e.g., mother-child warmth Time 2 and externalising problems Time 3, r = .21, p <.05; father-child warmth Time 2 and internalising Time 3, r = -.21, p <.05). In contrast, all correlations between parent-child hostility and later adjustment were moderately significant (ranging from r = .25 to .33, p <.01).

Turning now to consider correlations relating to the alternative hypothesis (that children's symptoms of maladjustment influence subsequent levels of parent-child warmth and hostility), children's internalising symptoms and externalising problems at Time 2 were related to low parent-child warmth a year later for both mothers and fathers respectively (internalising, r = -.23 and -.24 and externalising, r = -.22, and -.22, all significant at p <.01). Furthermore, internalising symptoms (r = -.34, p <.01) and externalising problems (r = .29, p <.01) at Time 2 were related to children's perceptions of high parent-child hostility at Time 3, with correlations similar for mothers (e.g., internalising, r = .31, p <.01) and fathers (e.g., externalising, r = .26, p <.01).

Presented in Table 5.3 are the intercorrelations between child and parent report of parent-child affect and children's adjustment for boys and girls separately. Examination of this table reveals that girls' report of parent-child warmth was more consistently associated with their adjustment than boys within time. For example, girls perceptions of mother-daughter and father-daughter warmth were associated with girls' internalising symptoms and externalising problems at Time 2 and Time 3 (all 8 correlations were significant, ranging from, r = -.20, p <.10 to r = .35, p <.10).

Table 5.3: Intercorrelations among all indicators of theoretical constructs for Boys (N = 71; below diagonal) and Girls (N = 75; above diagonal)
(†p <.10. * p <.05. ** p <.01.)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Time 2 (2000)																		
1. Child report of mother warmth	-	.75**	.93**	.31**	.23*	.34**	-.31**	-.31**	-.62**	-.24*	-.47**	-.24*	-.05	-.17	.67**	.57**	.71**	.28*
2. Child report of father warmth	.66**	-	.94**	.19†	.14	.20†	-.32**	-.31**	-.53**	-.48**	-.56**	-.02	.04	.01	.46**	.74**	.69**	.29*
3. Child report of parent warmth	.89**	.93**	-	.27*	.20†	.29*	-.34**	-.33**	-.61**	-.38**	-.55**	-.14	-.00	-.08	.60**	.70**	.75**	.30**
4. Mother report of warmth	.26*	.17	.23†	-	.27*	.76**	.01	.06	-.03	-.03	-.03	-.44**	-.08	.32**	.33**	.16	.28*	.74**
5. Father report of warmth	.03	.10	.08	.28*	-	.83**	.07	-.01	-.10	.01	-.05	-.16	-.36**	-.29*	.19	.34**	.30**	.20†
6. Parent report of warmth	.17	.17	.18	.75**	.84**	-	.05	.03	-.08	-.01	-.05	-.36**	-.29*	-.38**	.32**	.32**	.37**	.56**
7. Internalising (Child)	-.05	-.27*	-.19	.04	-.14	-.08	-	.37**	.58**	.48**	.58**	.28*	.25*	.30**	-.31**	-.31**	-.36**	.09
8. Externalising (Child & Teacher)	-.22†	-.11	-.18	-.03	-.26*	-.20	.36**	-	.52**	.37**	.49**	.03	.15	.10	-.22†	-.31**	-.30**	.12
9. Child report of mother hostility	-.45**	-.41**	-.27**	-.11	-.02	-.08	.33**	.36**	-	.66**	.92**	.28*	.23*	.30**	-.38**	-.45**	-.47**	.01
10. Child report of father hostility	-.39**	-.51**	-.50**	-.10	-.14	-.15	.39**	.31**	.73**	-	.91**	.23*	.24*	.27*	-.16	-.32**	-.28*	-.02
11. Child report of parent hostility	-.44**	-.50**	-.52**	-.12	-.09	-.13	.39**	.35**	.91**	.95**	-	.28*	.26*	.31**	-.30**	-.42**	-.42**	-.01
12. Mother report of hostility	-.34	-.11	-.24*	-.44**	-.35**	-.49**	.06	.40**	.21†	.11	.16	-	.50**	.88**	-.29**	-.08	-.22†	-.22†
13. Father report of hostility	-.09	-.06	-.08	-.26*	-.29*	-.34**	.20†	.34**	.26*	.23†	.26*	.40**	-	.85**	-.13	-.03	-.09	.02
14. Parent report of hostility	-.26*	-.10	-.19	-.41**	-.38**	-.49**	.09	.44**	.28*	.21†	.26*	.83**	.85**	-	-.25*	-.07	-.18	-.12
Time 3 (2001)																		
15. Child report of mother warmth	.77**	.67**	.78**	.24*	.05	.16	-.11	-.21†	-.44**	-.41**	-.45**	-.18	-.14	-.19	-	.52**	.87**	.23*
16. Child report of father warmth	.46**	.76**	.69**	.08	.04	.07	-.19	-.15	-.20†	-.39**	-.33**	.04	.02	.03	.65**	-	.88**	.23*
17. Child report of parent warmth	.65**	.78**	.80**	.16	.05	.12	-.17	-.19	-.34**	-.44**	-.42**	-.06	-.06	-.07	.88**	.93**	-	.27*
18. Mother report of warmth	.31**	.14	.24*	.63**	.22†	.51**	.02	-.12	-.01	-.07	-.05	-.48**	-.26*	-.43**	.24*	.08	.17	-
19. Father report of warmth	.11	.19	.17	.36**	.76**	.72**	-.05	-.29*	-.13	-.26*	-.22†	-.34**	-.35**	-.41**	.17	.18	.19	.41**
20. Parent report of warmth	.25*	.20†	.24*	.59**	.59**	.74**	-.02	-.25*	-.09	-.20†	-.16	-.48**	-.36**	-.50**	.25*	.15	.21†	.83**
21. Internalising (Child)	-.13	-.27*	-.23†	-.25*	-.22†	-.29*	.72**	.33**	.19	.28*	.26*	.13	.28*	.25*	-.21	-.23†	-.24*	-.23*
22. Externalising (Child & Teacher)	-.27*	-.14	-.22†	-.10	-.25*	-.22†	.36**	.88**	.37	.27*	.33**	.53**	.42**	.56**	-.24*	-.14	-.20	-.21†
23. Child report of mother hostility	-.55**	-.43**	-.53**	-.133	-.02	-.10	.13	.28*	.64**	.51**	.61**	.26*	.08	.20†	-.58**	-.35**	-.49**	-.13
24. Child report of father hostility	-.39**	-.46**	-.47**	-.12	-.02	-.08	.27*	.27*	.47**	.68**	.63**	.09	.13	.14	-.45**	-.55**	-.56**	-.11
25. Child report of parent hostility	-.50**	-.49**	-.54**	-.14	-.02	-.09	.23†	.30*	.60**	.67**	.68**	.18	.12	.18	-.55**	-.51**	-.58**	-.13
26. Mother report of hostility	-.24*	-.07	-.16	-.29*	-.16	-.27*	.01	.31**	.22†	.09	.16	.65**	.36**	.58**	-.14	.08	-.02	-.57**
27. Father report of hostility	-.16	-.09	-.13	-.32**	-.33**	-.41**	.16	.43**	.41**	.30*	.37**	.45**	.75**	.72**	-.17	-.02	-.09	-.35**
28. Parent report of hostility	-.23†	-.10	-.17	-.36**	-.29*	-.40**	.10	.43**	.37**	.24*	.32**	.63**	.65**	.77**	-.18	.03	-.08	-.53**

Table 5.3 (Cont'd): Intercorrelations among all indicators of theoretical constructs for Boys (N = 71; below diagonal) and Girls (N = 75; above diagonal) ($^{\dagger}p < .10$. * $p < .05$. ** $p < .01$.)

Variable	19	20	21	22	23	24	25	26	27	28
Time 2 (2000)										
1. Child report of mother warmth	.12	.24*	-.14	-.15	-.38**	-.35**	-.42**	-.11	-.09	-.12
2. Child report of father warmth	.12	.25*	-.17	-.09	-.26*	-.55**	-.48**	-.06	-.14	-.11
3. Child report of parent warmth	.13	.26*	-.17	-.13	-.34**	-.49**	-.48**	-.09	-.12	-.12
4. Mother report of warmth	.38**	.69**	-.07	.11	-.25*	-.20†	-.25*	-.41**	-.31**	-.41**
5. Father report of warmth	.74**	.64**	.04	.02	.02	-.17	-.09	-.04	-.21†	-.14
6. Parent report of warmth	.72**	.83**	-.01	.07	-.13	-.23*	-.21†	-.26*	-.32**	-.33**
7. Internalising (Child)	.17	.18	.70**	.56**	.45**	.34**	.45**	.20†	.28*	.27*
8. Externalising (Child & Teacher)	.09	.14	.21†	.59**	.25*	.21†	.26*	.02	.18	.11
9. Child report of mother hostility	-.02	-.01	.33**	.30**	.42**	.39**	.46**	.09	.27*	.21†
10. Child report of father hostility	.06	.03	.37**	.24*	.34**	.66**	.59**	.22†	.39**	.34**
11. Child report of parent hostility	.02	.01	.39**	.30**	.42**	.58**	.58**	.17	.36**	.30**
12. Mother report of hostility	-.16	-.24*	.30**	.10	.39**	.33**	.41**	.66**	.39**	.59**
13. Father report of hostility	-.24*	-.15	.25*	.21	.17	.26*	.25*	.30**	.56**	.49**
14. Parent report of hostility	-.22†	-.23*	.32**	.18	.33**	.34**	.39**	.56**	.54**	.62**
Time 3 (2001)										
15. Child report of mother warmth	.13	.23†	-.29*	-.33**	-.60**	-.35**	-.54**	-.22†	-.14	-.21†
16. Child report of father warmth	.36**	.38**	-.32**	-.20†	-.30*	-.54**	-.49**	-.09	-.12	-.12
17. Child report of parent warmth	.28*	.35**	-.35**	-.30**	-.51**	-.51**	-.59**	-.18	-.15	-.19
18. Mother report of warmth	.22†	.73**	-.03	.12	-.23*	-.24*	-.27*	-.27*	-.22†	-.28*
19. Father report of warmth	-	.83**	.13	.18	.12	-.14	-.02	-.11	-.23†	-.19
20. Parent report of warmth	.85**	-	.07	.20†	-.05	-.23*	-.17	-.23*	-.29*	-.29*
21. Internalising (Child)	-.16	-.23†	-	.64**	.58**	.40**	.56**	.22†	.28*	.28*
22. Externalising (Child & Teacher)	-.32	-.32**	.35**	-	.45**	.18	.35**	.04	.14	.10
23. Child report of mother hostility	-.14	-.16	.23†	.36**	-	.52**	.85**	.28*	.33**	.34**
24. Child report of father hostility	-.22†	-20†	.34**	.30*	.65**	-	.89**	.36**	.48**	.47**
25. Child report of parent hostility	-.21†	-.20†	.32**	.36**	.88**	.93**	-	.37**	.47**	.47**
26. Mother report of hostility	-.26*	-.49**	.18	.43**	.29*	.11	.21†	-	.57**	.88**
27. Father report of hostility	-.49**	-.50**	.25*	.48**	.29*	.26*	.30*	.47**	-	.89**
28. Parent report of hostility	-.45**	-.58**	.25*	.53**	.33**	-.22†	.30*	.84**	.88**	-

For boys, the pattern of relations was less consistent. Within Time 2 and Time 3 only 4 of a possible 8 correlations were significant (father-son warmth and internalising at Time 2, r = -.27, p <.05 and Time 3, r = -.23, p <.10; mother-son warmth and externalising at Time 2, r = -.22, p <.10 and Time 3, r = -.24, p <.05). This pattern was also replicated across time, whereby father-child hostility at Time 2 was related to low internalising a year later and mother-child warmth was linked to low externalising for boys (both r = -.27, p <.05). However, despite being related within time, girls' perceptions of warmth expressed by their parents was unrelated to their adjustment a year later (e.g., parent-child warmth and internalising, r = -.17 and externalising r = -.13, p >.10). As reported for the combined comparisons, boys and girls' perceptions of parent-child hostility were more consistently related to both measures of maladjustment, with associations ranging from, r = .31 to r = .33 (both p <.01) for boys and from r = .37 to r = .58, p <.01 for girls at Time 2. A similar pattern emerged at Time 3, with one exception that girls' perception of father hostility was unrelated to girls' externalising problems (r = .18, p >.10). Across time, girls' perceptions of high parent-child hostility at Time 2 were consistently related to high internalising and externalising problems a year later for mothers and fathers (r = .24, p <.05 to r = .37, p <.01). However, for boys, only perceptions of father-child hostility at 2000 were related to high internalising (r = .28, p <.05) and externalising (r = .27, p <.05) a year later. Finally, consideration of the intercorrelations that relate to the alternative hypothesis, that children's maladjustment influences the level of parent-child warmth and hostility, revealed that boys' externalising problems at Time 2 were related to boys' perception of low mother-son warmth a year later (r = -.21, p <.10). Girls' symptoms of internalising and externalising behaviours however were related to girls' perceptions of low parent-child warmth a year later for both mothers (internalising, r = .31, p <.01, externalising r = -.22, p <.10) and fathers (internalising and externalising both, r =-.31, p <.01).

Parent report

Mothers and fathers' reports of parent-child warmth and parent-child hostility were correlated at Time 2 (warmth, $r = .26$; hostility, $r = .45, p < .01$) and Time 3 (warmth, $r = .33$; hostility, $r = .52, p < .01$). As found for children's reports, mothers and fathers reports of parent-child warmth were negatively associated with their reports of parent-child hostility within time at Time 2 and Time 3 (ranging from $r = -.17, p < .05$ to $r = -.44, p < .01$). Parents' reports of warmth and hostility were correlated across time (e.g., warmth: mothers, $r = .69$, fathers, $r = .75$; hostility: mothers, $r = .65$, fathers, $r = .66$, all significant at $p < .01$). As for child report above, parent report of parent-child hostility was more consistently related to children's adjustment than reports of parent-child warmth. Thus, few correlations between parent report of parent-child warmth were significantly associated with children's adjustment within and across time, except fathers' report of warmth was associated with low externalising problems within Time 2 ($r = -.18, p < .05$) and low internalising symptoms within Time 3 ($r = -.15, p < .10$).

Across time, mother-child warmth at Time 2 was negatively associated with internalising symptoms a year later ($r = -.15, p < .10$) and father-child warmth was associated with externalising problems a year later ($r = -.17, p < .05$). In contrast, parent-child hostility was more consistently associated with both indicators of maladjustment, with 7 of 8 possible correlations being significant at Time 2 and Time 3 (ranging from $r = .19, p < .05$ to $r = .34, p < .01$). Across time, high parent-child hostility (according to mothers and fathers) at Time 2 was associated with high internalising symptoms and externalising problems a year later (with correlations ranging from $r = .23$ to $r = .33$, all significant at $p < .01$). Considering the correlations relevant to the alternative hypothesis, that children's adjustment influences parent-child relations, maladjustment appeared to influence father-child relations more so than mother-child relations. Thus, children's

externalising problems at Time 2 were related to low father-child warmth ($r = -.16, p < .10$) and high father-child hostility ($r = .33, p < .01$) at Time 3, whereas internalising symptoms at Time 2 were only related to high father-child hostility at Time 3 ($r = .22, p < .01$). Children's symptoms of maladjustment however, were unrelated to later mother-child warmth, except for one instance whereby children's externalising problems in 2000 were related to high mother-child hostility a year later ($r = .33, p < .01$).

Considering the difference between parent report of relations for boys and girls presented in Table 5.3, correlations indicated that parent-child warmth was related to boys but not girls' symptoms of maladjustment, but the relationship between parent-son warmth was not consistent between mothers and fathers. For boys, father-son warmth was negatively associated with boys' externalising ($r = -.26, p < .05$) at Time 2 whereas at Time 3 mother-son warmth was related to low internalising ($r = -.23, p < .05$) and externalising ($r = -.21, p < .10$) for boys. Across time, fathers' report of warmth at Time 2 was negatively related to boys' internalising ($r = -.22, p < .10$) and externalising ($r = -.25, p < .05$) a year later while mother-son warmth was related to decreased internalising symptoms ($r = -.25, p < .05$). As has been the pattern thus far, parent-child hostility compared to warmth was more consistently related to adjustment problems, but for different indexes for boys and girls. Specifically, parent-child hostility was related to symptoms of internalising for girls but externalising problems for boys (consistent with Chen et al., 2000). Thus, at Time 2 and Time 3, parent-child hostility was consistently associated with girls' internalising symptoms (with correlations ranging from, $r = -.25, p < .05$ to $r = .30, p < .01$), but unrelated to girls' externalising problems. For boys, parent-child hostility was consistently related to externalising problems (with correlations ranging from, $r = .34$ to $.48$, all $p < .01$). However, one exception to this pattern remained whereby father-son hostility was

associated with boys' internalising symptoms at both time points (Time 2: $r = .20, p < .10$; Time 3: $r = .25, p < .05$). This pattern was also replicated for relations across time.

Finally, considering the correlations relevant to the alternative hypothesis, that children's behaviour influences parent-child relations, the pattern of relations again differs for boys and girls. For parent-child warmth, correlations indicated that boys' externalising problems at Time 2 were related to low father-child warmth ($r = -.29, p < .05$) a year later. In contrast, girls' internalising symptoms ($r = -.23, p < .05$) and externalising problems ($r = -.21, p < .10$) at Time 2 were related to decreased mother-daughter warmth a year later. In terms of parent-child hostility, boys' externalising problems were related to high mother-son ($r = .31, p < .01$) and father-son ($r = .43, p < .01$) hostility. In contrast, girls' internalising symptoms are related to mother and father-child hostility (mothers, $r = .20, p < .10$; fathers, $r = .28, p < .05$) a year later.

Cross-reporter correlations

Child and parent report of parent-child relations were generally moderately correlated and associations between child and parent reports of parent-child hostility were more consistent than parent-child warmth. For example, the correlation between child report of mother warmth and mothers' self-report was $r = .30, p < .01$ at Time 2 and $r = .26, p < .01$ at Time 3. Child report of father-child warmth at Time 2 was unrelated to father self-report within time ($r = .13, p > .10$), but was associated at Time 3 ($r = .29, p < .01$). In contrast, child and parent report of parent-child hostility were more consistently correlated at both Time 2 (ranging from $r = .17, p < .05$ to $r = .25, p < 01$) and Time 3 ($r = .23$ to $r = .36$, both $p < .01$). When considering child gender, boys and girls' reports of parent-child warmth were only correlated with mother report at Time 2 and Time 3, whereas father-child warmth reported by fathers and children were unrelated. For example, at Time 2, boys' report of father-son warmth and fathers' report of father-son

warmth was nonsignificant ($r = .10, p > .10$), as was girls' report of father-daughter warmth and father report of father-daughter warmth ($r = .14, p > .10$). One exception was noted at Time 3, whereby girls and fathers' report of father-daughter warmth were correlated ($r = .36, p < .01$).

In summary, more consistent correlations between parent-child relations and children's maladjustment were found for child report of relations, and parent-child hostility was more consistently related to maladjustment than parent-child warmth for both child and parent reports. In addition, for parent report parent-child relations were more consistently related to internalising symptoms for girls, and externalising problems for boys, although this pattern was not replicated for child reports. For child report (within time) parent-child warmth was related to low internalising and externalising problems, while parent-child hostility was related to high levels of adjustment problems. In contrast, for parent report, only parent-child hostility was related to adjustment within time. In terms of the alternative hypothesis, tests for the combined sample suggested that both internalising and externalising at Time 2 decreased parent-child warmth and increased parent-child hostility a year later according to child report, while parent report indicated that children's symptoms influenced father report of parent-child relations a year later. Both internalising symptoms and externalising problems increased father-child hostility, while externalising also decreased father-child warmth.

Differences between child and parent report also emerged when considering the pattern of results for child gender. Parent-child warmth was more consistently related to girls' adjustment than boys, according to child perceptions (although across time all relations were nonsignificant), however parent report indicated parent-child warmth was only associated with boys' adjustment, with the most consistent relationship being between father-son warmth and lower levels of externalising for boys. In addition, differences also

emerged according to parent-child hostility. Child report indicated that parent-child hostility was consistently related to symptoms (for both internalising and externalising), whereas parent report revealed that parent-child hostility increased boys' externalising problems and girls' internalising symptoms.

Finally, regarding the relationship between maladjustment at Time 2 and parent-child relations a year later, both indices of girls' maladjustment (externalising and internalising symptoms) were related to girls' perception of increased hostility and decreased warmth from both mothers and fathers. For boys, externalising problems were related to boys' perception of lower parent-child warmth from mothers not fathers, whereas boys' externalising symptoms were related to lower father-child warmth according to parent report. In contrast, parent report indicated that boys' externalising increased mother-son and father-son hostility and also decreased father-son warmth. The pattern for girls indicated that internalising symptoms influenced parent-child relations, specifically girls' internalising symptoms increased mother and father-daughter hostility and in addition decreased mother-daughter warmth.

Structural Equation Modelling: Cross-lagged model tests

Table 5.4 presents the significant cross-lagged paths for tests of the theoretical model outlined in Figure 5.1. The cross-lagged paths are labelled from *a* to *d* in the table as they are illustrated in Figure 5.1 presented earlier. The table presents the results of model tests examining how parents' warmth and hostility expressed towards children predict children's subsequent levels of internalising and externalising, and how children's initial levels of adjustment may influence parent-child relations whilst controlling for earlier levels of both parent-child relations and children's adjustment for both child and parent report.

Table 5.4: Significant standardised cross-lagged path estimates of the theoretical model (Figure 5.1) examining the relations between parent-child warmth and hostility and children's internalising symptoms and externalising problems estimated using child and parent report of parent-child relations. N = 146; Boys N = 71; Girls N = 75.

[Path a: parent-child warmth Time 1 to internalising/externalising Time 2; Path b: internalising/externalising Time 1 to parent-child warmth Time 2; Path c: internalising/externalising Time 1 to parent-child hostility Time 2; Path c: parent-child hostility Time 1 to internalising/externalising Time 2]

Model	Estimated Path	Internalising		Externalising	
		Child report	**Parent report**	Child report	**Parent report**
Combined	a	--	--	--	--
	b	--	--	--	--
	c	--	--	--	--
	d	--	--	--	**.18***
Mothers	a	--	**-.13***	--	--
	b	--	--	--	--
	c	--	--	--	--
	d	--	--	--	**.16***
Fathers	a	--	--	--	--
	b	--	--	--	--
	c	--	--	--	**.17***
	d	--	--	--	**.13***
Boys	a	--	**-.19***	--	--
	b	--	--	--	--
	c	--	--	--	--
	d	--	--	--	**.23*** †
Girls	a	--	-	--	--
	b	--	**.14***	--	--
	c	--	--	--	--
	d	--	--	--	-- †
Boys – Mothers	a	--	**-.25*** †	--	--
	b	--	--	--	--
	c	-- †	--	--	--
	d	--	--	--	**.21***

Model	Estimated Path	Internalising		Externalising	
		Child report	**Parent report**	Child report	**Parent report**
Boys – Fathers	a	--	--	--	--
	b	--	--	--	--
	c	--	--	--	**.21***
	d	--	--	--	**.12***
Girls – Mothers	a	--	-- †	--	--
	b	--	--	--	--
	c	.28* †	--	--	--
	d	--	--	--	--
Girls – Fathers	a	--	--	--	--
	b	--	--	--	--
	c	--	--	--	--
	d	--	--	--	--

Note: *p <.05. ** p <.01.
-- indicates a non-significant path
† indicates a significant gender difference

Unlike the study in Chapter 4, investigating the interplay between child adjustment and parent-child relations in a combined model employing both child and parent report of parent-child relations did not provide a better explanation for the data than child or parent report of the parent-child relationship alone. Therefore, results will be presented for child report and parent report separately in order to understand the differences that occur depending on who reports on the parent-child relationship.

Across models the stability of parent-child warmth and parent-child hostility was high for both parent and child report. For example, in tests for internalising symptoms, the path between parent-child warmth at Time 2 and Time 3 was $\beta = .78, p < .01$ and $\beta = .72, p < .01$ for child and parent report respectively. Similarly, the stability of parent-child hostility was high ($\beta = .67$, and $\beta = .60, p < .01$, for child and parent report respectively). A similar pattern of results was evident for models estimating externalising problems for child and parent report of warmth and hostility (beta coefficients ranged from $\beta = .59$, to $.77, p < .01$). Differences in the stability of parent-child relations were apparent for boys and girls. For the child report models, boys ($\beta = .69, p < .01$) reported higher stability in parent-child hostility than girls ($\beta = .49, p < .01$) for the model examining internalising symptoms ($\Delta\chi^2 = 3.66, p < .10$). This was also confirmed for boys and girls' perceptions of mother-child hostility for both indicators of children's maladjustment. Thus, there was greater stability in boys' reports of mother-child hostility than girls for tests of internalising symptoms (boys, $\beta = .66, p < .01$; girls $\beta = .28, p < .05$; $\Delta\chi^2 = 3.49, p < .10$) and externalising problems (boys, $\beta = .60, p < .01$; girls, $\beta = .40, p < .01$; $\Delta\chi^2 = 8.60, p < .01$). In addition, boys' perceptions of parent-child warmth were more stable than girls ($\Delta\chi^2 = 3.66, p < .05$) for externalising problems. Tests by parent gender indicated that boys' reports of parent-child warmth were more stable for both mother-son and father-son warmth than girls when considering internalising symptoms (mother-child, $\Delta\chi^2 = 3.27, p$

<.10 and father-child, $\Delta\chi^2 = 2.83, p < .10$), but only father-child warmth for externalising problems ($\Delta\chi^2 = 2.95, p < .10$).

Measures of children's adjustment were highly stable between Time 2 and Time 3, with greater stability for externalising problems than internalising symptoms. The stability in children's adjustment was often higher for models that employed child report than parent report to estimate relations between parent-child affect and children's adjustment. For example, for internalising symptoms stability was high for child report ($\beta = .72, p < .01$) and parent report ($\beta = .69, p < .01$) and the stability of externalising symptoms was high for both child and parent reports ($\beta = .83$ and $\beta = .77$, both $p < .01$ respectively). Boys' externalising problems were more stable than girls' for models considering parent-child relations by parent gender and reporter. For example, boys' externalising was highly stable for the model estimating mother-child relations for child report (boys, $\beta = .86$, girls, $\beta = .59$, both $p < .01$; $\Delta\chi^2 = 3.97, p < .01$) and parent report (boys, $\beta = .80$, girls $\beta = .58$, both $p < .01$; $\Delta\chi^2 = 3.39, p < .05$).

Children's internalising symptoms

As for Chapter 4, due to the volume of model tests, only certain models will be included in the following description of results as a supplement to the table. In addition, due to the strict assumptions of cross-lagged panel models only paths that are significant above $p < .05$ will be considered as statistically significant. Examining the results presented in Table 5.4, reveals that very few significant paths were noted for models estimated with child report of parent-child relations. The only significant path indicated by models estimated with child report was that girls' internalising symptoms predicted they would perceive an increase in mother-child hostility a year later ($\beta = .28, p < .05$). In contrast, this path was not significant for boys, whereby boys' internalising symptoms were unrelated to their perception of mother-son warmth ($\beta = -.09, p > .10$). This gender

comparison was statistically significant according to stacked model tests ($\Delta\chi^2 = 5.42, p < .05$).

For models estimated with parent report of parent-child warmth and hostility, results indicated that mother-child warmth decreased children's internalising symptoms for some model tests. Mother's report of mother-child warmth predicted a decrease in children's internalising symptoms a year later ($\beta = -.13, p < .05$). The alternative hypothesis, that children symptoms predict parent-child affect, was not supported. Thus, children's internalising symptoms did not influence mother-child warmth ($\beta = .05, p > .10$) or mother-child hostility ($\beta = .03, p > .10$). Figure 5.4 presents the pattern of results for parent report of parent-child relations and boys' internalising symptoms. As for mother-child relations, parent report of parent-son warmth predicted a decrease in boys' internalising symptoms ($\beta = -.19, p < .05$).

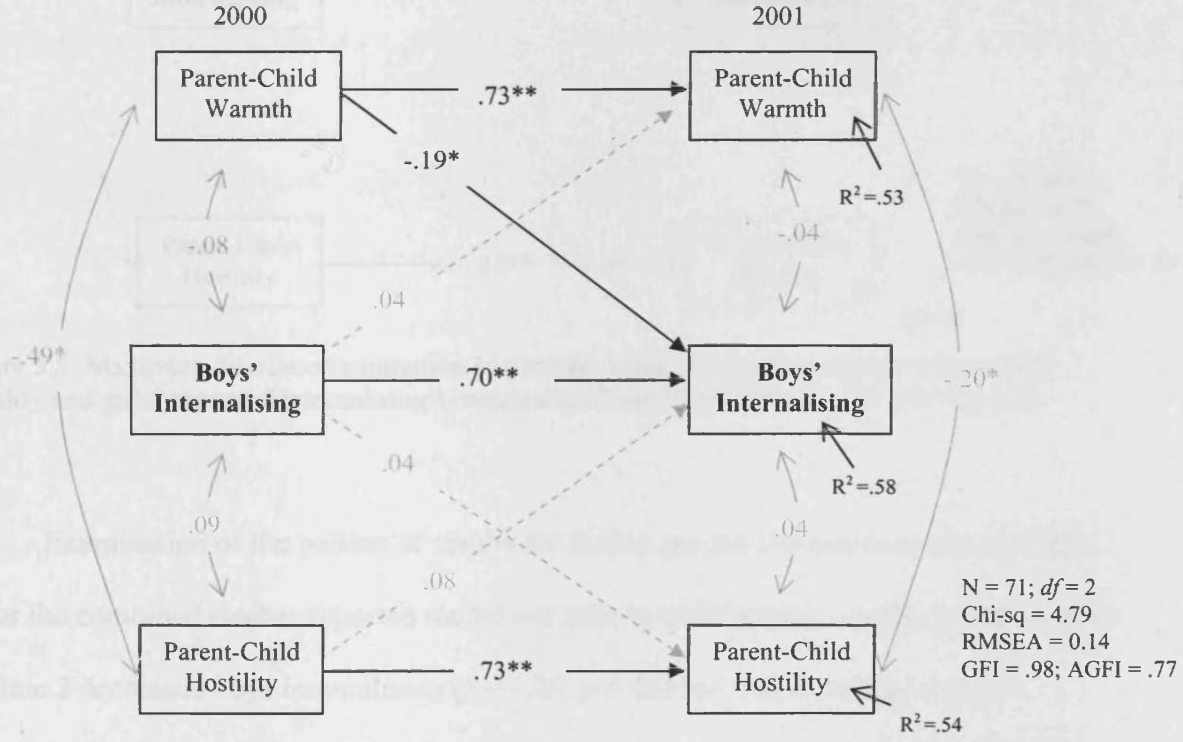


Figure 5.4: Maximum likelihood estimation of parents' report of parent-son warmth and hostility and boys' report of internalising symptoms at Time 2 and Time 3. *p<.05, **p<.01.

In contrast, while parent-daughter warmth appeared to be unrelated to girls' internalising symptoms (see Figure 5.5; $\beta = .00, p > .10$) this was not significant according to stacked model tests ($\Delta\chi^2 = 2.12, p > .10$). However, Figure 5.5 suggests that girls' internalising symptoms increased parent-child warmth ($\beta = .14, p < .05$). While this was not found for boys' internalising symptoms ($\beta = .04, p > .10$), this gender difference was also not significant according to stacked model tests ($\Delta\chi^2 = 0.54, p > .10$).

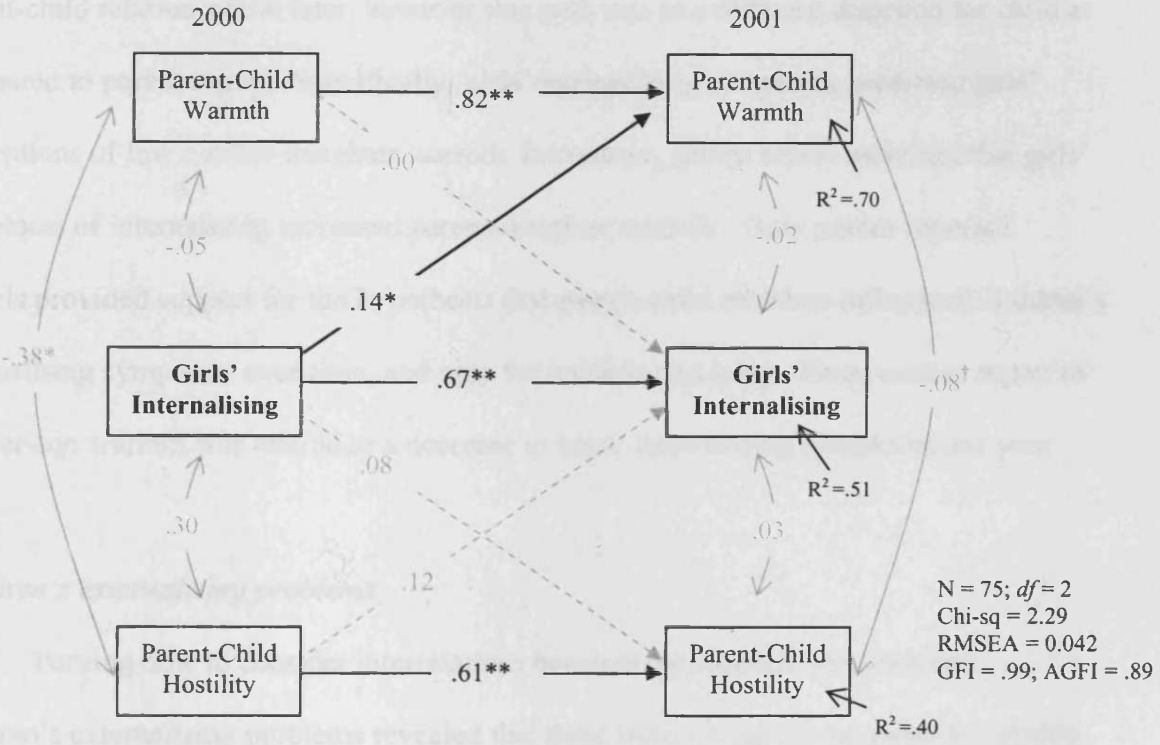


Figure 5.5: Maximum likelihood estimation of parents' report of parent-daughter warmth and hostility and girls' report of internalising symptoms at Time 2 and Time 3. *p<.05, **p<.01.

Examination of the pattern of results for further gender comparisons revealed that as for the combined mother reported model not split by child gender, mother-child warmth at Time 2 decreased boys internalising ($\beta = -.25, p < .05$) but was unrelated to girls' internalising symptoms ($\beta = -.03, p > .10$) and this difference was significant ($\Delta\chi^2 = 2.94, p < .10$). The fit indices of the models presented were all good, (e.g., $\chi^2_2 = 2.29$ and 4.79;

RMSEA = 0.140 and 0.0421; GFI = .99 and .98; RMSEA = .89 and .77) suggesting the models provide a good fit to the data.

In summary, there were fewer significant paths for the models testing cross-lagged effects for children's internalising symptoms when estimated with child report than parent report. In general however, models estimated with parent and child report provided support for the alternative hypothesis that children's symptoms at Time 2 influenced parent-child relation a year later, however this path was in a different direction for child as compared to parent report. Specifically, girls' internalising symptoms predicted girls' perceptions of low mother-daughter warmth. In contrast, parent report indicated that girls' symptoms of internalising increased parent-daughter warmth. Only parent-reported models provided support for the hypothesis that parent-child relations influenced children's internalising symptoms over time, and only for mothers and boys. Thus, mother report of mother-son warmth was related to a decrease in boys' internalising symptoms one year later.

Children's externalising problems

Turning now to consider interrelations between parent-child relations and children's externalising problems revealed that there were no significant paths for models estimated with child report. However, models estimated with parent report indicated significant paths between parent-child hostility and children's externalising problems. For the combined sample results indicated that parent-child hostility predicted an increase in children's externalising problems ($\beta = .18, p < .05$), while children's externalising behaviour predicted an increase in parent-child hostility ($\beta = .11, p < .10$), however this can only be considered a trend and did not reach statistical significance at $p < .05$. The pattern of results for father report of parent-child relations indicated that a reciprocal relationship existed between children's externalising behaviours and father-child hostility. Figure 5.6

presents this model, whereby father-child hostility predicted an increase in children's externalising ($\beta = .13, p < .05$), and children's externalising problems increased father-child hostility ($\beta = .17, p < .05$).

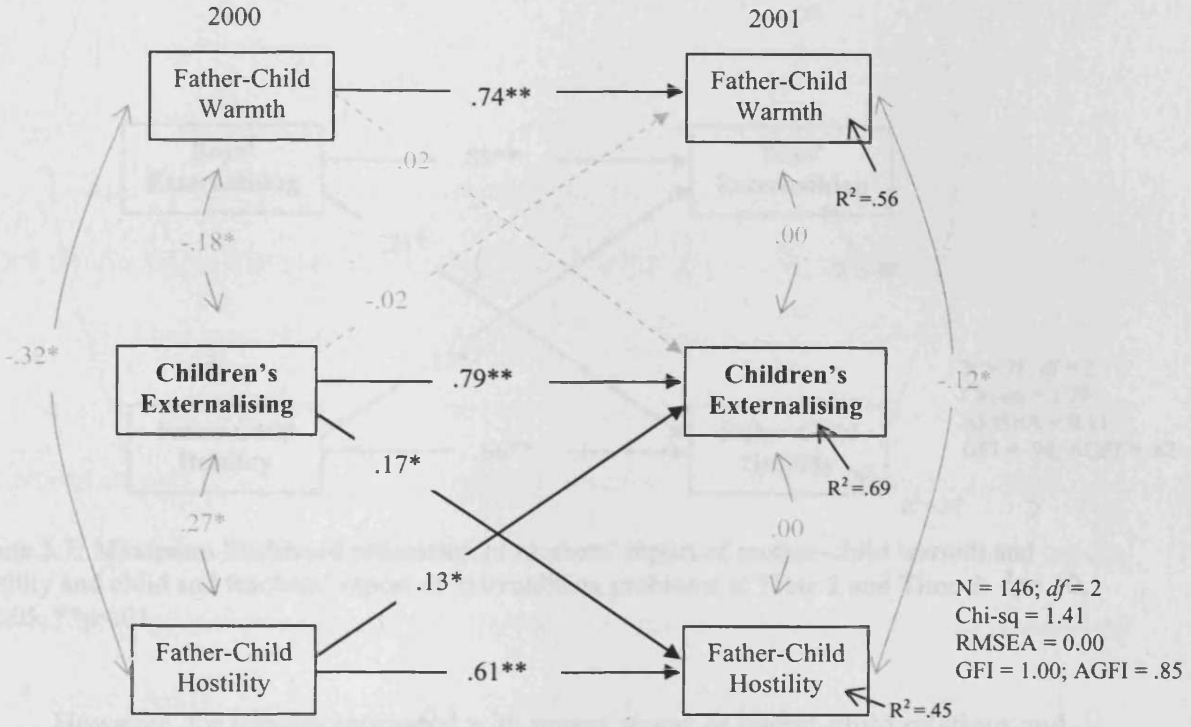


Figure 5.6: Maximum likelihood estimation of fathers' report of father-child warmth and hostility and child and teacher report of externalising problems at Time 2 and Time 3. *p<.05, **p<.01.

This pattern was specific to father-child relations, as for mother report, only mother-child hostility predicted an increase in children's externalising a year later ($\beta = .16$, $p < .05$). However, this reciprocal relationship was confirmed for father-son relations (displayed in Figure 5.7), whereby father-son hostility increased boys' externalising ($\beta = .12, <.05$) while boys' externalising problems predicted increased father-son hostility ($\beta = .21, p < .05$).

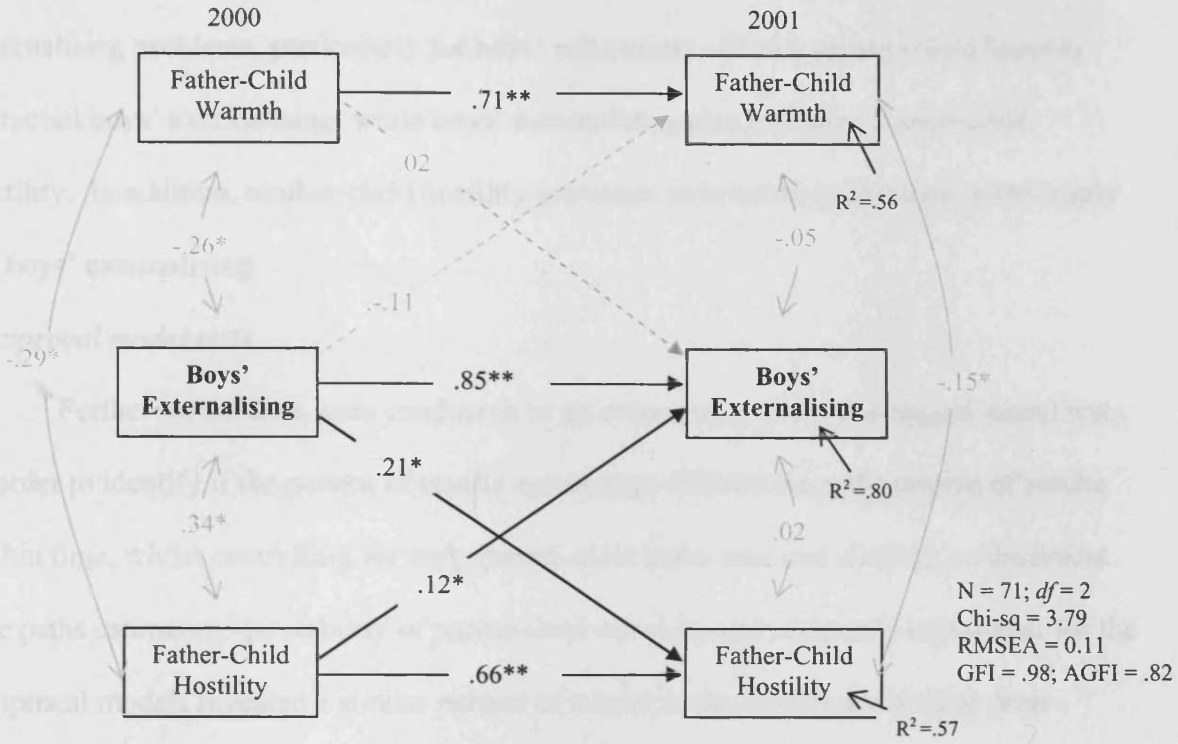


Figure 5.7: Maximum likelihood estimation of mothers' report of mother-child warmth and hostility and child and teachers' report of externalising problems at Time 2 and Time 3. †p<.10, *p<.05, **p<.01.

However, for models estimated with parent report of parent-child relations and boys' externalising problems, results indicated that the direction of influence was from parent-child relations to children's behaviour, whereby parent-son hostility predicted an increase in boys' externalising ($\beta = .23, p < .05$). The comparable path for girls' was not significant ($\beta = .14, p > .10$) and this difference was significant ($\Delta\chi^2 = 3.09, p < .10$). Finally, while mother-child relations were unrelated to girls' externalising problems, mother-child hostility predicted boys' externalising problems ($\beta = .14, p > .10$) however this difference was not significant ($\Delta\chi^2 = 2.61$, p>.10). The fit indices for the models presented were adequate, ($\chi^2_2 = 1.41$ and 3.79; RMSEA = 0.00 and 0.11; GFI = 1.00 and .98; AGFI = .85 and .82) suggesting the models provide a good fit to the data.

In summary, as for internalising symptoms, models that employed child report of relations produced no significant cross lagged effects. In contrast, parent report of

relations suggested there was a bidirectional relationship between parent-child hostility and externalising problems, particularly for boys' adjustment. That is, parent-child hostility increased boys' externalising, while boys' externalising also increased parent-child hostility. In addition, mother-child hostility increased externalising problems, particularly for boys' externalising.

Reciprocal model tests

Further model tests were conducted as an extension to the cross-lagged model tests in order to identify if the pattern of results across time differed from the pattern of results within time, whilst controlling for early parent-child behaviour and children's adjustment. The paths estimating the stability of parent-child relations and children's adjustment for the reciprocal models revealed a similar pattern of results to the models examining cross-lagged effects whereby parent report of parent-child relations demonstrated higher stability than child reports for both warmth and hostility and both parent and child reports indicated parent-child warmth was more stable than parent-child hostility. For example, for the models estimating internalising symptoms, the stability of parent-child warmth was higher for parent report, $\beta = .80$, $p < .10$ and child report, $\beta = .74$, $p < .01$, than parent-child hostility (parent report, $\beta = .69$, $p < .01$, child report, $\beta = .55$, $p < .01$). In particular, child report of mother-child hostility was more stable for boys than girls in model tests for both externalising problems (e.g., boys, $\beta = .64$, $p < .01$, girls $\beta = .26$, $p < .05$; $\Delta\chi^2 = 7.23$, $p < .01$) and internalising symptoms ($\Delta\chi^2 = 2.82$, $p < .10$). Model tests for internalising symptoms using parent reports of parent-child relations also indicated that father-son hostility ($\beta = .76$, p, $< .01$) was more stable than father-daughter hostility ($\beta = .53$, $p < .01$; $\Delta\chi^2 = 3.27$, $p < .10$) over twelve months. Across model tests (child and parent models) externalising problems demonstrated higher stability between 2000 and 2001 than internalising symptoms (e.g., child report of parent-child hostility: internalising symptoms,

$\beta = .66, p < .01$; externalising problems, $\beta = .79, p < .01$). For parent report, boys' externalising symptoms were significantly more stable across the year than girls' externalising problems. For example, boys' externalising was of higher stability for both parent-child hostility (boys, $\beta = .82, p < .01$; girls, $\beta = .59, p < .01$; $\Delta\chi^2 = 3.99, p < .05$) and parent-child warmth (boys, $\beta = .86, p < .01$; girls, $\beta = .59, p < .01$; $\Delta\chi^2 = 6.09, p < .05$).

Table 5.5 presents significant reciprocal paths estimated while controlling for earlier levels of parent-child relations and children's adjustment for internalising symptoms and externalising problems for child report and parent report of relations separately. The paths labelled *a* and *b* in the table are noted in the conceptual model presented earlier (Figure 5.2).

Table 5.5: Significant standardised reciprocal path estimates of the theoretical model (Figure 5.2) examining relations between parent-child warmth and hostility and children's internalising symptoms and externalising problems. All models are estimated using child and parent report of the parent-child relationship. N = 146; Boys N = 71; Girls N = 75.

[Path a: parent-child relationship to internalising/externalising, Path b: Internalising/externalising to parent-child relations, all within Time 2]

Model	Estimated Path	Internalising				Externalising			
		Child report		**Parent report**		Child report		**Parent report**	
		Hostility	Warmth	**Hostility**	**Warmth**	Hostility	Warmth	**Hostility**	**Warmth**
Combined	a	--	--	**.14***	**-.18***	--	--	-	--
	b	.19*	-.14*	--	-	-	-.12*	--	--
Mothers	a	--	--	-	**-.21***	.12*	--	**.12***	--
	b	.24*	-.15*	--	--	--	--	--	--
Fathers	a	--	--	--	--	--	--	--	--
	b	--	--	--	--	--	-	--	--
Boys	a	--	--	**.19***	**-.27***	--	--	**.17***	--
	b	--	-- †	--	--	--	-- †	--	--
Girls	a	--	--	--	--	--	--	--	--
	b	.32*	-.24* †	--	-	--	-.24* †	--	-
Boys – Mothers	a	--	--	-	**-.30***	-	--	**.18***	--
	b	-- †	--	--	--	--	--	--	--
Boys – Fathers	a	--	--	-	-	--	--	--	--
	b	--	-- †	--	--	--	--	-	--
Girls – Mothers	a	--	--	--	--	--	--	--	--
	b	.47* †	-.22*	--	--	--	-	--	--
Girls – Fathers	a	--	--	--	--	--	--	--	--
	b	--	-.20* †	--	--	--	-	--	-

Note: *p <.05. ** p <.01.
† indicates a significant gender comparison
-- indicates a non-significant path
- indicates a trend (p <.10).

Children's internalising symptoms

For the combined sample, the direction of effects appears to be different as a function of reporter whereby child report indicates a greater influence of children's symptoms on parent-child relations, whereas parent report suggests parent-child relations have a greater influence on symptoms. Figure 5.8 displays the combined model for child report, and Figure 5.9 illustrates the same model for parent report estimating the influence of parent-child warmth and hostility on children's internalising symptoms.

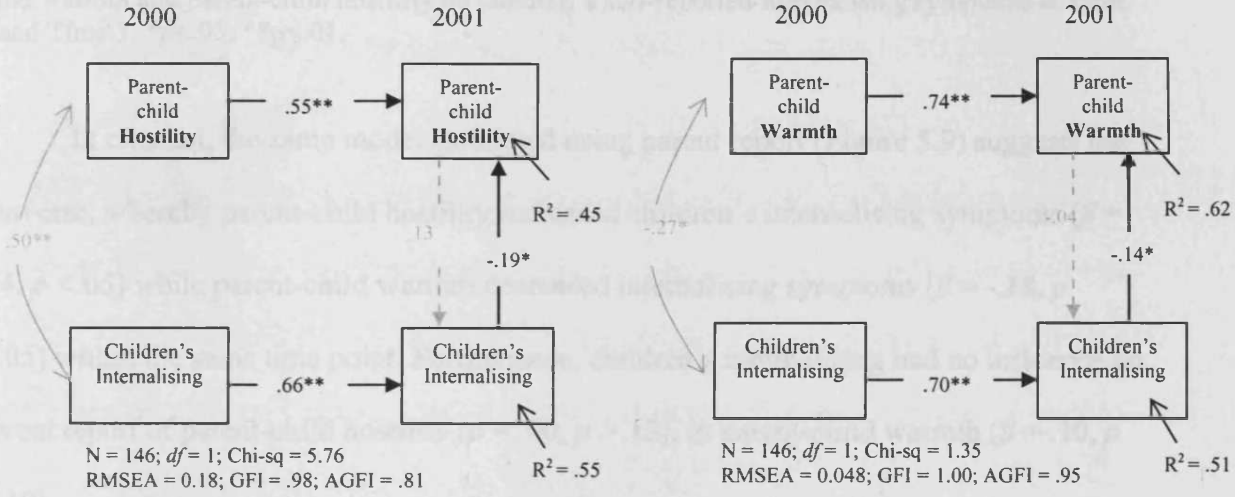


Figure 5.8: Maximum likelihood estimation of the reciprocal effects of **child reported** parent-child warmth and parent-child hostility on children's self-reported internalising symptoms at Time 2 and Time 3. *p<.05, **p<.01.

From Figure 5.8, it can be noted that children's internalising symptoms increased children's perception of parent-child hostility ($\beta = .19$, $p < .05$) and decreased perception's of parent-child warmth ($\beta = -.14$, $p < .05$), while children's perceptions of parent-child hostility ($\beta = .13$, $p > .10$) and parent-child warmth ($\beta = -.04$, $p > .10$) did not influence internalising symptoms.

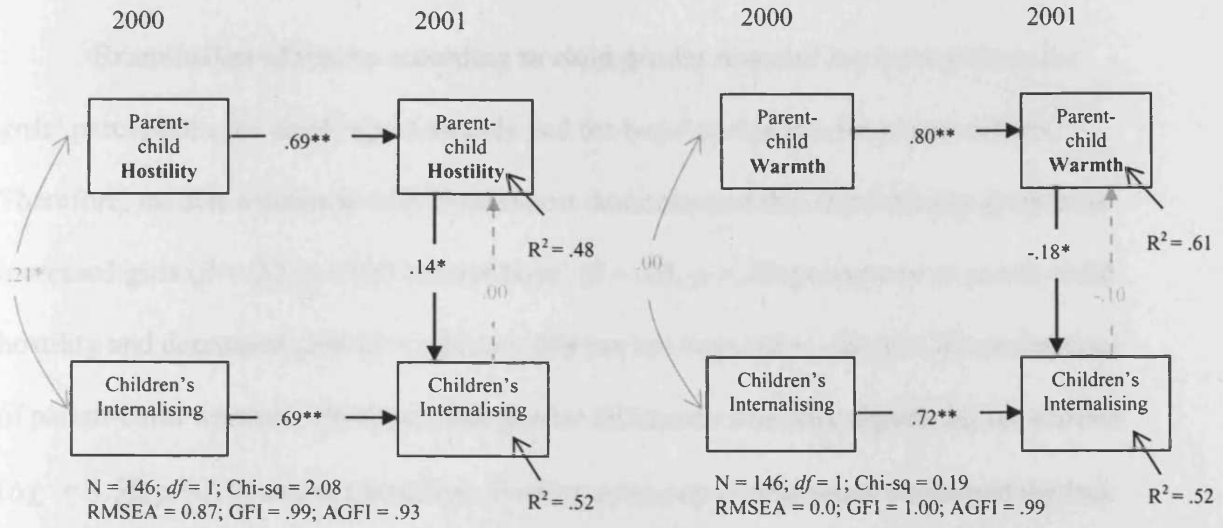


Figure 5.9: Maximum likelihood estimation of the reciprocal effects of **parent reported** parent-child warmth and parent-child hostility on children's self-reported internalising symptoms at Time 2 and Time 3. *p<.05, **p<.01.

In contrast, the same model estimated using parent report (Figure 5.9) suggests the converse, whereby parent-child hostility increased children's internalising symptoms (β = .14, p <.05) while parent-child warmth decreased internalising symptoms (β = -.18, p <.05) within the same time point. Furthermore, children's internalising had no influence on parent report of parent-child hostility (β = .00, p >.10), or parent-child warmth (β = .10, p <.10).

This difference between parent and child report was replicated for mother-child relations, except for the parent reported model mother-child relations were linked to children's internalising symptoms but this was just a trend and not significant above p <.05 (β = .13, p <.10), whereas mother-child warmth was linked with children's internalising (β = -.21, p <.05). For the child report model, children's internalising symptoms increased their perception of mother-child hostility (β = .24, p <.05) and decreased their perception of mother-child warmth (β = -.15, p <.05). There were no significant relationships between father-child relations and children's internalising symptoms for either child reported or parent reported models.

Examination of results according to child gender revealed the same pattern for girls' perceptions for child report models and for boys' symptoms for parent reports. Therefore, models estimated with child report demonstrated that internalising symptoms increased girls (β = .32, p <.05) but not boys' (β = .08, p >.10) perception of parent-child hostility and decreased girls (β = -.24, p <.05) but not boys' (β = -.02, p >.10) perceptions of parent-child warmth. However, this gender difference was only significant for warmth ($\Delta\chi^2 = 3.55, p < .10$) and not hostility. Further subgroup comparisons confirmed the link between girls, but not boys' perception of parent-child relations and internalising symptoms, whereby girls (not boys') internalising symptoms increased girls' perception of mother-daughter hostility (β = .47, p <.05) and this difference was significant ($\Delta\chi^2 = 5.62$, p <.05). While internalising symptoms also decreased girls (not boys') perception of mother-child warmth, this difference was not significant according to stacked model tests. Finally, child report of father-child relations suggests that internalising symptoms were only linked to girls, but not boys' perception of decreased father-daughter warmth (β = -.20, p <.05), and this difference was also significant ($\Delta\chi^2 = 3.06, p < .05$).

Models estimated with parent report of parent-child hostility were linked to boys' internalising symptoms (β = .19, p <.05) while parent-child warmth was negatively linked to boys' internalising symptoms (β = -.27, p <.05). The final significant path for parent report and children's internalising confirmed that mothers' perception of mother-son warmth was negatively linked to boys (β = -.30, p <.05) but not girls' (β = -.11, p >.10) internalising symptoms. However this gender difference was not significant according to stacked model tests ($\Delta\chi^2 = 1.40, p > .10$).

The fit indices of the models presented were adequate, (χ^2_2 = 0.19 to 5.76; RMSEA = 0.00 to 0.87; GFI = 1.00 to .99; AGFI = .99 to .81) suggesting the models provide a good fit to the data.

To summarise, the results of reciprocal model tests for children's internalising symptoms, in comparison to the cross-lagged tests, there was a greater number of significant effects for child report of relations. Reciprocal models estimated with child report indicated that symptoms influenced parent-child relations. Specifically, children's internalising symptoms were related to children's perception of increased parent-child hostility and decreased parent-child warmth, particularly for mothers and girls. Furthermore, internalising was associated with a decrease in girls' perception of father-daughter warmth. Results using parent report were consistent with cross-lagged effects whereby parent-child relations influenced children's internalising symptoms. Specifically, parent-child hostility increased and parent-child warmth decreased children's internalising symptoms, particularly so for boys' internalising symptoms.

Children's externalising problems

A smaller number of significant paths were noted between parent-child warmth, parent-child hostility and children's externalising problems than that noted for internalising symptoms. In general, the difference between child and parent reports was confirmed, whereby the significant paths for parent reports all indicated the direction of effect was from parent-child relations to adjustment. For the combined model (no subgroup comparisons) child report of parent-child relations indicated that children's externalising behaviour was linked to children's perception of low parent-child warmth ($\beta = -.12, p < .05$). However, for mother-child relations, both parent and child report suggests that mother-child hostility increased children's externalising problems ($\beta = .12, p < .05$ for both child and parent report models). In contrast, there were no significant paths for models estimating the relationship between father-child relations and children's externalising problems for either reporter.

Considering subgroup models separated by child gender, Figure 5.10 presents child reported parent-child warmth for girls and boys. As can be seen in the figure, girls' externalising behaviours were linked to girls' perceptions of low parent-daughter warmth (β = -.24, p <.05) whereas the comparable path was not significant for boys (β = -.02, p >.10), and this difference was significant ($\Delta\chi^2$ = 3.55, p <.10).

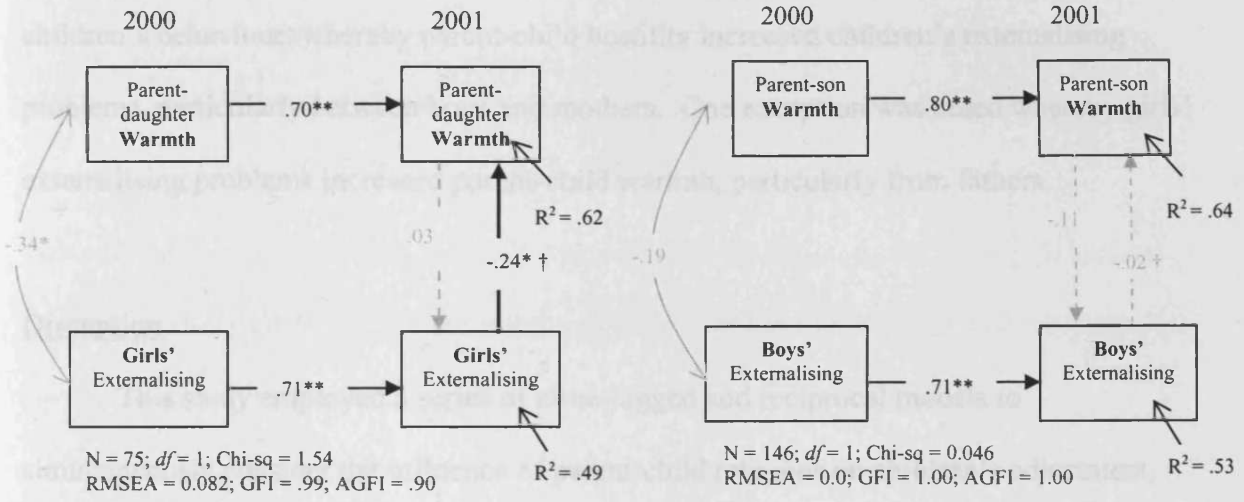


Figure 5.10: Maximum likelihood estimation of the reciprocal effects of **child reported** parent-child warmth for boys and girls on children's self-reported and teacher reported externalising problems at Time 2 and Time 3. *p<.05, **p<.01. † indicates a significant gender difference.

Finally, parent reports of parent-child hostility were related to increased externalising problems for boys (β = .17, p <.05) and although this path was not replicated for girls (β = .07, p >.10), this gender difference was not significant. For mother-son relations, parent report suggest that mother-son hostility increased boys' externalising problems (β =.18, p <.05). The fit indices for the models presented were adequate, (χ^2_2 = 0.046 to 1.54; RMSEA = 0.00 to 0.082; GFI = 1.00 to .97; AGFI = 1.00 to .90) suggesting the models provide a good fit to the data.

In summary, as for internalising symptoms, reciprocal effects for externalising problems suggests a different pattern of results for child and parent reports. Thus, for child

report of relations there were more significant effects from children's externalising behaviour to parent-child relations than vice versa, particularly for parent-child warmth and girls' symptoms. However, there was evidence that parent-child hostility influenced externalising problems, specifically mother-child hostility increased children's externalising and mother-son hostility increased boys' externalising problems. Parent report provided most support for the hypothesis that parent-child relations influences children's behaviour, whereby parent-child hostility increased children's externalising problems, particularly between boys and mothers. One exception was noted whereby girls' externalising problems increased parent-child warmth, particularly from fathers.

Discussion

This study employed a series of cross-lagged and reciprocal models to simultaneously consider the influence of parent-child relations on children's adjustment, and in turn, the influence of children's internalising and externalising symptoms on parent-child warmth and hostility. Consistent with previous studies, the pattern of results varied according to whether child or parent reported on the parent-child relationship (e.g., Hill et al., 2003; Pelton & Forehand, 2001) and differences were also noted according to parent and child gender (Kerig et al., 1993; Osborne & Fincham, 1996). In general, models that employed parent report of the parent-child relationship supported the socialisation hypothesis whereby the quality of parent-child relations were more consistently linked to children's adjustment than vice-versa. Therefore, parents influenced children more so than the converse. In contrast, when child report of parent-child relations was examined, evidence was consistently found for the alternative hypothesis, whereby children's adjustment influenced the quality of parent-child relations. Given the volume of results,

the pattern of findings, gender differences and reporter effects will be considered separately for internalising symptoms and externalising problems.

Children's Internalising Symptoms

Based on previous research, it was expected that parent-child warmth would be related to lower internalising symptoms (Scaramella et al., 1999; Margolin & John, 1997; Vandewater & Lansford, 1998). It was also expected that internalising symptoms would not influence parent-child relations to the same extent as externalising problems (Lytton, 1990), although for models estimated using child report it was expected that internalising symptoms would increase children's perception of negative parent-child relations, characterised by decreased warmth and increased hostility (Kim & Ge, 2000). In general, results supported these hypotheses and the following discussion will consider the pattern of results for parent and child report respectively.

In general, more links were noted between parent-child warmth and children's internalising symptoms. In particular, mother-child warmth decreased boys' internalising symptoms over time and within time. This confirms the pattern of results noted by Chen et al., (2000) whereby mother-child warmth was linked to lower internalising symptoms. The only link between parent-child hostility and children's internalising for parent report suggested that parent-child hostility was associated with children's internalising symptoms within, not across time. The less consistent effects found between parent-child hostility and children's internalising symptoms would be expected according to social learning theory (Bandura, 1969). Rather, social learning theory would predict parent-child hostility would increase children's externalising via observational learning whereby child imitate the aggressive behaviour they observe during interactions with parents. Subgroup analyses revealed that in contrast to boys, whereby the direction of influence appeared to flow from parent to child, girls' internalising symptoms influenced the quality of parent-child

relations, specifically, across and within time, girls' internalising symptoms increased parent-child warmth. This supports the speculation by Vandewater and Landsford (1998), that girls may be more able to elicit warmth from parents than boys especially for internalising symptoms which may be considered by parents to be more acceptable when expressed in girls than boys (Kerig, 2001).

Models estimated using child report of relations provided evidence for the effects of children's internalising symptoms on the parent-child relationship, but the opposite to that found for parent report, whereby children's internalising symptoms increased their perception of negative parent-child relations for girls more so than boys. Specifically, internalising symptoms predicted girls' perception of decreased parent-child warmth from both mothers and fathers and increased girls' perception of mother-daughter hostility, across and within time. None of the child report models provided evidence to support the hypothesis that parent-child relations influenced children's adjustment. This suggests that children's internalising symptoms are powerful influences on their perception of parent-child behaviour, whereby the experience of depressive symptoms may mean children are more likely to see parents as more hostile and less warm (Kim & Ge, 2000). This is similar to the findings noted by Grych et al., (2003) whereby children's internalising symptoms increased their perception of threat and self-blame in the context of marital conflict. This can be explained by trait-level characteristics such as negative affectivity bias (Watson & Pennebaker, 1989) whereby children who are anxious may view parent behaviour as more threatening and hostile (Grych et al., 2003; Harold & Conger, 1997). Alternatively, the absence of significant links from children's perception of parent-child relations to internalising symptoms may be a consequence of the high stability of internalising symptoms over time. When children's internalising symptoms at Time 2 are controlled, a large proportion of the variance in symptoms is already accounted for, leaving

little variation remaining for parent-child relations to predict internalising symptoms. Indeed, when the stability of children's internalising symptoms was removed from the model, children's perception of parent-child hostility predicted an increase in internalising symptoms. However, the finding that internalising symptoms influence children's perceptions of parent-child relations supports the notion that children's internalising symptoms at the earlier time point should be controlled in order to estimate whether parent-child relations influence children's adjustment above and beyond children's internalising symptoms (Harold & Conger, 1997; Grych et al., 2003).

Children's Externalising Problems

Based on principles of social learning theory and consistent with previous research, it was expected that parent-child hostility would be related to an increase in children's externalising problems (Harold & Conger, 1997; Ge et al., 1996; Margolin & John, 1997). It was also expected although, less consistently that parent-child warmth would be related to a decrease in children's externalising problems (Scaramella et al., 1999). In addition, the alternative hypothesis predicted that children's externalising problems would decrease the quality of parent-child relations (Kandel & Wu, 1995). As expected, links were more consistent between parent-child hostility and children's externalising problems than parent-child warmth and externalising problems. This suggests that parents who behave in a hostile manner towards children during daily interactions may communicate to children that this is an acceptable way of behaving, and thus children adopt this behaviour style in subsequent social situations (Bandura, 1977; Harold & Conger, 1997). In addition, it is possible that children may be angered by hostility from parents and so express this via disruptive behaviour (Rohner, 1986; Dodge, 1993). Of particular interest is that a bidirectional relationship was found between parent reports of parent-child hostility and boys' externalising problems across time. This replicates the findings by Brunk and

Henggeler, (1984) that parents react negatively to children's externalising, often in the form of harsh discipline in an attempt to curb children's aggressive behaviour. However, this study suggests that this parental reaction actually increases externalising behaviour, as would be expected according to coercive family process theory (Patterson, 1982).

Models estimated with child report of parent-child relations indicated that externalising problems predicted an increase in father-child but not mother-child hostility a year later. This supports the hypothesis that the father-child relationship is more susceptible to contextual or outside influences (Belsky et al., 1991). For example, Almeida et al., (1999) suggest that because fathers may spend less time in general day to day interactions with their children than mothers, they may be more affected by contextual variables, such as a discordant marital relationship or children's misbehaviour which may distract them from the interaction. In addition, there is evidence to suggest that boys experience more discipline-related parent-child interactions than girls, particularly from fathers (Lytton & Romney, 1991). This may mean that fathers are likely to respond to boys' disruptive behaviour to a greater extent than mothers. However, within time, children's perceptions of mother-child hostility were related to externalising problems, particularly for boys. This replicates findings that suggest that the relationship quality of the opposite-sex parent-child dyad is likely to have implications for children's adjustment (Osborne & Fincham, 1996). Finally, children's externalising problems decreased girls' perception of parent-child warmth. This suggests that girls who display behaviour characterised by aggression and hostility are more likely to appraise the parent-child relationship as low in warmth. This may be explained by the theories of information processing (e.g., Dodge, 1993). For example, there is evidence that aggressive children may have a hostile attribution bias whereby ambiguous behaviour is interpreted as negative, and therefore responded to with aggression. Children who are aggressive are

therefore more likely to have negative expectations of social relationships, including parent-child relations. However, this requires replication as this suggests that externalising problems should also increase children's perception of parent-child hostility, and that these relations would also be expected for boys.

As was the case for models that considered internalising problems, the lack of significant effects between parent-child relations and children's externalising problems may be due to the high stability of children's externalising problems, which was very high (often more so than noted for internalising symptoms). There are two lines of reasoning that support the notion that the limited relations were due to high stability of symptoms. First, the pattern of zero-order correlations indicated a consistent association between children's perception of parent-child relations and children's externalising problems, whereby the relationship was positive for parent-child hostility and negative for parent-child warmth. Second, when the stability of externalising symptoms was removed from the model, parent-child hostility predicted an increase in children's externalising problems, whereas parent-child warmth did not. However, because this study attempted to address the direction of effects between parent-child relations and children's adjustment, it was necessary to control for children's initial symptoms.

Limitations

This study assessed how the affective quality of parent-child interactions is linked to children's emotional and behavioural adjustment. As noted in Chapter 4, the emotional quality of parent-child interactions is only one aspect of the parent-child relationship. Similarly, children's internalising symptoms and externalising problems do not capture the range of adjustment indices that could be assessed. In particular, children's peer relations and academic achievement are often employed as measures of adjustment (e.g., Dodge & Price, 1994; Domitrovich & Bierman, 2001; Ladd, 1999). However, while some studies

have found links between parent-child warmth and academic achievement (Pettit et al., 1997), it has been suggested that parenting practices, more than parenting styles (e.g., discipline techniques), are more consistently related to social and academic outcomes (Darling & Steinberg, 1993). Indeed, there is evidence that affective parenting dimensions are more likely to be linked to children's emotional indices, as was partially supported in this study and others (Chen et al., 2000). In addition, children's internalising symptoms and externalising problems are most often considered important broad-band indicators of children's maladjustment (Achenbach, 1991) and recent social policy has noted the importance in trying to explain the aetiology of these problems (Harold, Pryor & Reynolds, 2001).

In addition, similar to the study contained in Chapter 4, the pattern of relations was assessed across a period of one year, and it is unknown whether this represents the most appropriate time lag in order to identify causal relationships (Fincham, 1994). However, the inclusion of both cross-lagged and reciprocal model tests provides a comprehensive analysis that investigates relations both across and within time. Furthermore, these relations will subsequently be examined across a longer (3-year) time period in the analyses that follow. Finally, as is true for all correlational studies, it is not possible to rule out that the relationship between the quality of parent-child relations and children's adjustment is due to a number of unmeasured third variables, such as work hassles or economic pressure. However, the longitudinal cross-panel correlational design significantly improves confidence in the inferences made than traditional longitudinal studies. Therefore, this study comprises one of the most comprehensive tests of the relations between the quality of parent-child relations and children's adjustment thus far.

In conclusion, the results of the present study provide support for the parent socialisation hypothesis (that parents' influence children more so than the converse;

Maccoby, 1992) and the alternative hypothesis that child behaviour influences the quality of the parent-child relationship (Bell, 1968; Brunk & Henggeler, 1984). This study represents a significant advance on previous research by considering the interplay between parent-child relations and children's adjustment in a prospective longitudinal design that controlled for the influence of initial levels of marital conflict and parent-child relations. The results of this study have highlighted the importance of using different family members' perspectives when assessing the relationship between parents and children. In addition, the findings underscore the need to include estimates of children's adjustment problems as influences on family functioning. Taken together with the results of Chapter 4, the results of this study propose a further study that revisits the role of the parent-child relationship as an intervening mechanism in the relationship between marital conflict and early adolescent adjustment, which will integrate the findings of Chapters 4 and 5 that provide information of each link of the chain (marital and parent-child; parent-child and children's adjustment). The next chapter therefore, examines the mediating role of parent warmth and hostility in explaining how interparental conflict exerts negative effects on children's psychological adjustment. This study also examines how children's appraisals of family functioning act as a mechanism through which the impact of conflict occurring between parents affects children's emotional and behavioural psychological functioning.

CHAPTER 6

Introduction

This chapter aims to integrate and extend the findings of Chapters 4 and 5 to investigate a conceptual model of family processes that contribute to account for children's adjustment problems. This chapter will describe two studies; the first examines a model that integrates the findings of Chapter 4 and 5 by examining the interplay between marital conflict, parent-child warmth, parent-child hostility and children's adjustment using a prospective, 3-year longitudinal design. As noted throughout this thesis, children's perceptions of marital and parent-child relations have been found to be particularly important when attempting to account for children's adjustment in the context of marital conflict (Grych et al., 2003; Harold & Conger, 1997; Harold et al., 2004). The second study therefore tests a model that examines how marital conflict and parent-child relationship problems exert effects on child adjustment by affecting children's cognitive evaluations of these family relationships. In addition, the findings of this thesis provide support of different family members' reports of relationships to derive a more complete picture of the interplay between family processes and child adjustment. Interesting reporter effects for marital conflict were noted in Chapter 4, whereby models estimated with child report of marital conflict indicated a more consistent link with child report of parent-child relations than parent report, models estimated with parent report of marital conflict and the combined parent and child reports of parent-child relations revealed equally significant paths to child report alone. Therefore, these studies will also examine if the pattern of relations varies according to which reporter of marital conflict is used. Finally, evidence was noted in Chapters 4 and 5 that the dynamics of the relations between marital conflict, parent-child relations and children's adjustment varied according to parent and child gender. Therefore the pattern

of results for mothers, fathers, sons and daughters will also be examined. Together, these studies aim to provide a process-oriented account of how relationships in the family can explain the development of children's psychological distress in the context of marital conflict.

This chapter will review theoretical and empirical evidence that suggests that the consequences of marital conflict for children's maladjustment can be partly explained by changes in the affective quality of the parent-child relationship. In other words, evidence will be reviewed that examines the theoretical perspective known as the indirect effects hypothesis discussed throughout this thesis, whereby the quality of parent-child relations is proposed to mediate the association between marital conflict and children's adjustment (Fauber & Long, 1991). The dearth of longitudinal studies that has examined this hypothesis will be noted, which is important when attempting to uncover how family processes influence children's adjustment over time. Drawing on findings from Chapter 4 and 5, this chapter will then describe the first study that traces the links between marital conflict and the affective quality of parent-child relations to children's maladjustment over a three-year period, whilst accounting for children's initial symptoms of maladjustment in order to increase confidence in 'causal' inference (Harold & Conger, 1997). Controlling for children's earlier symptoms allows the effects from the proposed intervening variables (parent-child affect) to serve as an index of change in children's adjustment at the final time point (Grych et al., 2003; Kessler & Greenberg, 1981). This chapter will then discuss evidence that suggests children's appraisals of family relations are also important to consider when attempting to uncover processes that account for children's adjustment, particularly in the context of a discordant marital relationship. Specifically, theoretical and empirical evidence will be reviewed that suggests children's perceptions of threat and self-blame engendered from marital conflict, and children's

perceptions of security within the parent-child relationship are particularly important constructs to consider in a process-oriented model of family relations (Grych et al., 2003; Harold et al., 2004; Kerns et al., 1996). Finally, this chapter will outline the final study of this thesis which examines a familywide model that is proposed to account for the influence of marital conflict on children's internalising symptoms and externalising problems by considering the quality of parent-child relations and children's appraisals of the marital and parent-child relationship together in a prospective longitudinal study.

Parent-child relations as a mediator of the relationship between marital conflict and children's adjustment

Chapter 4 provided evidence that marital conflict reduces the affective quality of the parent-child relationship, by decreasing the level of parent-child warmth and increasing levels of parent-child hostility over a twelve month period. Furthermore, by testing cross-lagged panel and reciprocal models, the findings of Chapter 4 demonstrated that in the majority of instances, the marital relationship influenced the parent-child relationship more so than the converse. This supports the view that the marital relationship sets the emotional tone for other family relationships (Belsky, 1984; Erel & Burman, 1995; Harold et al., 2001). Chapter 5 examined the subsequent link in the chain that the quality of parent-child relations contributes to account for the development of children's adjustment problems. This study was able to conclude that while children's symptoms of maladjustment (particularly internalising symptoms) predicted children's perception of the quality of the parent-child relationship, results also demonstrated that the quality of the parent-child relationship predicted children's maladjustment. In summary, the results from Chapters 4 and 5 indicated that marital conflict predicted low parent-child warmth and high parent-child hostility, and in turn, the quality of the parent-child relationship predicted children's adjustment, in particular, parent-child hostility

predicted children's externalising problems. Integrating the findings from these two studies will provide a more complete examination of the processes that are likely to contribute to children's maladjustment over time.

The indirect effects hypothesis (Emery, 1982; Margolin, 1981) proposes that the primary pathway through which marital conflict negatively influences children's adjustment is via disruption of the quality of parent-child relations (Fauber & Long, 1991). Therefore, it is the disruption in parenting, not the presence of marital conflict per se that is proposed to constitute the key mechanism which accounts for children's maladjustment. There is a considerable body of evidence that provides support for the indirect effects hypothesis (e.g., Fauber et al., 1990; Harold & Conger, 1997; Mann & McKenzie, 1996; Webster-Stratton & Hammond, 1999). For example, Fauber et al., (1990) conducted a cross-sectional study whereby parents' use of psychological control and rejection mediated the relationship between marital conflict and early adolescents' internalising symptoms and externalising problems. Webster-Stratton and Hammond (1999) found marital conflict was linked to parents' critical parenting and low emotional responsiveness. For mothers, only low emotional responsiveness (low warmth) was related to children's externalising problems, but for fathers, both aspects of negative parenting (critical and low emotional parenting) were related to children's externalising problems.

While there are several dimensions of the parent-child relationship that can be assessed, research reviewed in Chapter 3 and the studies contained in Chapters 4 and 5 indicated that the affective or emotional quality of the parent-child relationship is particularly important for children's adjustment. In particular, Chapter 3 suggested that the degree of warmth and hostility expressed by the parent during parent-child interactions is likely to be related to the marital relationship and children's adjustment

(Harold & Conger, 1997; Margolin & John, 1997). For example, Harold and Conger (1997) demonstrated that marital conflict predicted adolescent, observer and children's perception of parent-child hostility, and the level of parent-child hostility in turn increased internalising symptoms for boys and girls and externalising behaviours of boys. Vandewater and Lansford (1998) found children's perception of parent-child warmth mediated the relationship between parent reported marital conflict and parent reported adjustment, but for girls only. Specifically, they found that while marital conflict reduced the degree of parent-child warmth, warmth was still linked to lower levels of girls' internalising and externalising symptoms. However, most studies examine the effects of warmth or hostility in isolation of one another, and do not assess their relative effect on children's adjustment. This is problematic, because while parent-child hostility is linked with increased maladjustment (Harold & Conger, 1997; Harold et al., 1997), without assessing the degree of parent-child warmth, it cannot be determined how much of children's maladjustment is accounted for by the presence of parent-child hostility or the absence of parent-child warmth (Pettit, Bates & Dodge, 1997). Similarly, while parent-child warmth has been linked with decreased maladjustment (Vandewater & Lansford, 1998; Pettit & Bates, 1989), without assessing the presence of hostility it cannot be assumed that the decreased level of maladjustment is due to the presence of parent-child warmth or the absence of parent-child hostility. Indeed, both the absence of parent-child warmth and responsiveness (Miller et al., 1993; Webster-Stratton & Hammond, 1999) and the presence of rejecting and hostile parenting behaviours (Fauber et al., 1990; Harold & Conger, 1997) are related to adjustment problems. However, even in the presence of a discordant marital relationship it is unlikely that all parent-child interactions are characterised by hostility (Amato, 1986; Belsky, Youngblade, Rovine & Volling, 1991; Fauchier & Margolin, 2004), therefore considering both parent-child warmth and

parent-child hostility is likely to be more representative of parent-child relations (Almeida et al., 2000; Margolin & John, 1997). Margolin and John (1997) conducted one of the only tests thus far that has considered the role of positive and negative parenting on children's adjustment in the context of marital conflict. They found that both positive (indexed by degree of warmth) and negative (indicated by physical punishment and hostility) partially mediated the influence of marital conflict on girls internalising and externalising problems, while only negative parenting partially mediated the relationship between marital conflict and boys' internalising and externalising problems.

In order to determine if a decrease in parent-child warmth *and* increase in parent-child hostility both contribute to children's maladjustment, or whether only parent-child hostility accounts for increased adjustment problems, a model must allow the simultaneous estimation of both warmth and hostility in the prediction of children's adjustment problems. As discussed in Chapter 5, evidence for the relative effect of parent-child warmth and hostility is mixed. Pettit et al., (1997) suggest that the presence of supportive parenting (including warmth and positive involvement) assessed at age 5 reduced the effects of family adversity (family stress, economic disadvantage and single parent) on children's adjustment at age 11 even after controlling for the influence of harsh parenting. However, there is also evidence to suggest that negative parent behaviour accounts for maladjustment better than positive parent-child behaviour. For example, Patterson et al., (1992) found weak associations between positive parenting and children's maladjustment, and when negative parenting was controlled (ineffective discipline and monitoring) the effects of positive parenting became non-significant. They suggest that although aversive parent-child exchanges may be less common than parent-child warmth, parent-child hostility explains more variation in the development of

children's aggressive behaviour than positive or neutral exchanges. However, there are very few studies that consider this question in the context of marital conflict.

Several theoretical perspectives can inform processes that may underlie the indirect effects hypothesis, namely family systems theory and social learning theory. Family systems theory highlights the phenomenon of mutual influences between family relationships (Cox & Paley, 1997; Sameroff, 1994), which supports the indirect effects hypothesis that marital conflict is likely to disrupt the parent-child subsystem, and a disruption in parent-child relations would disrupt children's adjustment (Cowan, 1997). For example, children who feel it necessary to intervene in parental conflict may become targets of parental anger which has been linked to increased adjustment problems (Jenkins, Smith & Graham, 1989). Social learning theory can also inform processes that account for both disruptions in the parent-child relationship and children's adjustment, whereby children adopt aggressive behaviours they have witnessed during interparental conflict via observational learning (Margolin et al., 2001). Indeed, Bandura (1977) suggested that parents are particularly powerful models likely to be imitated by children. The aggressive interaction style children observe from marital conflict may then be performed both in subsequent parent-child interactions, and in children's general social behaviour. For example, there is evidence that children imitate the negative conflictual style they witness in the marital relationship during parent-child interactions (Christensen & Margolin, 1988; Davis et al., 1998). In turn, parent-child negativity is likely to be replicated in children's own peer interactions, which may lead to externalising problems (Baumrind, 1993; Patterson et al., 1992) and internalising symptoms from peer rejection that may result from aggressive behaviour (Crick & Dodge, 1994; Parke & Ladd, 1992).

The importance of children's appraisals of family relations

As noted throughout this thesis, many researchers suggest that children's perceptions of family relations are an important consideration when attempting to understand how the dynamics of family relations may manifest as a risk or protective factor for children's adjustment (Grych & Fincham, 1990; Grych et al., 1992; Harold & Conger, 1997; Rohner, 1986; Serot & Teevan, 1967). Specifically, children's cognitions regarding two important family relations (interparental; parent-child) are likely to contribute to a process-oriented account to explain why some children exposed to marital conflict develop long-term psychological and behavioural problems while others remain relatively unaffected (Cummings & Cummings, 1988; Cummings & Davies, 2002). There are several theoretical perspectives that inform research that considers children's perceptions. The cognitive-contextual framework (Grych & Fincham, 1990) reviewed in Chapter 1 is based on the social cognitive perspective (Fiske & Taylor, 1991) and information processing theories (Dodge, 1993), and suggests that the meaning children assign to interparental conflict is critical to predicting its effects on children's well being. Specifically, Grych and Fincham (1990) suggest that children's appraisals mediate the impact of conflict on their adjustment, that is, children's perceptions explain how conflict influences children's well being. Two types of appraisals are considered by Grych and Fincham to represent children's interpretation of marital conflict, one is the level of threat and the other is the sense of self-blame children experience as a result of marital conflict. For example, children may perceive marital conflict as being a direct threat to their physical or emotional well being, and their desire to have harmonious stable family relations (Davies & Cummings, 1994). Grych and Fincham (1990) also propose that children's further processing of marital conflict involves children trying to understand why the conflict took place, including attributions of responsibility, that is, who is

responsible for the conflictual exchange. It is hypothesised that if children blame themselves for interparental disagreements they may also feel responsible for helping them to end or, feel guilt, shame and sadness (Grych et al., 2003).

The appraisals outlined by Grych and Fincham (1990) have been subject to empirical tests, and research has demonstrated that marital conflict is linked to children's appraisals of threat and self-blame (Grych, 1998; Grych et al., 2003) and in turn, children's appraisals of threat and self-blame are related to increased internalising symptoms and externalising problems (Grych & Fincham, 1993; Grych et al., 2000; Grych et al., 2003). Recent research reported that these two appraisals are differentially linked to children's adjustment, whereby children's feelings of self-blame most consistently predicted externalising problems, while feelings of threat predicted internalising symptoms (Grych et al., 2003). Grych et al., (2003) speculated that feelings of threat engendered from witnessing marital conflict increased children's worries about day to day exchanges as well as alerting children to the threat that marital conflict may cause to the stability of the family. In contrast, Grych et al., (2003) reported that children's feelings of self-blame increased children's externalising problems. They speculate that when children feel to blame for parent's arguments, they become motivated to involve themselves in the conflict, which may involve acting in a disruptive manner to distract parents or siding with one parent over the other. However, previous research has also suggested that feelings of self-blame may lead to feelings of sadness and shame in children (Grych et al., 1992). For example, Grych et al., (2000) and Kerig (1998b) demonstrated that children's reported levels of self-blame partly contributed to children's levels of internalising symptoms. Therefore, more research is needed to investigate how children's appraisals of threat and self-blame may partly account for their influence on adjustment problems.

Grych and Cardoza-Fernandes (2001) claim that the appraisals children make regarding the meaning of conflict for themselves and the family are, in part, a function of how the conflict is expressed (degree of emotional intensity, frequency and resolution) and contextual factors, such as prior exposure to conflict and the quality of parent-child relations. While research has begun to consider how children's history of exposure to marital conflict affects their appraisals of parent-child relations (Harold et al., 2004), little research has examined how the quality of parent-child relations may influence children's appraisals of the marital relationship. The sensitisation hypothesis suggests that children do not adapt or habituate to exposure to interparental conflict, that is, they do not become less aroused by conflict over time even if it occurs frequently (Kalat, 1984). Rather, it has been demonstrated that children become increasingly reactive and sensitive to any indication of conflict (Cummings & Davies, 1994).

The parent-child relationship may provide an additional context in which children perceive high levels of threat and self-blame. Some have suggested that the context in which conflict is expressed is important, whereby interparental conflict that occurs in the context of good relations with both parents characterised by warmth and affection, may lead children to feel less threatened or to blame for interparental conflict (e.g., Owen & Cox, 1997; Waters & Deane, 1985). Conversely, marital conflict that occurs in a climate of poor parent-child relations characterised by parent-child hostility is likely to increase children's negative appraisals of interparental conflict.

Attachment theory (Bowlby, 1973; Sroufe & Walters, 1977) highlights that children's view of the parent-child relationship is likely to have consequences for their adjustment (Davies & Cummings, 1994; Kerns, 1994; Waters & Cummings, 2000). Specifically, attachment theory suggests that specific aspects of the parent-child relationship are particularly important for children's adjustment including the degree to

which a child is confident in the responsiveness and availability of the caregiver (Bowlby, 1977). Kerns et al., (1996) argue that the best measure of children's security in the parent-child relationship is self-report of the degree to which children perceive mothers and fathers to be responsive and available for their needs. These dimensions they argue, can be represented on a continuum of security to insecurity which they suggest provides more accurate information than the classification system whereby children are assigned to a category of attachment (e.g., insecure, disorganised etc., Ainsworth et al., 1978). This is because a continuum is likely to capture a broader range of behaviour including children who display a range of behaviours and do not fit into any one category. In particular, these concepts of responsiveness and availability are proposed to be particularly important for older children, where the focus is less on close physical proximity to the caregiver and more about the availability (physical or emotional) of the parent (Cummings & Cummings, 2002). As reviewed in Chapters 3 and 4, there is a large body of evidence to suggest that marital conflict threatens children's attachment relations with each parent (Belsky et al., 1991; Owen & Cox, 1997; Harold et al., 2004). In addition there is evidence that particular parenting behaviours, for example, warmth and hostility, may be linked to parent-child attachment (Cummings & Cummings, 2002; Owen & Cox, 1997). It is proposed that while warm parent-child relations are not necessary for secure parent-child attachment (Ainsworth, 1967; Cummings & Cummings, 2000), parent-child warmth is likely to increase the probability that children will feel secure in the parent-child relationship (Ainsworth et al., 1978; Belsky, Taylor & Rovine, 1984; Cummings & Cummings, 2000). Conversely, parent-child hostility is likely to decrease children's feelings of security in the parent-child relationship (Paley et al., 2000; Owen & Cox, 1997).

Paley et al., (2000) proposed and tested if children's representations of parents were related to earlier parent-child interactions. They reported that warmth from mothers and fathers was associated with adolescent report of trust and emotional support in the parent-child relationship a year later. Conversely, high parent-child hostility was associated with adolescents' perceptions that they could not trust or depend on parents, or expect a high degree of emotional support a year later. In turn, children's negative representations of their parents predicted children's level of social maladjustment a year later.

The findings of Chapter 4 indicated that marital conflict is likely to be an important determinant of the quality of the parent-child relationship. This information, coupled with the study by Paley et al., (2000), suggest a possible order to the direction of influence, whereby the marital relationship may determine the level of positive and negative affect expressed in parent-child interactions, and the emotional quality of parent-child relations may influence children's felt security in the parent-child relationship. However, while the emotional quality of parent-child interactions is likely to inform children's perception of parent-child security, there is evidence that marital conflict may also have a direct effect on parent-child attachment security (Davies & Cummings, 1994). Similar to the sensitisation hypothesis, children may develop expectations for negative parent-child relations from witnessing hostile interparental behaviour. A direct path from marital conflict to parent-child security would be expected from the spillover hypothesis (Erel & Burman, 1995). Owen and Cox (1997) demonstrated that marital conflict predicted a direct and indirect effect on parent-child security. Specifically, they found that pre-birth marital conflict predicted a decrease in sensitivity and involvement during parenting, and this parenting behaviour predicted insecure parent-child relations, particularly for father-child relations. They also found that warm, sensitive parenting

reduced the likelihood of insecure parent-child attachment relationships, particularly for mothers, and that a direct effect was also supported, whereby the presence of marital conflict directly predicted insecure parent-child attachment for mothers and fathers, independent of the quality of parenting.

Several studies have examined relations between marital conflict, parent-child attachment insecurity and children's adjustment. For example, Frosch and Mangelsdorf (2000) found that children whose parents were less warm and supportive and most hostile in the face of marital conflict exhibited the most behaviour problems. However, they reported that is was only mothers' parenting that partly explained the link between marital conflict and mother-child attachment, as a direct effect was also significant for mothers and fathers. Frosch and Mangelsdorf (2000) and others (Davies & Cummings, 1994; Owen & Cox, 1997) suggest that marital conflict may render children less likely to seek out their parents when distressed, and less able to use their caregiver as a source of comfort and support. Finally, Harold et al., (2004) demonstrates the importance of examining children's appraisals of marital conflict and parent-child security simultaneously when attempting to explain the mechanisms that may account for children's adjustment in the context of a discordant interparental relationship. They proposed that it is unlikely that children's responses to marital conflict occur in isolation to children's security in other family systems, particularly the parent-child relationship. Children's security about the marital relationship was found to mediate the direct effect of marital conflict on children's security within the parent-child relationship, and security within the parent-child relationship, in turn predicted children's internalising symptoms and externalising problems (Harold et al., 2004). Importantly, children's perceptions of marital conflict continued to influence children's adjustment (in particular, children's emotional reactions and proclivity to intervene in, or avoid the conflict). This study

poses some interesting questions regarding whether children's appraisals of marital conflict, particularly perceptions of threat and self-blame may, in company with children's appraisals of the parent-child relationship, contribute to account for children's adjustment. Taken together with the findings of other research (e.g., Frosch and Mangelsdorf, 2000; Owen and Cox, 1997 and Paley et al., 2000) these findings suggest that the degree of warmth and hostility expressed in parent-child interactions may inform children's appraisals of the parent-child and marital relationship. Specifically, children's appraisals of threat and self-blame in the context of marital conflict, and children's appraisals of parent-child insecurity are likely provide an important link in the chain in understanding why marital conflict is related to children's adjustment problems.

Study 1: Marital conflict and children's adjustment: The role of parent warmth vs. hostility as mediators

Study 1 employed a prospective, longitudinal design to assess how marital conflict predicts the degree of parent-child warmth and parent-child hostility one year later and how the quality of parent-child relations, in turn, predicts children's internalising symptoms and externalising problems measured a further year later. The conceptual model presented in Figure 6.1 addresses the question of whether marital conflict directly predicts children's adjustment (Davies & Cummings, 1994; Grych & Fincham, 1990), or whether, as expected, the effect of marital conflict on children's maladjustment is mediated by the level of parent-child hostility and parent-child warmth expressed during parent-child interactions (Fauber et al., 1990; Harold & Conger, 1997). In addition, this model is able to address the question of the relative influence of parent-child warmth and parent-child hostility on children's adjustment in the context of marital conflict. The majority of research thus far has documented that parent-child hostility exacerbates the negative effect of marital conflict on children's adjustment (Harold &

Conger, 1997; Kitzmann, 2000), and a smaller number of studies have shown that parent-child warmth may decrease children's maladjustment in the context of a discordant interparental relationship (Margolin & John, 1997; Vandewater & Lansford, 1998). However, as noted in Chapter 3, no research has addressed the relative role of parent-child warmth and parent-child hostility on children's maladjustment to marital conflict as these relationships unfold over time.

Consistent with previous studies and the findings of Chapter 4, it was expected that marital conflict would predict decreased parent-child warmth (Margolin & John, 1997; Vandewater & Lansford, 1998) and increased parent-child hostility (Harold & Conger, 1997; Margolin & John, 1997) a year later. In turn, it was expected that parent-child hostility would be more consistently linked to children's symptoms of maladjustment than parent-child warmth in the context of marital conflict. This is based on several sources of evidence. First, Belsky et al., (1991) and Dix (1991) suggest that although parent-child hostility may be relatively infrequent as compared to affectionate parent-child exchanges, parent-child hostility is likely to be more salient to children because of its potential to be distressing. Second, as reviewed in Chapter 5, Kandel & Wu (1995) reported that negative parenting had a greater influence on increasing children's maladjustment than positive parenting had on reducing maladjustment. Nevertheless, this study only examined mother-child relations, and did not account for the level of marital conflict. Third, social learning theory would predict a closer relationship between parent-child hostility and children's externalising behaviours due to observational learning (Bandura, 1977), however parent-child hostility has been previously linked to both internalising and externalising problems (Harold & Conger, 1997; Harold et al., 1997; Margolin & John, 1997; Scaramella et al., 1999). Fourth, Chapter 5 indicated that parent-child hostility was more consistently related to children's

adjustment than parent-child warmth. An estimation of relations in the context of marital conflict will extend these findings. While it is possible that parent-child warmth may reduce the probability of negative effects of marital conflict on children's adjustment, it is more likely that parent-child hostility constitutes a more pervasive influence that parent-child warmth (Belsky et al., 1996). Finally, Katz and Gottman (1997) found that no positive parenting variable (warmth, providing praise during parent-child interactions or inhibition of rejection) completely protected children from the negative effects of marital conflict. Nevertheless, positive parent-child behaviours did constitute partial buffers, whereby warmth, praise and the inhibition of derogatory remarks towards children had lower internalising and externalising problems than children whose parents did not score high on these measures.

As can be seen from the conceptual model (Figure 6.1), a particular direction of effects is proposed between the three constructs, whereby marital conflict determines the level of parent-child warmth and hostility measured a year later and the quality of parent-child relations in turn determines the level of children's maladjustment measured one year later. While it is possible the direction of effects can potentially be reversed as hypothesised by family systems theory (e.g., if one spouse withdraws from parenting this may further undermine the marriage, or a child with behaviour problems may make parenting more difficult; Cox et al., 2001) there are several lines of reasoning to support the direction of effects proposed in the conceptual model. First, several researchers propose that the quality of the marital relationship acts as the force that begins the domino of negative effects noted in family relations as a consequence of marital conflict (Belsky, 1981; 1984; Harold & Conger, 1997; Harold et al., 2001). Second, the findings of Chapter 4 indicated that marital conflict was more likely to influence the quality of the parent-child relationship than the converse, consistent with Erel and Burman (1995).

Third, previous research employing a prospective, longitudinal design supports a theoretical framework whereby marital conflict determines the quality of parent-child relationship, (Harold & Conger, 1997).

As can be seen in Figure 6.1, the conceptual model also controls for children's symptoms measured at Time 1. This is important for several reasons. Firstly, Chapter 5 provided evidence that children's symptoms of maladjustment influence the level of parent-child warmth and parent-child hostility. In particular, children's externalising increased parent-child hostility, consistent with studies that suggest children's externalising can influence parent behaviour (e.g., Brunk & Henggeler, 1984). In addition, children's internalising symptoms were also found to influence children's perceptions of the quality of parent-child relations, consistent with previous research by Harold and colleagues (1997; 2004). Controlling for symptoms also provides an index of change by estimating the stability of internalising symptoms and externalising problems allows greater confidence in the inference that the level of marital conflict or quality of parent-child relations is responsible for the observed change in symptom levels (Harold & Conger, 1997).

This study also considers the pattern of results varies according to parent and child gender. This is because interesting differences were noted in the previous studies presented in Chapters 4 and 5 and in previous research. For example, Webster-Stratton and Hammond (1999) reported that marital conflict was associated with an increase in mothers and fathers' critical parenting and decrease in warmth, but only mothers' low emotional responsiveness was linked to children's externalising problems, while for fathers, both critical and low emotional styles were related to increased externalising problems. In addition, a different pattern of results has been noted for child gender. For example, Gordis, Margolin and John (2001) found that parent-child hostility exacerbated

the effect of marital conflict on symptoms of internalising and externalising for boys but not girls. In contrast, Harold and Conger (1997) reported that parent-child hostility equally predicted an increase in internalising symptoms for boys and girls, but only increased externalising problems for boys not girls. Due to the lack of consistent findings, no specific predictions were made based on parent or child gender (Davies & Lindsay, 2001).

Finally, this study assesses models estimated using child and parents reports of marital conflict. Chapter 4 demonstrated that the best reporter of marital conflict appeared to be parent report when predicting parent-child relations, however the lack of significant paths when models were estimated with child report could have been due to the high stability of parent-child relations. In the present study therefore, both reporters were employed to assess the effect of marital conflict on family functioning and child adjustment. Furthermore, the pattern of results according to child report of marital conflict is likely to be as important as parent perceptions when considering questions regarding the influence of marital conflict on children's maladjustment (Grych et al., 2003). In addition, a combined measure of parent report and child report of parent-child warmth and parent-child hostility was employed to represent the quality of parent-child relations, as used in Chapter 4. A combined measure of two sources of information is preferable to just one reporter as it overcomes problems associated with mono-informant bias (Harold & Conger, 1997).

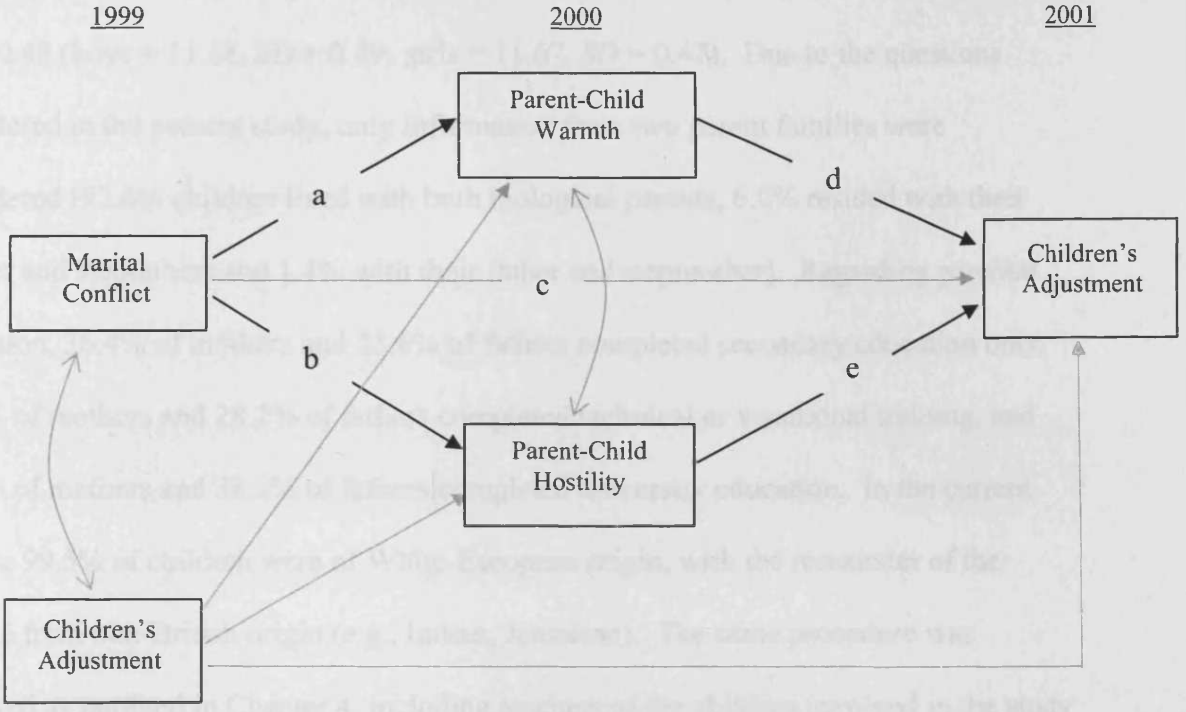


Figure 6.1: A conceptual framework of parent-child warmth and parent-child hostility as mediators of the relationship between marital conflict and children's adjustment across time. (Alphabetical labelling refers to paths noted in Table 6.3)

Method

Sample

The sample for the present studies derives from the same three year longitudinal study of South Wales families, described in the previous chapters. The present two studies uses information from all three time points; Time 1 (1999), Time 2 (2000) and Time 3 (2001), therefore in order to maximise the sample, a different number of families were included in the present sample as compared to previous studies. However preliminary analyses indicated that there were no significant differences between those included and those excluded from the sample on the variables of interest. The present sample for the analyses contained in this chapter consisted of 215 children (102 boys and 113 girls) whose mothers, fathers and teachers provided complete information on the variables of interest.

Children ranged in age from 11-13 years, with an average age at Time 1 of 11.67, *SD* = 0.48 (boys = 11.68, *SD* = 0.49; girls = 11.67, *SD* = 0.47). Due to the questions considered in the present study, only information from two parent families were considered (92.6% children lived with both biological parents, 6.0% resided with their mother and stepfathers and 1.4% with their father and stepmother). Regarding parental education, 36.4% of mothers and 33.6% of fathers completed secondary education only, 34.4% of mothers and 28.2% of fathers completed technical or vocational training, and 29.2% of mothers and 38.2% of fathers completed university education. In the current sample 99.5% of children were of White-European origin, with the remainder of the sample from non-British origin (e.g., Indian, Jamaican). The same procedure was followed as outlined in Chapter 4, including teachers of the children involved in the study completed questionnaires regarding the child's behaviour in their own time.

Measures

Parent's report of marital conflict

Three measures of marital conflict were obtained as described in Chapter 4. Cronbach's alpha indicated that each scale was reliable for both husband and wife report including estimates of the SMAT (Locke-Wallace, 1959) husband, α = .84 and wife, α = .78, marital hostility (IYFP, Melby et al., 1993) husband, α = .88 and wife, α = .88 and the OPS (Porter & O'Leary, 1980), α = .77 and α = .79 for husbands and wives respectively. Husband and wife responses were summed for all three measures to represent composite estimates of parents' marital dissatisfaction (α = .87), marital hostility (α = .88) and overt marital discord (α = .85).

Children's perceptions of marital conflict

Children completed the Conflict Properties subscale of the Children's Perception of Interparental Conflict Scale (CPIC; Grych et al., 1992) outlined in Chapter 4. Alpha

coefficients measuring the internal consistency of the scales were high (frequency, α = .82; intensity α = .82; resolution α = .78). The three scales combined to form the conflict properties scale also had good reliability (α = .91).

Quality of the parent-child relationship

The quality of the parent-child relationship was assessed at Time 2 (2000) by obtaining children's and parents' perceptions of the level of warmth and hostility expressed by parents towards children as employed in the two previous studies. Based on the results of Chapter 4, child and parent reports were summed to create a manifest measure of child and parent report of parent-child relations.

Parent and child report of parent-child warmth and hostility

Cronbach's alpha coefficients for the combined measure of child and parent report of parent-child relations assessed at Time 2 (2000) was good. Thus, child and mother report of mother-child warmth, α = .88, child and father report of father-child warmth, α = .86, and child and parent report of parent-child warmth, α = .91. Child and mother report of mother-child hostility, α = .86, child and father report of father-child warmth, α = .87, and child and parent report of parent-child hostility, α = .92.

Children's internalising symptoms

Children's internalising symptoms were assessed using the CDI (Kovacs, 1981) as described in Chapter 5 and also indicated good internal reliability both at Time 1 (α = .86) and Time 3 (α = .88) for the present sample.

Children's externalising problems

Teacher and child report of externalising behaviours were assessed using the CBCL (Child Behaviour Checklist; Achenbach, 1991) outlined in Chapter 5. Both reporters indicated good reliability for Time 1 (teacher, α = .95, child, α = .84) and Time 3 (α =.93 and α =.85 for teacher and child respectively). For the following analyses,

child and teacher reports of aggression were added to form a combined estimate of children's externalising problems. Reliability estimates of the combined measure was good (Time 1, $\alpha = .87$; Time 3, $\alpha = .90$).

Results

Preliminary Analyses

The means, standard deviations, and intercorrelations between parent and child report of marital conflict, parent and child combined reports of parent-child warmth and parent-child hostility, children's report of internalising symptoms and child and teacher report of children's externalising problems are presented in Table 6.1. Child and parent report of marital conflict were moderately correlated ($r = .29, p < .01$) as found in previous studies (Grych et al., 2003). The combined measure of child and parent reports of parent-child warmth was negatively correlated with parent-child hostility ($r = -.54, p < .01$). In addition mother-child warmth and father-child warmth were highly correlated ($r = .60, p < .01$) as was mother-child and father-child hostility ($r = .68, p < .01$), which is also consistent with previous studies (Schwartz et al., 1985). Children's symptoms at Time 1 were highly correlated with symptoms assessed two years later for internalising ($r = .60, p < .01$) and externalising problems ($r = .58, p < .01$).

Correlations between constructs were generally consistent with the theoretical model. As noted in previous studies (Grych et al., 2003; Harold & Conger, 1997), parent report of marital conflict at Time 1 was unrelated to children's symptoms of internalising or externalising at Time 1 or Time 3 (correlations ranged from $r = .04$ to $r = .06, p > .10$). Children's perception of marital conflict was linked to adjustment problems at Time 1 and Time 3 (ranging from $r = .19, p < .01$ to $r = .35, p < .01$).

Table 6.1: Intercorrelations, means and standard deviations among all indicators of theoretical constructs for Study 1
(N = 215; †p <.10. * p <.05. **p <.01.)

Variable	1	2	3	4	5	6	7	8	9	10	11	12
Time 1 (1999)												
1. Parent report of marital conflict	-											
2. Child report of marital conflict	.29**	-										
3. Children's internalising symptoms	.06	.35**	-									
4. Children's externalising problems	.06	.25**	.31**	-								
Time 2 (2000)												
5. Mother-child warmth (child and mother report)	-.29**	-.22**	-.29**	-.13†	-							
6. Father-child warmth (child and father report)	-.25**	-.27**	-.22**	-.10	.60**	-						
7. Parent-child warmth (child and parent report)	-.30**	-.27**	-.29**	-.13†	.89**	.90**	-					
8. Mother-child hostility (child and mother report)	.24**	.32**	.42**	.32**	-.55**	-.37**	-.51**	-				
9. Father-child hostility (child and father report)	.27**	.36**	.37**	.31**	-.35**	-.49**	-.47**	.68**	-			
10. Parent-child hostility (child and parent report	.28**	.37**	.43**	.34**	-.48**	-.47**	-.54**	.91**	.93**	-		
Time 3 (2000)												
11. Children's internalising symptoms	.04	.19**	.60**	.19**	-.24**	-.25**	-.27**	.35**	.38**	.40**	-	
12. Children's externalising problems	.06	.25**	.36**	.58**	-.20**	-.16*	-.20**	.39**	.29**	.37**	.41**	-
Mean	111.74	26.11	8.49	11.02	63.62	58.29	121.91	27.85	27.79	55.64	9.86	11.90
Standard Deviation	40.77	7.19	6.71	9.16	9.19	9.89	17.04	8.90	10.03	17.37	7.49	8.70

Child and parent report of the marital relationship was negatively correlated with parent-child warmth and positively correlated with parent-child hostility measured a year later. For example, the correlation between child report of marital conflict and parent-child warmth was $r = -.27, p < .01$, while the same correlation for parent report of marital conflict was $r = -.30, p < .01$. These correlations were similar for mother and father-child warmth, thus for child and parent report of marital conflict correlations ranged from $r = -.22, p < .01$ to $r = -.29, p < .01$. Similarly, parent and child report of marital conflict at Time 1 was positively associated with parent-child hostility assessed at Time 2 child report of marital conflict ($r = .37, p < .01$) and parent report ($r = .28, p < .01$). Again, correlations for mother-child and father-child hostility were comparable whether child or parent report of marital conflict was considered (ranging from, $r = .24, p < .01$ to $r = .36, p < .01$). In turn, parent-child warmth and parent-child hostility assessed at Time 2 were associated with maladjustment a year later. Specifically, parent-child warmth was negatively related to children's internalising symptoms ($r = -.27, p < .01$) and externalising problems ($r = -.20, p < .01$), while parent-child hostility was positively associated with both indices of maladjustment (internalising: $r = .40, p < .01$; and externalising, $r = .37, p < .01$).

Correlations between mother-child and father-child relations and internalising symptoms were similar (e.g., parent-child warmth: mothers, $r = -.24$ and father, $r = -.25$; parent-child hostility, mothers, $r = .35$ and fathers, $r = .38$, all significant at $p < .01$). Likewise, parent-child hostility was associated with increased externalising problems, while parent-child warmth was associated with lower externalising problems (mother-child hostility, $r = .39, p < .01$; father-child hostility, $r = .29, p < .01$; mother-child warmth, $r = -.20, p < .01$; father-child warmth, $r = -.16, p < .05$). Finally, children's internalising symptoms at Time 1 were associated with decreased mother-child ($r = -.29$,

p <.01) and father-child warmth (r = -.22, p <.01) and increased parent-child hostility (r = .43, p <.01) at Time 2. In contrast, children's externalising symptoms were significantly related to parent-child hostility (r - .34, p <.01) while a trend was noted between internalising symptoms and parent-child warmth (r = -.13, p <.10).

Intercorrelations are presented separately for boys and girls in Table 6.2. In general child report of marital conflict was more consistently associated with symptoms of maladjustment and parent-child relations for girls than boys. For example, while parent report of marital conflict was unrelated to both boys and girls' maladjustment at Time 1 and Time 3, boys' report of marital conflict was related to boys' internalising symptoms at Time 1 (r = .23, p<.05), but unrelated to externalising symptoms (r = .14, p >.10) and unrelated to both symptoms at Time 3. In contrast, girls' report of marital conflict was related to girls' internalising symptoms at both Time 1 (r = .44, p <.01) and Time 3 (r = .22, p <.05) and externalising problems at both time points (Time 1, r = .38, p <.01 and Time 3, r = .42, p <.01). In addition, parent report of marital conflict was consistently associated with parent-child warmth for boys (r = -.32, p <.01) and girls (r = -.29, p <.01) and parent-child hostility (r = -.36, p <.01 and r = .23, p <.05 for boys and girls respectively). However, differences were apparent between boys and girls for child perceptions of marital conflict. For girls, marital conflict was consistently related to decreased parent-child warmth (r = -.39, p <.01) however, boys' perceptions of marital conflict were unrelated to parent-child warmth (r = -.11, p >.10). Furthermore, while child perception of marital conflict was associated with father-child hostility for girls (r = -.38, p <.01) and boys (r = .33, p <.01), only girls' perception of marital conflict was related to mother-child hostility (r = .43, p <.01), whereas boys' perception of marital conflict was unrelated to mother-child hostility (r = .16, p >.10).

Table 6.2: Intercorrelations, means and standard deviations among all indicators of theoretical constructs for Study 1for Boys (N = 102; below diagonal) and Girls (N = 113; above diagonal)
(N = 215; †p <.10. * p <.05. **p <.01.)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	Mean	Standard Deviation
Time 1 (1999)														
1. Parent report of marital conflict	-	.34**	.11	.12	-.28**	-.24**	-.29**	.23*	.20*	.23*	.08	.11	111.39	44.12
2. Child report of marital conflict	.21*	-	.44**	.38**	-.33**	-.37**	-.39**	.43**	.38**	.44**	.22*	.42**	26.16	7.46
3. Children's internalising symptoms	.01	.23*	-	.38**	-.37**	-.27**	-.35**	.51**	.40**	.49**	.59**	.41**	8.59	7.14
4. Children's externalising problems	.01	.14	.27**	-	-.25**	-.12	-.20*	.51**	.43**	.51**	.18†	.53**	9.55	7.76
Time 2 (2000)														
5. Mother-child warmth (child and mother report)	-.31**	-.05	-.17†	-.01	-	.63**	.90**	-.59**	-.34**	-.50**	-.22*	-.27**	63.38	10.30
6. Father-child warmth (child and father report)	-.26**	-.14	-.15	-.09	.55**	-	.90**	-.41**	-.50**	-.50**	-.20*	-.13	58.59	10.37
7. Parent-child warmth (child and parent report)	-.32**	-.11	-.18†	-.06	.86**	.90**	-	-.56**	-.46**	-.55**	-.23*	-.22*	121.97	18.68
8. Mother-child hostility (child and mother report)	.26**	.16	.26**	.19†	-.48**	-.32**	-.45**	-	.67**	.90**	.38**	.43**	28.39	9.73
9. Father-child hostility (child and father report)	.39**	.33**	.32**	.22*	-.37**	-.47**	-.48**	.70**	-	.93**	.35**	.31**	28.01	10.97
10. Parent-child hostility (child and parent report	.36**	.27**	.32**	.22*	-.46**	-.43**	-.51**	.91**	.93**	-	.39**	.40**	56.40	18.94
Time 3 (2000)														
11. Children's internalising symptoms	.01	.14	.62**	.22*	-.27**	-.34**	-.35**	.30**	.42**	.40**	-	.45**	10.05	8.02
12. Children's externalising problems	.01	.12	.33**	.60**	-.15	-.20*	-.20*	.41**	.32**	.39**	.40**	-	10.44	7.53
Mean	112.13	26.05	8.38	12.66	63.89	57.95	121.84	27.26	27.54	54.80	9.66	13.51		
Standard Deviation	36.91	6.91	6.24	10.28	7.80	9.36	15.11	7.89	8.91	15.48	6.89	9.61		

Regarding the link between parent-child relations at Time 2 and children's adjustment at Time 3, parent-child warmth and parent-child hostility were consistently related to internalising symptoms and externalising problems for boys and girls. For example, parent-child warmth was related to lower internalising ($r = -.23, p < .01$) and externalising ($r = -.22, p < .05$) for girls and boys (internalising, $r = -.35, p < .01$ and externalising, $r = -.20, p < .05$). In addition, parent-child hostility was positively associated with internalising ($r = .39$, and $r = .40$, both $p < .01$) and externalising ($r = .40$ and $r = .39, p < .01$) for boys and girls respectively. However, two exceptions were noted to this pattern when considering mother-child and father-child warmth and boys' and girls' externalising problems. First, mother-child warmth was related to girls ($r = -.27, p < .05$) but not boys ($r = .15, p > .10$) externalising problems, while father-child warmth was related to boys' ($r = -.20, p < .05$) not girls' ($r = -.13, p > .10$) externalising problems.

Finally, turning to consider how children's initial symptoms at Time 1 are related to parent-child relations, results indicated that a more consistent pattern was apparent for parent-child hostility than parent-child warmth. For example, children's internalising and externalising symptoms were related to increase parent-child hostility for boys (internalising, $r = .32, p < .01$; externalising, $r = .22, p < .05$) and girls (internalising, $r = .49, p < .01$; externalising, $r = .51, p < .01$). For parent-child warmth however, a more consistent pattern emerged for girls than boys. For example, girls' internalising symptoms were negatively related to parent-child warmth for mothers ($r = -.37, p < .01$) and fathers ($r = .27, p < .01$), whereas boys' internalising symptoms were only marginally related to mother-son warmth ($r = -.17, p < .10$). For externalising problems, only girls' symptoms were related to decreased mother-daughter ($r = -.25, p < .01$) not father-daughter warmth ($r = -.12, p > .10$) and boys' externalising was unrelated to parent-son warmth for mothers ($r = -.02, p > .10$) and fathers ($r = -.09, p > .10$) respectively.

In summary, the pattern of correlations indicates that marital conflict was associated with decreased parent-child warmth and increased parent-child hostility measured one year later. This was true for both child and parent report of marital conflict, although girls' perceptions of marital conflict were more consistently related to parent-child warmth than boys' perceptions of marital conflict. In turn, parent-child warmth was associated with decreased and parent-child hostility related to increased adjustment problems one year later. The pattern of relations between parent-child relations and children's symptoms of maladjustment were generally consistent for mothers, fathers, boys and girls, except only mother-daughter (not father-daughter) warmth was linked to girls' externalising problems and only father-son (not mother-son) warmth was linked to boys' externalising problems. In addition, girls' perceptions of marital conflict were more consistently linked to their adjustment within and across time than boys' perceptions of marital conflict. Finally, girls' symptoms of maladjustment at Time 1 were more consistently linked to parent-child warmth than boys.

Structural Equation Modeling

Structural equation modeling (SEM; LISREL 8.52, Joreskog & Sorbom, 1996) using maximum likelihood estimation was used to test the theoretical model illustrated in Figure 6.1. Initial tests examining the existence of direct effects from marital conflict to adjustment problems measured two years later indicated that parent and child report of marital conflict did not predict internalising symptoms when internalising symptoms at Time 1 were controlled (parent report: $\beta = .00$ and child report: $\beta = -.03$, both $p > .10$). Similarly, parent report of marital conflict did not predict children's externalising problems when initial symptoms were controlled ($\beta = .02, p > .10$). However, child report of marital conflict did significantly predict children's externalising problems two years later, when controlling for initial levels of externalising ($\beta = .12, p < .05$). Stability

coefficients were high for these and all subsequent model tests (internalising symptoms: β = .61 and β = .60; externalising symptoms, β = .56 and β = .58, all p <.01 for child and parent report of marital conflict respectively). With the exception of the relationship between child reports of marital conflict and their later externalising problems, the pattern of correlations indicates that the parent-child relationship does not mediate the relationship between marital conflict and children's adjustment problems, consistent with criteria set out by Baron and Kenny (1986). This is consistent with previous research which has not found a consistent relationship between marital conflict and children's adjustment (Harold & Conger, 1997; Grych et al., 2003), particularly for parent report of marital conflict. Nevertheless, the quality of parent-child relations may still operate as a linking mechanism between marital conflict and children's adjustment (Grych et al., 2003; MacKinnon, Krull & Lockwood, 2000). This suggests that child and parent report of interparental conflict may lead to different conclusions regarding the pattern of relations between marital conflict, parent-child warmth and hostility, children's appraisals of marital and parent-child relations and children's adjustment and supports the need to conduct model tests separately for child and parent report of interparental conflict.

The theoretical model

Table 6.3 presents the significant conceptual paths for child and parent report of marital conflict separately, labelled *a* to *e* in Figure 6.1 presented earlier. All paths are noted except for the stability of children's adjustment and the influence of children's adjustment at Time 1 on parent-child relations at Time 2. In general, models estimated with parent or child report of marital conflict produced a similar pattern of significant paths, consistent with Grych et al., (2003). As for previous chapters, only a selection of figures will be presented for the purposes of illustration as a supplement to Table 6.3.

Table 6.3: Significant path estimates of the theoretical model Figure 6.1 examining the direct and indirect relationship between marital conflict, parent-child warmth, parent-child hostility and children's internalising symptoms and externalising problems. N = 215, Boys = 102, Girls = 113.

a – Marital conflict Time 1 to parent-child warmth Time 2
b – Marital conflict Time 1 to parent-child hostility Time 2
c – Marital conflict Time 1 to child adjustment Time 3
d – Parent-child warmth Time 1 to child adjustment Time 3
e – Parent-child hostility Time 1 to child adjustment Time 3

		Internalising		Externalising	
		Child	**Parent**	Child	**Parent**
Combined	a	-.20*	**-.28****	-.26*	**-.29****
	b	.25**	**.25****	.30**	**.26****
	c	--	--	--	--
	d	--	--	--	--
	e	.17*	**.16***	.15*	**.17***
Mothers	a	-.13[a]	**-.27****	-.20*	**-.28****
	b	. 20*	**.21***	.25**	**.22***
	c	--	--	--	--
	d	--	--	--	--
	e	.12[a]	**.11[a]**	.21*	**.23***
Fathers	a	-.22*	**-.24***	-.26*	**-.24***
	b	.26**	**.25****	.30**	**.25****
	c	--	--	--	--
	d	--	--	--	--
	e	.17*	**.16***	--	--
Boys	a	--	**-.32***	† --	**-.32***
	b	.21*	**.36****	.24*	**.36****
	c	--	--	† --	--
	d	† -.18*	† **-.21***	--	--
	e	--	**.16[a]**	.26*	**.29***
Girls	a	-.29*	**-.25***	† -.36*	**-.26***
	b	.27*	**.18***	.28*	**.17***
	c	--	--	† .23*	--
	d	† --	† --	--	--
	e	.18[a]	**.16[a]**	--	--
Boys – mothers	a	--	**-.31***	--	**-.31***
	b	--	**.26***	--	**.26***
	c	--	--	† --	--
	d	--	**-.15[a]**	--	--
	e	--	--	. 32*	**.33***
Girls – mothers	a	-.21*	**-.24***	-.27*	**-.25***
	b	.25*	**.17***	.27*	**.17***
	c	--	--	† .21*	--
	d	--	--	--	--
	e	--	--	--	**.19[a]**
Boys - Fathers	a	.11[a]	**-.26***	† --	**-.26***
	b	27*	**.39****	.30*	**.39****
	c	--	--	† --	--
	d	-.17*	† **-.19***	--	--
	e	.19*	**.22***	.17[a]	**.19***
Girls - Fathers	a	-.31*	**-.21***	† -.38**	**-.23***
	b	.25*	**.15[a]**	.25*	**.15[a]**
	c	--	--	† .26*	--
	d	--	† --	--	--
	e	.15[a]	--	--	--

[a] p <.10, *p <.05, **p <.01.
-- indicates a nonsignficiant path.
† indicates significantly different gender comparisons

Each model test produced a saturated solution, which means that all potential paths were estimated and therefore no degrees of freedom remained. Fit indices were therefore perfect for each model and so are not included in the figures. Discussion of the results will consider the paths noted in Table 6.3 and then consider the influence of children's earlier symptom levels on levels of parent-child warmth versus hostility.

The pattern of results for the combined sample of children and parents indicates that parent-child hostility provided the linking mechanism between marital conflict and children's internalising symptoms and externalising problems (see Figure 6.3) for both child and parent report of marital conflict. For example, Figure 6.2 presents the model for internalising symptoms estimated with parent report of marital conflict.

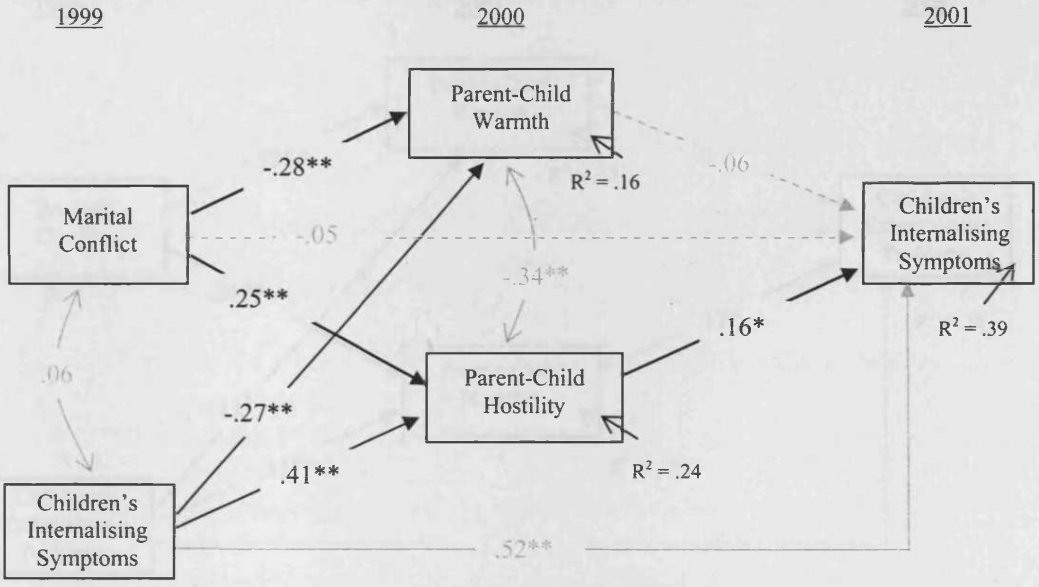


Figure 6.2: Maximum likelihood estimation of parents' perceptions of marital conflict and children's internalising symptoms at Time 1, parent and child report of parent-child warmth and parent-child hostility at Time 2, and children's internalising symptoms at Time 3. *p<.05, **p<.01.N = 215

As can be seen from Figure 6.2, parent report of marital conflict predicted low parent-child warmth (β = -.25, p <.01) and high parent-child hostility (β = .25, p <.01) a year later and in turn, parent-child hostility (β = .16, p <.05) but not parent-child warmth (β = -.06, p >.10) predicted children's internalising symptoms whist controlling for earlier

levels of adjustment. There was no evidence for a direct effect of marital conflict on children's adjustment (β = -.05, p >.10), therefore parent-child hostility provided the linking mechanism between marital conflict and children's adjustment two years later.

This pattern was replicated by child report of relations as can be seen in Table 6.3, whereby children's perception of marital conflict predicted low parent-child warmth (β = -.20, p >.05) and high parent-child hostility (β = .25, p <.01). In turn, parent-child hostility predicted children's internalising symptoms (β = .16, p <.05)

The same pattern of relations was confirmed for parent-reported model estimating children's externalising problems. For example, the combined sample estimated with parent report of relations is illustrated in Figure 6.3.

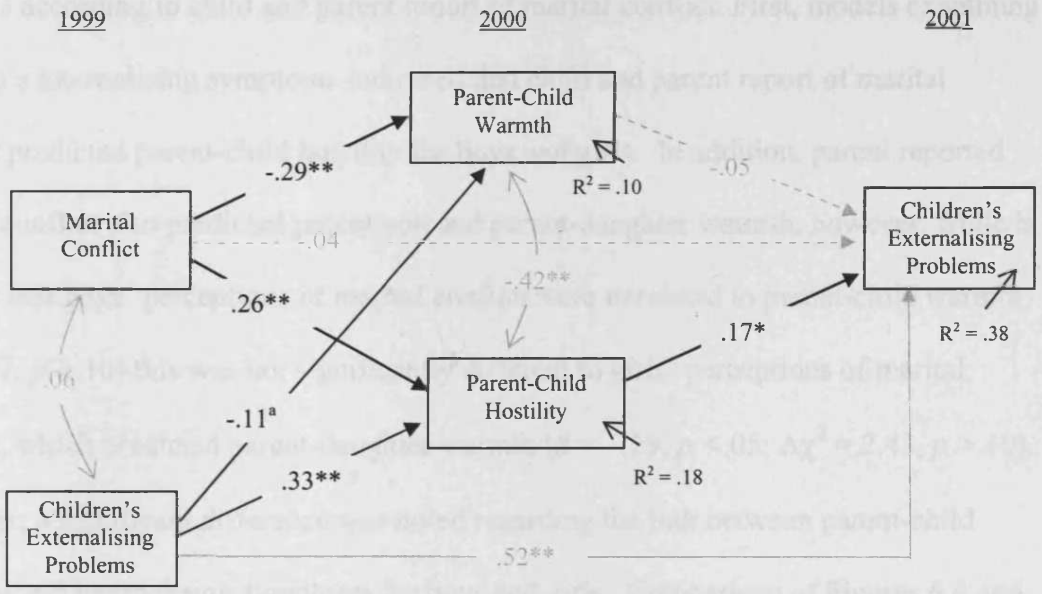


Figure 6.3: Maximum likelihood estimation of parents' perceptions of marital conflict and children's externalising problems at Time 1, parent and child report of parent-child warmth and parent-child hostility at Time 2, and children's externalising problems at Time 3. †p<.10, *p<.05, **p<.01. N = 215

Thus, as can be seen above, parent report of marital conflict predicted low parent-child warmth (β = .29, p <.01) and high parent-child hostility (β = .26, p <.01) and in turn, parent-child hostility increased children's externalising problems (β = .17, p <.05).

The pattern that parent-child hostility predicted children's internalising symptoms and externalising problems was also noted for model tests estimating mother-child relations. For example, mother-child hostility predicted children's externalising problems ($\beta = .23$ and $\beta = .21$, both $p < .05$) and, although not as strong, internalising symptoms ($\beta = .11$ and $\beta = .12$, both $p < .10$) for models estimated with parent and child reports of marital conflict respectively. However, father-child hostility only predicted children's internalising symptoms (for parent report, $\beta = .16$ and child report, $\beta = .17$, both $p < .05$) but was unrelated to children's externalising problems regardless of reporter of marital conflict (e.g., parent report: $\beta = .10, p > .10$).

Interesting differences emerged when the pattern of results was examined for boys and girls according to child and parent report of marital conflict. First, models examining children's internalising symptoms indicated that child and parent report of marital conflict predicted parent-child hostility for boys and girls. In addition, parent reported marital conflict also predicted parent-son and parent-daughter warmth, however, while it appears that boys' perceptions of marital conflict were unrelated to parent-child warmth ($\beta = -.07, p > .10$) this was not significantly different to girls' perceptions of marital conflict, which predicted parent-daughter warmth ($\beta = -.29, p < .05$; $\Delta\chi^2 = 2.43, p > .10$). However, a significant difference was noted regarding the link between parent-child relations and internalising symptoms for boys and girls. Comparison of Figures 6.4 and 6.5 suggests that while parent-child hostility predicted internalising symptoms for both boys and girls (both $\beta = .16, p < .10$) parent-child warmth only predicted internalising symptoms for boys ($\beta = -.21, p < .05$), not girls ($\beta = .03, p > .10$) and this difference was significant according to stacked model tests ($\Delta\chi^2 = 3.95, p > .05$). In addition, the pattern that parent-child warmth predicts boys, not girls' internalising symptoms was replicated for the child report model ($\Delta\chi^2 = 2.92, p < .10$)

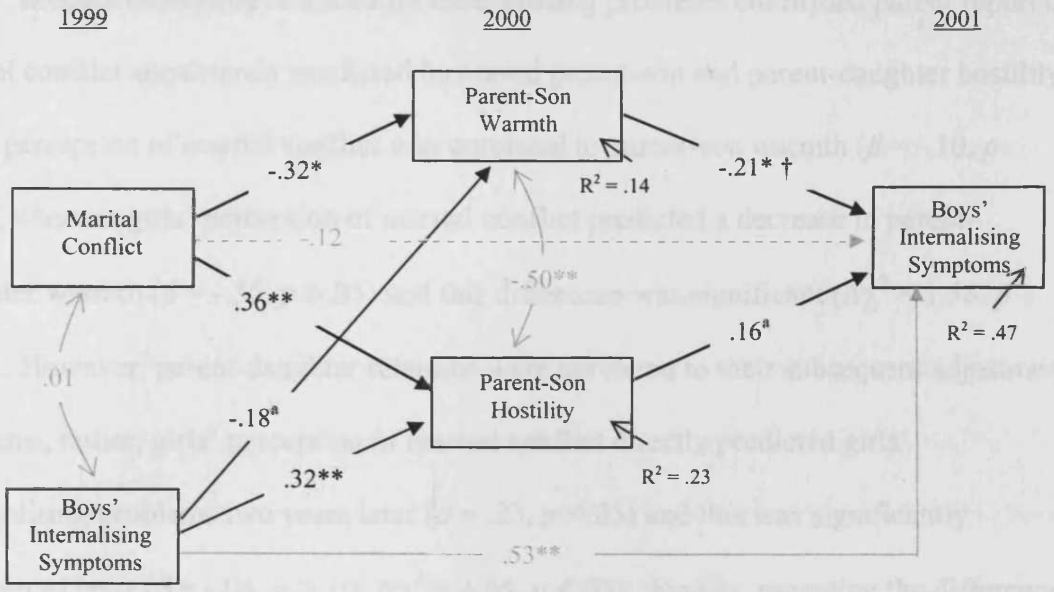


Figure 6.4: Maximum likelihood estimation of parents' perceptions of marital conflict and boys' internalising symptoms at Time 1, parent and child report of parent-son warmth and parent-son hostility at Time 2, and boys' internalising symptoms at Time 3. ªp<.10, *p<.05, **p<.01. † = denotes a significant gender difference. N = 102.

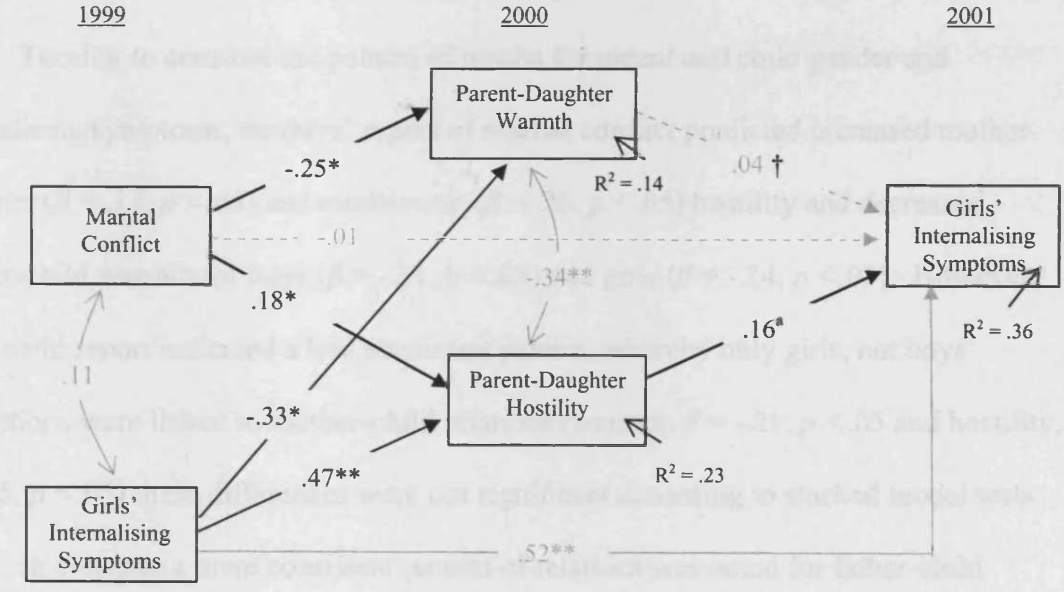


Figure 6.5: Maximum likelihood estimation of parents' perceptions of marital conflict and girls' internalising symptoms at Time 1, parent and child report of parent-daughter warmth and parent-daughter hostility at Time 2, and girls' internalising symptoms at Time 3. ªp<.10, *p<.05, **p<.01. † = denotes a significant gender difference N = 113

Models estimating relations for externalising problems confirmed parent report of marital conflict consistently predicted increased parent-son and parent-daughter hostility, boys' perception of marital conflict was unrelated to parent-son warmth ($\beta = -.10, p > .10$), whereas girls' perception of marital conflict predicted a decrease in parent-daughter warmth ($\beta = -.36, p > .05$) and this difference was significant ($\Delta\chi^2 = 3.58, p < .10$). However, parent-daughter relations were unrelated to their subsequent adjustment problems, rather, girls' perception of marital conflict directly predicted girls' externalising problems two years later ($\beta = .23, p < .05$) and this was significantly different to boys ($\beta = -.04, p > .10$; $\Delta\chi^2 = 4.95, p < .05$). Finally, regarding the difference between boys and girls for children's externalising problems, both reporters suggested parent-child hostility predicted boys' externalising problems (e.g., parent report: $\beta = .29$, $p < .05$), however although this path was not significant for girls ($\beta = .16, p > .10$) this gender difference was not significant ($\Delta\chi^2 = .00, p > .10$).

Turning to consider the pattern of results for parent and child gender and internalising symptoms, mothers' report of marital conflict predicted increased mother-daughter ($\beta = .17, p < .05$) and mother-son ($\beta = .26, p < .05$) hostility and decreased mother-child warmth for boys ($\beta = -.31, p < .05$) and girls ($\beta = -.24, p < .05$). However, while child report indicated a less consistent pattern, whereby only girls, not boys' perceptions were linked to mother-child relations (warmth, $\beta = -.21, p < .05$ and hostility, $\beta = .25, p < .05$) these differences were not significant according to stacked model tests.

In contrast, a more consistent pattern of relations was noted for father-child relations and internalising symptoms, particularly for father-son relations. Thus, for both child and parent report of marital conflict, father-son hostility increased boys' internalising ($\beta = .19$ and $\beta = .22$, both $p < .05$ for child and parent report respectively). In addition, father-son warmth decreased boys ($\beta = -.19, p < .05$) but not girls' ($\beta = .02, p$

>.10) internalising symptoms, but this was only significant according to stacked model comparisons for parent report ($\Delta\chi^2 = 2.93, p < .10$). In contrast, father-daughter hostility was only weakly related to girls' internalising symptoms, and only for girls' perceptions ($\beta = .15, p < .10$).

Finally, considering parent and child gender for externalising problems revealed that mother-child hostility was most consistently linked to children's externalising problems, but only for parent report. Thus, for parent reported models, mother-child hostility predicted increased externalising problems for boys ($\beta = .33, p < .05$) and girls ($\beta = .19, p < .05$), while father-child hostility appeared to predict externalising for boys ($\beta = .19, p < .05$) not girls ($\beta = .08, p > .10$), this gender difference was not significant ($\Delta\chi^2 = 0.70, p > .10$). In contrast, models estimated with child report of marital conflict indicated there were significant gender differences. First, girls' perception of marital conflict significantly predicted father-daughter warmth ($\beta = -.38, p < .01$) whereas boys' perception of marital conflict was unrelated to father-son warmth ($\beta =$.-.13, $p > .10$) and this difference was significant ($\Delta\chi^2 = 3.43, p < .10$). Finally, a direct effect from girls perception of marital conflict to their externalising problems was noted when considering both mother-daughter ($\beta = .21$) and father-daughter relations ($\beta = .26$, both $p < .05$), and this path was significantly different when compared to models for boys (mother-child relations: $\Delta\chi^2 = 3.79, p < .10$; father-child relations: $\Delta\chi^2 = 5.59, p < .05$).

Turning to consider how children's symptoms of maladjustment influence the quality of parent-child relations, models demonstrated that children's internalising symptoms consistently predicted decreased parent-child warmth and increased parent-child hostility for both child report and parent report models. For example, for models estimated with parent and child report of marital conflict respectively, children's internalising symptoms predicted decreased parent-child warmth ($\beta = -.27, p < .01$ and β

= -.22, p <.05) and increased parent-child hostility (β = .41 add β = .34, both p <.01). Only one gender difference was apparent for parent reported marital conflict, whereby children's internalising predicted a greater increase in mother-daughter (β = .49, p <.01) than mother-son hostility (β = .26, p <.05; $\Delta\chi^2$ = 3.50, p <.10).

However, children's externalising problems were more consistently linked to parent-child hostility than parent-child warmth. In particular, for child report of marital conflict, children's externalising problems were not linked to levels of parent-child warmth. However, externalising problems were linked to parent-child hostility for every gender comparison. In particular, for both child and parent reported models, girls' externalising symptoms consistently predicted greater parent-child hostility than boys' externalising problems, particularly from mothers. For example, for the parent reported model, girls' externalising was more strongly linked to mother-child hostility (β = .49, p <.01) than boys' externalising problems (β = .18, p <.10; $\Delta\chi^2$ = 5.84, p <.05).

In summary, the results for the mediating role of parent-child relations on children's adjustment revealed that parent-child hostility, assessed in the context of parent-child warmth, acted as a linking mechanism between marital conflict and children's adjustment. Marital conflict predicted increased parent-child hostility a year later, while parent-child hostility, in turn, predicted increased internalising symptoms and externalising problems. This was generally true across subgroup comparisons, except when children's perceptions of interparental conflict were employed where marital conflict was related to externalising problems for girls. In particular, while marital conflict predicted a decrease in parent-child warmth a year later, the degree of parent-child warmth was unrelated to children's adjustment when estimated in company with parent-child hostility. However, one exception to this was noted for boys, whereby father-child warmth decreased boys' internalising symptoms. In terms of the pattern of

results for parent gender, marital conflict was linked to more negative parent-child relation for mothers and father (i.e., decreased warmth and increased hostility), while mother-child hostility was more consistently linked to children's increased externalising problems, and father-child hostility was more consistently linked to children's internalising problems. The pattern of results was less consistent according to child gender, whereby reporter differences (of marital conflict) were also noted. In general, parent-child relations were more consistently linked to maladjustment for models that employed parent report of marital conflict and in particular, parent-child hostility was more often associated with boys' symptoms of maladjustment, particularly externalising problems. Considering both parent and child gender revealed that for boys, parent-child warmth (particularly for fathers) decreased boys' internalising symptoms, father-son hostility increased boys' internalising symptoms and parent-child hostility from mothers and fathers increased boys' externalising problems. For girls, very few significant relations were noted between the quality of parent-child relation and girls' adjustment. Finally, in almost all model tests, children's internalising symptoms decreased parent-child warmth, and increased parent-child hostility. In contrast, children's externalising problems only consistently predicted higher parent-child hostility, which was particularly true for girls' externalising problems and mother-daughter hostility.

Study 1 Discussion: The role of parent-child relations

This study examined if the quality of the parent-child relationship mediated the relationship between marital conflict and children's adjustment over a three-year period, whilst controlling for children's initial symptom levels. Support was found for a pattern of relations whereby marital conflict exerted effects on children's adjustment problems indirectly, by increasing parent-child hostility. Interesting gender differences were also

observed, offering insights into different mechanism of effect for the impact of marital conflict and boys and girls' adjustment problems in early adolescence.

This study replicates previous studies that have found an indirect relationship between marital conflict and children's adjustment mediated by the quality of parent-child relations (Fauber et al., 1994; Harold & Conger, 1997). However, this study extends previous studies by considering the relative influence of parent-child warmth and hostility within a prospective, three-year longitudinal design, whilst simultaneously controlling for earlier symptom levels, examining the role of parent and child gender and finally, considering the pattern of relations with parent and child as reporters of the marital relationship. This study also confirms the hypothesis that marital conflict acts as the catalyst of negative family influences on the child (Harold & Conger, 1997). Furthermore, the consistent pattern of results found when using parent and reports of family relations and child and teacher reports of adjustment problems indicates that the relationships found reflect more than a mono-informant bias.

The indirect effect via the quality of parent-child relations was primarily found for parent-child hostility, not parent-child warmth. This suggests that relative to parent-child warmth, parent-child hostility has a greater influence on children's well-being. In other words, marital conflict is likely to spillover into the parent-child relationship, and hostility expressed towards children partly accounts for increases in their symptoms of internalising and externalising behaviour. This is consistent with previous research (Harold and Conger, 1997; Margolin & John, 1997) that parent-child hostility is instrumental in the development of adjustment problems in the context of a discordant marital relationship. In the majority of model tests, the level of parent-child warmth estimated in the presence of parent-child hostility did not influence children's maladjustment. However, it was noted that parent-son warmth expressed by fathers in

particular, was related to lower levels of boys' internalising symptoms. While this finding was expected from the pattern of correlations which indicated parent-child warmth was more strongly related to boys than girls' internalising symptoms, Chapter 4 suggested that parent-child warmth was more consistently related to girls than boys' adjustment. In addition, previous studies have noted that parent-child warmth was more consistently related to girls than boys' internalising and externalising symptoms (Vandewater & Lansford, 1998). Subgroup analyses by parent and child gender revealed this protective role of parent-child warmth was particularly evident for fathers. This is interesting, suggesting that boys may be less distressed by marital conflict if fathers can maintain levels of warmth towards them. This may relate to the fact that the father-child relationship has been identified as more vulnerable to disruption in the context of marital conflict than the mother-child relationship (Belsky et al., 1991; Brody et al., 1985), and therefore any degree of warmth from fathers is particularly reassuring. The fact that warmth from fathers not mothers is most influential may also reflect the view that the father-child relationship is generally characterised by less warmth (Phares, 1996; Vandewater & Lansford, 1998). This is consistent with this study whereby according to initial t-tests, mother-child warmth was significantly higher than father-child warmth, and so father-son warmth seems particularly influential when it is expressed.

The finding that parent-child hostility was more consistently linked to boys than girls' externalising problems also replicates the gender difference noted by Harold and Conger (1997), whereby parent-child hostility predicted boys but not girls' externalising problems. This may partly be explained by the finding that boys were more likely to react to parent-child hostility with externalising than girls, as boys' externalising problems were significantly higher than girls at both Time 1 and Time 3. Further subgroup comparison suggested that the link between parent-child hostility and children's

externalising problems was particularly true for mother-child, rather than father-child relations. This supports the finding by some, that opposite-sex parent-child dyads are particularly influential (Osborne & Fincham, 1996), and the finding by McHale (1995) that parents of boys are more likely to engage in hostile competitive parenting than parents of girls.

Conversely, father-child hostility was more closely linked to children's internalising symptoms than externalising problems. This difference suggests that children are more likely to act out in response to hostility from mothers, but become depressed in response to hostility from fathers. This may be because mother hostility may be less threatening to children so they feel more able to express their distress in an overt manner, whereby because some report that fathers are more likely to use physical discipline than mothers (Lytton & Romney, 1991) children may be less likely to internalise their feelings of distress for fear of further hostility from fathers. However, this is purely speculative and requires further testing. Finally, the finding that parent-child hostility was generally more predictive of boys than girls' maladjustment is consistent with the hypothesis that disrupted family relationships have more negative consequences for boys than girls (Emery & O'Leary, 1982; McHale, 1995) and that boys may be less shielded from marital conflict (Cummings, Davies & Simpson, 1994).

Turning to consider the influence of children's symptoms on the quality of parent-child relations indicated that children's externalising problems increased parent-child hostility. This was particularly noteworthy for girls and mothers and, trend was also apparent that father-child hostility increased more in response to girls than boys' externalising problems. This is an interesting finding, and may be explained by the stereotype that parents may hold that aggression and acting behaviour may be viewed as less appropriate behaviour for girls than boys (Durkin, 1995). This finding is also similar

to that found by Kerig et al., (1993) whereby fathers and particularly mothers, reacted negatively to girls' defiant behaviour. In addition, children's internalising symptoms predicted more negative parent-child relations characterised by high hostility and low warmth. While this has often been suggested to be due to negative affectivity bias (Watson & Pennebaker, 1989; Kim & Ge, 2000), whereby depressed children are more likely to perceive parents' behaviour in a negative light, the present study provides some evidence that this is not just negative affectivity bias because the quality of parent-child relations was assessed with a combined measure of parent and child report. Therefore, it seems that parents may act more negatively towards children who display internalising symptoms in the context of marital conflict. This suggests that children who manifest symptoms of anxiety and depression elicit negative affect from their parents.

Finally, this study found comparable results according to child and parent gender, with only two main differences. First, a direct effect between marital conflict and girls' externalising problems was noted for models that employed children's perception of interparental conflict. This is consistent with previous research that suggests a direct effect is more likely when children report on the marital relationship than parents (Grych et al., 2003; Harold et al., 1997), as parents may be unaware of the extent to which children are aware of marital conflict. Second, models estimated with parent report of marital conflict produced more significant paths from parent-child relations to children's adjustment. This maybe because child report of marital conflict accounts for a greater proportion of variance in the measure of parent-child relations, meaning there is a smaller amount of variation remaining in the measure of parent-child relations to account for adjustment problems.

This study confirms the importance of assessing the quality of parent-child relations in the context of marital conflict. Indeed, Harold et al., (2004) recently

suggested that children's response to marital conflict rarely occurs in isolation of other family relations. A model that considers children's perception of both parent-child relations and inferences children make about marital conflict is likely to contribute to further explain the processes that account for the influence of marital conflict on children's adjustment. Study 2 described below, provides the first longitudinal test of a family-wide model that assesses marital conflict as a stimulus for activation of changes in the parent-child relationship along with changes in children's appraisals of the marital and parent-child relationship that may combined to account for children's symptoms of psychological distress.

Study 2: The role of social cognitions

Study 2 builds on Study 1 by adding two further mechanisms that may further elucidate the processes through which marital conflict exerts effects on child adjustment, namely children's appraisals of threat and self-blame and appraisals of security in the parent-child relationship. Several questions are addressed in the conceptual model outlined in Figure 6.6. While marital conflict may exert a direct effect on children's appraisals of security in the parent-child relationship and children's appraisals of threat and self-blame, it is also possible that the degree of parent-child warmth, and/or parent-child hostility mediates this relationship. In addition, while Study 1 demonstrated parent-child hostility directly influenced children's maladjustment, it is also possible that the influence of the quality of parent-child relations is mediated by children's appraisals of marital conflict and security within parent-child relations.

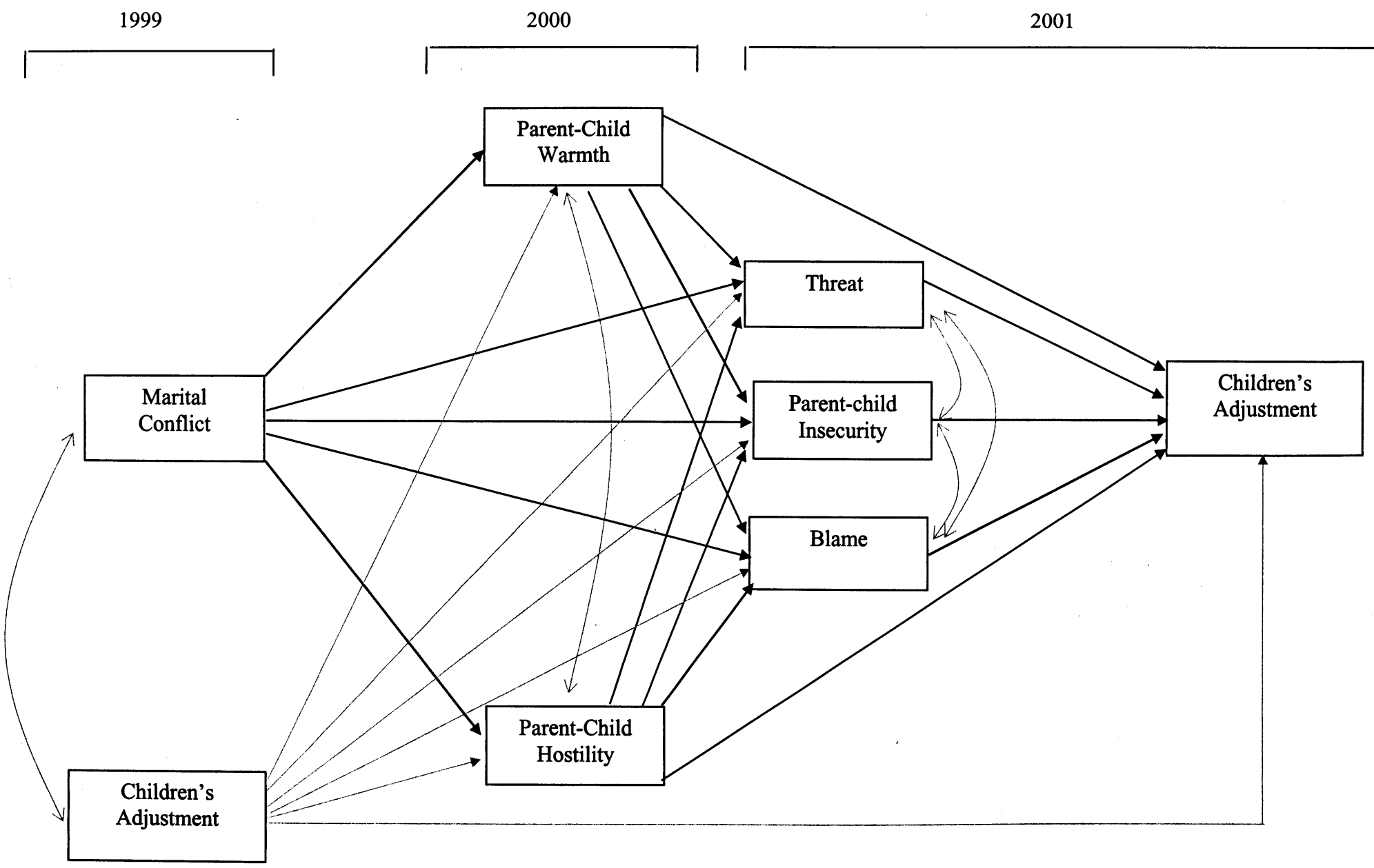


Figure 6.6: A conceptual model outlining the quality of parent-child relations, children's appraisals of parent-child insecurity, threat and self-blame, as mediators of the relationship between marital conflict and children's adjustment.

No research has investigated how parent-child hostility and warmth, assessed in the context of marital conflict, are related to children's appraisals of the marital and parent-child relationship. However, there is evidence to suggest that marital conflict expressed in the context of warm parent-child relations may reduce its negative impact on children's adjustment (Conger, 2001; Frosch & Mangelsdorf, 2000; Katz & Gottman, 1997). The mechanism that may account for this finding, although not yet subject to empirical test, is that children feel less threatened by and responsible for conflict that occurs if parents are able to main parent-child relations characterised by some degree of warmth and affection. Conversely, parent-child hostility is likely to increase children's feelings of threat and self-blame, particularly self-blame, whereby children who experience parental anger that is a product of marital conflict are more likely to feel that they were the cause of the interparental conflict. In addition, there is some evidence to indicate that parent-child warmth is likely to increase children's security in the parent-child relationship (Owen & Cox, 1997; Paley et al., 2000). Therefore, it is expected that parent-child warmth is likely to increase feelings of security in the parent-child relationship, whereby despite the presence of marital conflict, children are reassured by the expression of warmth and affection by parents that their relationship is relatively safe from disruption. In contrast, there is a large body of evidence that parent-child hostility will increase children's feelings of insecurity with their parents (Owen & Cox, 1997; Paley et al., 2000), possibly due the fact that parent-child hostility confirms to children that not only are parents caught up in marital conflict, they are less able to maintain warm parent-child relations.

In turn, it is expected that children's appraisals of threat and self-blame and security in the parent-child relationship will mediate the influence of parent-child warmth and hostility on children's internalising symptoms and externalising problems. In particular, it is expected that parent-child security will predict both internalising and

externalising symptoms as found in previous studies (Harold et al., 2004; Frosch & Mangelsdorf, 2000; Kerns et al., 1996). Furthermore, as demonstrated by Harold et al., (2004) it was expected that parent-child security would continue to influence children's maladjustment in company with children's appraisals in relation to marital conflict. Previous research has demonstrated links with children's perceptions of threat and internalising symptoms (Grych et al., 2000; Grych et al., 2003; Kerig, 1998b). In contrast, children's appraisals of self-blame have been linked to children's internalising symptoms (Dadds et al., 1999; Grych et al., 2000; Kerig, 1998b) and externalising problems (Grych et al., 2003; Kerig, 1998). Therefore, specifically it was expected that threat would be linked to children's internalising symptoms while self-blame may influence both internalising and externalising problems. As for Study 1, the models tested in this study also control for children's initial symptoms levels. As found by Harold et al., (2004) it was expected that children's internalising symptoms would increase children's perception of threat, self-blame and parent-child insecurity. A less consistent relationship was expected between children's externalising problems and children's appraisals of parent-child relations, as found by previous research (Harold et al., 2004).

This study examines the relationship outlined in Figure 6.6 in a sample of early adolescents. While attachment behaviour may decline with age (e.g., using the parent as a secure base from which to explore), many suggest that the attachment bond does not decline (Bowlby, 1980) and may remain strong across childhood and adulthood (Kerns et al., 1996). In particular, children are likely to seek comfort from an attachment figure in times of stress (Bowlby, 1980) and many researchers have demonstrated that marital conflict is a significant stressor for children (Cummings & Davies, 1994; Emery, 1982; Rutter, 1977). In summary, it is hypothesised that parent-child warmth and parent-child

hostility will mediate the relationship between marital conflict and children's perceptions of threat and self-blame and children's insecurity in the parent-child relationship, and in turn, these appraisals of the marital and parent-child relationship are proposed to influence children's level of internalising symptoms and externalising problems. In particular, links between parent-child hostility and self-blame and parent-child warmth and children's appraisals of parent-child security are expected.

Method

The sample for Study two includes the same families as described in Study 1, namely 215 children, parents and teachers (102 boys and 113 girls). The remaining demographic information and procedure were exactly as outlined above.

Measures

This study employs all the of the measures outlined above (parent report of marital conflict, children's perceptions of interparental conflict, parent and child report of parent-child warmth and hostility, children's internalising symptoms and externalising problems) with three additional measures that comprise children's appraisals of the marital and parent-child relations assessed at Time 3.

Children's appraisals of threat and self-blame

Two further subscales of the Children's Perceptions of Interparental Conflict scale (CPIC; Grych et al., 1992) comprising of Perceived Threat and Self-Blame were used to assess these respective appraisals. The Threat subscale is made up of twelve items that reflect children's fears and worries that may result from interparental conflict, and also children's perceived coping efficacy. As for the conflict properties subscale of the CPIC, children answered, 'true', 'sort of true', or 'false' to a series of statements. Threat items include items that assess fear for the stability of the family e.g., 'When my parents argue I

worry that they might split up', and fear for personal well-being, e.g., 'When my parents argue I am afraid they will shout at me'. Coping items tap into how well children feel they can deal with the conflict and include items such as, 'I don't know what to do when my parents have arguments', and, 'When my parents argue or disagree there is nothing I can do to make myself feel better'. One item, 'When my parents argue I'm afraid one of them will get hurt', was omitted because of concerns raised during the process of receiving ethical approval. Nine items comprised the Self-Blame subscale which included questions that reflected children's perception of the content of the argument, e.g., 'My parents' arguments are usually about something I did', and, 'My parents often get into arguments when I do something wrong'. Items tapping degree of self-blame included, 'It is usually my fault when my parents argue', and 'My parents blame me when they have arguments'. Both measures were internally consistent according to Cronbach's alpha tests: Threat, $\alpha = .87$, Self-Blame, $\alpha = .82$.

Children's appraisals of parent-child security

Children's appraisals of parent-child security was measured using the Kern's Security Scale (KSS: Kerns et al., 1996) which is a child report measure of perceived availability and dependability of each parent in times of stress. The scale comprised of 15 items, and the child answered the questions twice, once for mothers and once for fathers. Due to the question addressed in this study, the scale was recoded to reflect felt insecurity in the parent-child relationship. Items were presented using the same format as Harter's (1982) 'Some kids...Other kids...' scale whereby each item was presented as a choice between two alternatives, for example, 'Some kids worry that their mum might not be there when they need her *but* other kids are sure their mum will be there when they need her', and, 'Some kids find it easy to count on their dad for help *but* other kids think it's hard to count on their dad'. Children were instructed to choose one sentence and

indicate the extent to which it was true of them. Both subscales were reliable for mothers and fathers, availability: mother, $\alpha = .76$, father, $\alpha = .80$; dependency: mother, $\alpha = .80$, father, $\alpha = .81$ and mothers and fathers combined: availability: $\alpha = .82$, dependency: $\alpha = .84$. Finally, for the combined model parent-child security for mothers and fathers was combined, for which reliability was also good, $\alpha = .90$.

Results

Preliminary Analyses

The means and standard deviations for parent and child report of marital conflict, parent and chid combined reports of parent-child warmth and parent-child hostility, children's appraisals of threat, self-blame and parent-child insecurity, children's report of internalising symptoms and child and teacher report of children's externalising problems are presented in Table 6.4.

Table 6.4: Means and Standard Deviations for all Study 2 variables (n = 215; Boys n = 102; Girls n = 113)

Variable	Combined		Boys		Girls	
	M	SD	M	SD	M	SD
Time 1 (1999)						
1. Parent report of marital conflict	111.74	40.77	112.13	36.91	111.39	44.12
2. Child report of marital conflict	26.11	7.19	26.05	6.91	26.16	7.46
3. Children's internalising symptoms	8.49	6.71	8.38	6.24	8.59	7.14
4. Children's externalising problems	11.02	9.16	12.66	10.28	9.55	7.76
Time 2 (2000)						
5. Mother-child warmth (child and mother report)	63.62	9.19	63.89	7.80	63.38	10.30
6. Father-child warmth (child and father report)	58.29	9.89	57.95	9.36	58.59	10.37
7. Parent-child warmth (child and parent report)	121.91	17.04	121.84	15.11	121.97	18.68
8. Mother-child hostility (child and mother report)	27.85	8.90	27.26	7.89	28.39	9.73
9. Father-child hostility (child and father report)	27.79	10.03	27.54	8.91	28.01	10.97
10. Parent-child hostility (child and parent report	55.64	17.37	54.80	15.48	56.40	18.94
Time 3 (2000)						
11. Children's appraisals of threat	17.58	4.57	17.21	4.46	17.91	4.66
12. Children's appraisals of mother-child insecurity	24.54	7.37	24.16	5.44	24.89	8.77
13. Children's appraisals of father-child insecurity	26.96	8.05	25.88	7.37	27.94	8.53
14. Children's appraisals of parent-child insecurity	51.51	12.95	50.04	11.09	52.84	14.34
15. Children's appraisals of self-blame	12.21	3.70	12.64	3.67	11.82	3.70
16. Children's internalising symptoms	9.86	7.49	9.66	6.89	10.05	8.02
17. Children's externalising problems	11.90	8.70	13.51	9.61	10.44	7.53

From Table 6.4, it can be seen that while the degree of parent-child hostility was comparable from mothers (M = 27.85) and fathers (M = 27.79), parent-child warmth was significantly lower for fathers (M = 58.29) than mothers (M = 63.62) according to a paired samples t-test ($t(214) = 9.11, p < .10$). In addition, children's perceptions of father-child insecurity were significantly higher than mother-child insecurity (father-child insecurity, M = 26.96, mother-child insecurity, M = 24.54; $t(214) = 4.22, p < .01$). Children's externalising remained stable between Time 1 (M = 8.49) and Time 2 (M = 9.86; $t(214) = 1.54, p > .10$), while children's internalising significantly increased across the two years (Time 1 = 8.49, Time 2 = 9.86; $t(214) = 3.16, p < .01$). Boys and girls reported similar levels of marital conflict, parent-child warmth parent-child hostility, threat, self-blame and internalising symptoms. Only two differences were apparent, first girls reported significantly higher father-child insecurity (M = 27.94) than boys (M = 25.88) according to an independent samples t-test: $t(213) = 1.89, p < .10$. Second, boys demonstrated higher levels of externalising problems than girls at both time points (e.g., Time 3: boys, M = 13.51, girls, M = 10.44, $t(213) = 2.62, p < .01$).

Table 6.5: Intercorrelations among all indicators of theoretical constructs for Study 2 (N = 215; †p <.10. * p <.05. **p <.01.)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Time 1 (1999)																	
1. Parent report of marital conflict	-																
2. Child report of marital conflict	.29**	-															
3. Children's internalising symptoms	.06	.35**	-														
4. Children's externalising problems	.06	.25**	.31**	-													
Time 2 (2000)																	
5. Mother-child warmth (child and mother report)	-.29**	-.22**	-.29**	-.13†	-												
6. Father-child warmth (child and father report)	-.25**	-.27**	-.22**	-.10	.60**	-											
7. Parent-child warmth (child and parent report)	-.30**	-.27**	-.29**	-.13†	.89**	.90**	-										
8. Mother-child hostility (child and mother report)	.24**	.32**	.42**	.32**	-.55**	-.37**	-.51**	-									
9. Father-child hostility (child and father report)	.27**	.36**	.37**	.31**	-.35**	-.49**	-.47**	.68**	-								
10. Parent-child hostility (child and parent report	.28**	.37**	.43**	.34**	-.48**	-.47**	-.54**	.91**	.93**	-							
Time 3 (2000)																	
11. Children's appraisals of threat	.12†	.36**	.28**	.10	-.16*	-.17*	-.18**	.21**	.25**	.25**	-						
12. Children's appraisals of mother-child insecurity	.14*	.35**	.39**	.16*	-.51**	-.24**	-.41**	.41**	.25**	.36**	.32**	-					
13. Children's appraisals of father-child insecurity	.12†	.38**	.29**	.18**	-.19**	-.40**	-.33**	.18**	.26**	.24**	.29**	.41**	-				
14. Children's appraisals of parent-child insecurity	.15*	.43**	.40**	.20**	-.41**	-.39**	-.44**	.35**	.30**	.35**	.37**	.82**	.85**	-			
15. Children's appraisals of self-blame	.07	.20**	.25**	.16*	-.13†	-.07	-.11	.33**	.27**	.32**	.48**	.34**	.16*	.30**	-		
16. Children's internalising symptoms	.04	.19**	.60**	.19**	-.24**	-.25**	-.27**	.35**	.38**	.40**	.36**	.43**	.47**	.54**	.40**	-	
17. Children's externalising problems	.06	.25**	.36**	.58**	-.20**	-.16*	-.20**	.39**	.29**	.37**	.23**	.37**	.20**	.34**	.37**	.41**	-

Intercorrelations between all constructs used to test the theoretical model in Figure 6.6 are presented in Table 6.5. Correlations between constructs were generally consistent with the theoretical model. As found in previous studies (Grych et al., 1992; Grych et al., 2003) children's appraisals of threat and self-blame were positive correlated ($r = .18, p < .01$). Children's appraisals of mother-child and father-child insecurity were also highly correlated ($r = .41, p < .01$). Children's perceptions of threat ($r = .37, p < .01$) and self-blame ($r = .30, p < .01$) were significantly associated with parent-child insecurity. However, while threat was associated equally with mother-child ($r = .32, p < .01$) and father-child insecurity ($r = .29, p < .01$), self-blame was more consistently associated with mother-child than father-child insecurity (mother-child insecurity, $r = .34, p < .01$; father-child insecurity, $r = .16, p < .05$). Children's perceptions of interparental conflict were consistently associated with increased threat ($r = .36, p < .01$), self-blame ($r = .20, p < .01$) and parent-child insecurity (equally for mothers, $r = .35$ and fathers, $r = .38$, both $p < .01$). In contrast, parent report of marital conflict was weakly associated with threat ($r = .12, p < .10$), mother-child insecurity ($r = .14, p < .05$) and father-child insecurity ($r = .12, p < .10$), but unrelated to self-blame ($r = .07, p > .10$) assessed two years later. Parent-child hostility was consistently related to increased threat ($r = .25, p < .05$), self-blame ($r = .32$, $p < .01$) and parent-child insecurity ($r = .35, p < .01$). Conversely, parent-child warmth was consistently associated with decreased parent-child insecurity ($r = -.44, p < .01$) and to a less extent decreased threat ($r = -.18, p < .05$). However, parent-child warmth was weakly associated with children's perceptions of self-blame assessed a year later, with only mother-child warmth correlated with decreased self-blame ($r = -.13, p < .10$).

Children's appraisals of threat assessed at Time 2 were significantly associated with internalising symptoms ($r = .36, p < .01$) and externalising problems ($r = .23, p < .01$) assessed at Time 3. Similarly, perceptions of self-blame were associated with

internalising and externalising symptoms (r = .40 and r = .37, both p <.01 for internalising and externalising respectively). In addition, children's perception of parent-child insecurity was correlated with internalising symptoms (r = .54, p <.01) and externalising problems (r = .34, p <.01), with associations comparable for mothers and fathers (e.g., internalising symptoms: mother-child insecurity, r = .43, father-child insecurity, r = .47, both p <.01). Finally, children's internalising symptoms at Time 1 were related to threat (r = .28, p <.01) and self-blame (r = .25, p <.01) at Time 2, while externalising problems were related to self-blame (r = .16, p <.05) but unrelated to threat (r = .10, p >.10). Both indices of maladjustment were associated with later appraisals of parent-child insecurity (e.g., internalising, r = .40, p <.01 and externalising, r = .20, p <.01).

Table 6.6 presents the pattern of correlations for boys and girls separately. As reported for the combined sample, girls' appraisals of threat and self-blame were highly correlated (r = .50, p <.01) as were boys (r = .48, p <.01). Similarly, girls (r = .38, p <.01) and boys' (r = .49, p <.01) perceptions of mother-child and father-child insecurity were highly correlated. For girls, perceptions of self-blame were appeared to be more highly correlated with mother-daughter (r = .41, p <.01) than father-daughter insecurity (r = .17, p <.10). This was also similar for boys' perception of self-blame and parent-child security (mother-son security, r = .27, p <.01, father-son security, r = .20, p <.05).

Table 6.6: Intercorrelations among all indicators of theoretical constructs for Study 2 for boys (N = 102; below diagonal) and girls (N = 113; above diagonal). N = 215; $^{\dagger}p < .10$. * $p < .05$. ** $p < .01$.

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Time 1 (1999)																	
1. Parent report of marital conflict	-	.34**	.11	.12	-.28**	-.24**	-.29**	.23*	.20*	.23*	.17†	.18†	.19*	.22*	.16†	.08	.11
2. Child report of marital conflict	.21*	-	.44**	.38**	-.33**	-.37**	-.39**	.43**	.38**	.44**	.36**	.40**	.36**	.46**	.19*	.22*	.42**
3. Children's internalising symptoms	.01	.23*	-	.38**	-.37**	-.27**	-.35**	.51**	.40**	.49**	.41**	.47**	.33**	.49**	.30**	.59**	.41**
4. Children's externalising problems	.01	.14	.27**	-	-.25**	-.12	-.20*	.51**	.43**	.51**	.13	.27**	.19*	.28**	.06	.18†	.53**
Time 2 (2000)																	
5. Mother-child warmth (child and mother report)	-.31**	-.05	-.17†	-.02	-	.63**	.90**	-.59**	-.34**	-.50**	-.24*	-.52**	-.20*	-.44**	-.23*	-.22*	-.27**
6. Father-child warmth (child and father report)	-.26**	-.14	-.15	-.09	.55**	-	.90**	-.41**	-.50**	-.50**	-.22*	-.21*	-.42**	-.38**	-.05	-.20*	-.13
7. Parent-child warmth (child and parent report)	-.32**	-.11	-.18†	-.06	.86**	.90**	-	-.55**	-.46**	-.55**	-.25**	-.40**	-.34**	-.45**	-.16	-.23*	-.22*
8. Mother-child hostility (child and mother report)	.26**	.16	.26**	.19†	-.48**	-.32**	-.45**	-	.67**	.90**	.22*	.42**	.25**	.40**	.28**	.38**	.43**
9. Father-child hostility (child and father report)	.39**	.33**	.32**	.22*	-.37**	-.47**	-.48**	.70**	-	.93**	.30**	.21*	.29**	.30**	.28**	.35**	.31**
10. Parent-child hostility (child and parent report	.36**	.27**	.32**	.22*	-.46**	-.43**	-.51**	.91**	.93**	-	.28**	.34**	.30**	.38**	.30**	.39**	.40**
Time 3 (2000)																	
11. Children's appraisals of threat	.05	.35**	.11	.11	-.05	-.11	-.09	.19†	.18†	.20*	-	.40**	.26**	.40**	.50**	.46**	.23*
12. Children's appraisals of mother-child insecurity	.06	.27**	.25*	.08	-.47**	-.33**	-.45**	.40**	.33**	.40**	.21*	-	.38**	.84**	.41*	.41**	.48**
13. Children's appraisals of father-child insecurity	.01	.41**	.23*	.23*	-.18†	-.39**	-.33**	.06	.21*	.15	.32**	.49**	-	.82**	.17†	.48**	.27**
14. Children's appraisals of parent-child insecurity	.04	.40**	.27**	.19†	-.35**	-.42**	-.44**	.24*	.30**	.29**	.31**	.81**	.90**	-	.35**	.54**	.47**
15. Children's appraisals of self-blame	.05	.23*	.20*	.21*	.01	-.08	-.04	.42**	.27**	.37**	.48**	.27**	.20*	.26**	-	.51**	.36**
16. Children's internalising symptoms	.01	.14	.62**	.22*	-.27**	-.34**	-.35**	.30**	.42**	.40**	.23*	.50**	.44**	.54**	.26**	-	.45**
17. Children's externalising problems	.01	.12	.33**	.60**	-.15	-.20*	-.20*	.41**	.32**	.39**	.27**	.32**	.18†	.27**	.36**	.40**	-

Girls' perceptions of threat were similarly associated with mother-daughter ($r = .40, p < .01$) and father-daughter insecurity ($r = .26, p < .01$), whereas boys' perception of threat appeared to be correlated more strongly to father-son insecurity ($r = .32, p < .01$) than mother-son insecurity ($r = .21, p < .05$). As reported for the combined sample, girls and boys' perceptions of marital conflict were highly correlated with their appraisals of parent-child insecurity (e.g., girls, $r = .46$, boys, $r = .40$, both $p < .01$). In addition, girls ($r = .36, p < .01$) and boys' ($r = .35, p < .01$) perceptions of interparental conflict at Time 1 were linked to perceptions of threat at Time 3. Boys' perception of marital conflict was moderately associated with self-blame ($r = .23, p < .01$) while girls' perception of marital conflict was weakly associated with blame ($r = .16, p < .10$). In contrast, parent report of marital conflict was unrelated to boys' appraisals of threat, self-blame, or parent-son insecurity, but weakly correlated with girls' appraisals of threat ($r = .17, p < .10$) self-blame ($r = .16, p < .10$) and parent-daughter insecurity ($r = .22, p < .05$).

The quality of parent-child relations was more consistently linked to girls than boys' appraisals of the marital and parent-child relationship, particularly for parent-child warmth. For girls, parent-daughter hostility was linked to increased threat ($r = .28, p < .01$), self-blame ($r = .30, p < .01$) and parent-daughter insecurity ($r = .38, p < .01$). And while parent-daughter warmth was negatively linked to girls' appraisals of threat ($r = -.25, p < .01$) and parent-child insecurity ($r = -.45, p < .01$), only mother-daughter warmth was linked to lower self-blame ($r = -.23, p < .05$), while father-daughter warmth was unrelated to self-blame ($r = -.05, p > .10$). For boys, parent-son hostility was associated with higher levels of boys' perceptions of self-blame ($r = .37, p < .01$), threat ($r = .20, p < .01$) and parent-son insecurity ($r = .29, p < .01$). In contrast, while parent-son warmth was correlated with decreased parent-son insecurity ($r = -.44, p < .01$), parent-son warmth

was unrelated to boys' perceptions of threat (r = -.09, p >.10) or self-blame (r = -.04, p >.10).

Appraisals of self-blame at Time 2 were associated with girls and boys' internalising and externalising symptoms (ranging from r = .26 to r = .51, all significantly at p <.01) at Time 3. Girls' appraisals of threat were more strongly associated with internalising symptoms (r = .46, p <.01) than externalising problems (r = .23, p <.05) while boys' appraisals of threat appeared to be more strongly related to externalising problems (r = .27, p <.01) than internalising symptoms (r = .23, p <.05). Girls' perception of parent-daughter insecurity was equally related to girls' symptoms of internalising and externalising for mothers and fathers (ranging from r = .27 to r = .48, all p <.01), while parent-son insecurity was equally linked to boys' internalising symptoms (mothers, r = .50, fathers, r = .44, p <.01), mother-son insecurity was more strongly associated with boys' externalising problems (r = .32, p <.01) than father-son insecurity (r = .18, p <.10). Finally, girls and boys' internalising symptoms at Time 1 were significantly related to their subsequent appraisals of threat (girls, r = .41, p <.01, boys, r = .23, p <.05), self-blame (girls, r = .30, boys, r = .26, both p <.01) and parent-child insecurity (r = .49, r = .54, both p <.01 for girls and boys respectively). Boys' perceptions of threat (r = .27, p <.01) and self-blame (r = .36, p <.01) were related to boys' externalising problems. However, the comparable paths for girls were non-significant (r = .13, and r = .06, respectively both p >.10). Boys and girls' appraisals of mother-child insecurity appeared more strongly related to externalising problems (r = .32, and r .27, both p <.01 respectively) than father-child insecurity (boys, r = .18, p <.10, girls, r = .19, p <.05).

In summary, children's perceptions of marital conflict were consistently related to children's appraisals of threat, self-blame and parent-child insecurity, whereas parent

report of marital conflict was generally unrelated to children's perception of threat and self-blame and weakly correlated with children's appraisals of parent-child insecurity, except for girls, whereby parent report of marital conflict was weakly related to girls' appraisals of the marital and parent-child relationship. Parent-child hostility was consistently linked to children's negative appraisals of the marital and parent-child relationship. In contrast, parent-child warmth was only consistently linked to children's appraisals of low parent-child insecurity, but parent-child warmth was generally unrelated to children's appraisals of self-blame, except mother-daughter warmth and girls' appraisals of mother-daughter insecurity, and parent-child warmth was only related to girls, not boys' appraisals of threat. Children's appraisals of the marital and parent-child relationship were consistently related to their adjustment, with few exceptions such as father-son insecurity being less consistently related to boys' externalising problems than all other relations, girls' appraisals of self-blame more strongly related to girls internalising symptoms than externalising symptoms and while boys' appraisals of self-blame was more strongly linked to internalising symptoms than externalising problems.

Structural equation modeling

Structural equation modeling (SEM; LISREL 8.52, Joreskog & Sorbom, 1996) using maximum likelihood estimation was used to test the theoretical model illustrated in Figure 6.6. The stability of symptoms from Time 1 to Time 3 ranged from $\beta = .35$ to $\beta = .52$ for internalising symptoms and from $\beta = .41$ to $\beta = .52$ for externalising problems, all significant at $p < .01$.

This study examines the pattern of relations at the manifest rather than latent level even though latent variables offer advantages over manifest measures. For example, because more than one indicator contributes to latent measures (e.g., child and parent report of parent-child warmth) only the variance that the two measures share (what may

be termed 'shared reality', that both parent and child agree on), is allowed to contribute to the variable, and the residual (error term or non-overlapping variation) is isolated. However, the use of latent variables requires a large sample size, and the N to parameter ratio may not allow for subgroup comparisons, therefore variables were treated as manifest for the current analyses. Models were estimated using children's perceptions of interparental conflict and parent report of marital conflict separately because previous studies have indicated that parent and child report of marital conflict may inform different processes (Grych et al., 2003). Specifically, as proposed by the cognitive-contextual framework (Grych & Fincham, 1990), children's perception of marital conflict may be more closely related to their appraisals of threat and self-blame than parent report of marital conflict as parents may not be aware of certain conflict episodes that children have witnessed that inform their cognitions regarding the conflict. In addition, the results of Chapter 4 and Study 1 of this chapter suggested that in company with child and parent report of parent-child relations, parent report of marital conflict informed more significant paths to parent-child relations than child report of marital conflict. This suggests that parent report of marital conflict should also be examined and compared against child report. Indeed, if a similar pattern of effects is found from models estimated with child or parent report of marital conflict, this indicates more robust findings than models based on one reporter alone (Grych et al., 2003).

There were few differences across reporter in model tests, although child perceptions of marital conflict were related to appraisals of threat and parent-child insecurity whereas these paths were non-significant for parent report of marital conflict. Due to the similarity between reporters, models estimated using parent reports of marital conflict will be quoted in the results described below. Differences that exist between

models using parent and child reports will be noted. For clarity, only significant paths will be discussed and only a selection of figures will be included for illustration.

Children's internalising symptoms

The combined model (presented in Figure 6.7) suggests that marital conflict predicted a decrease in parent-child warmth ($\beta = -.28, p < .01$) and an increase in parent-child hostility ($\beta = .25, p < .01$) at Time 2. In turn, parent-child warmth predicted a decrease in parent-child insecurity ($\beta = -.33, p < .01$), and parent-child insecurity increased children's internalising symptoms ($\beta = .30, p < .01$). In addition, parent-child hostility predicted an increase in self-blame ($\beta = .31, p < .01$), which was subsequently also related to increased internalising symptoms ($\beta = .16, p < .05$). Children's symptoms of internalising predicted lower parent-child warmth ($\beta = -.27, p < .01$) and higher threat ($\beta = .21, p < .05$), parent-child insecurity ($\beta = .29, p < .01$), self-blame ($\beta = .15, p < .10$) and parent-child hostility ($\beta = .41, p < .01$).

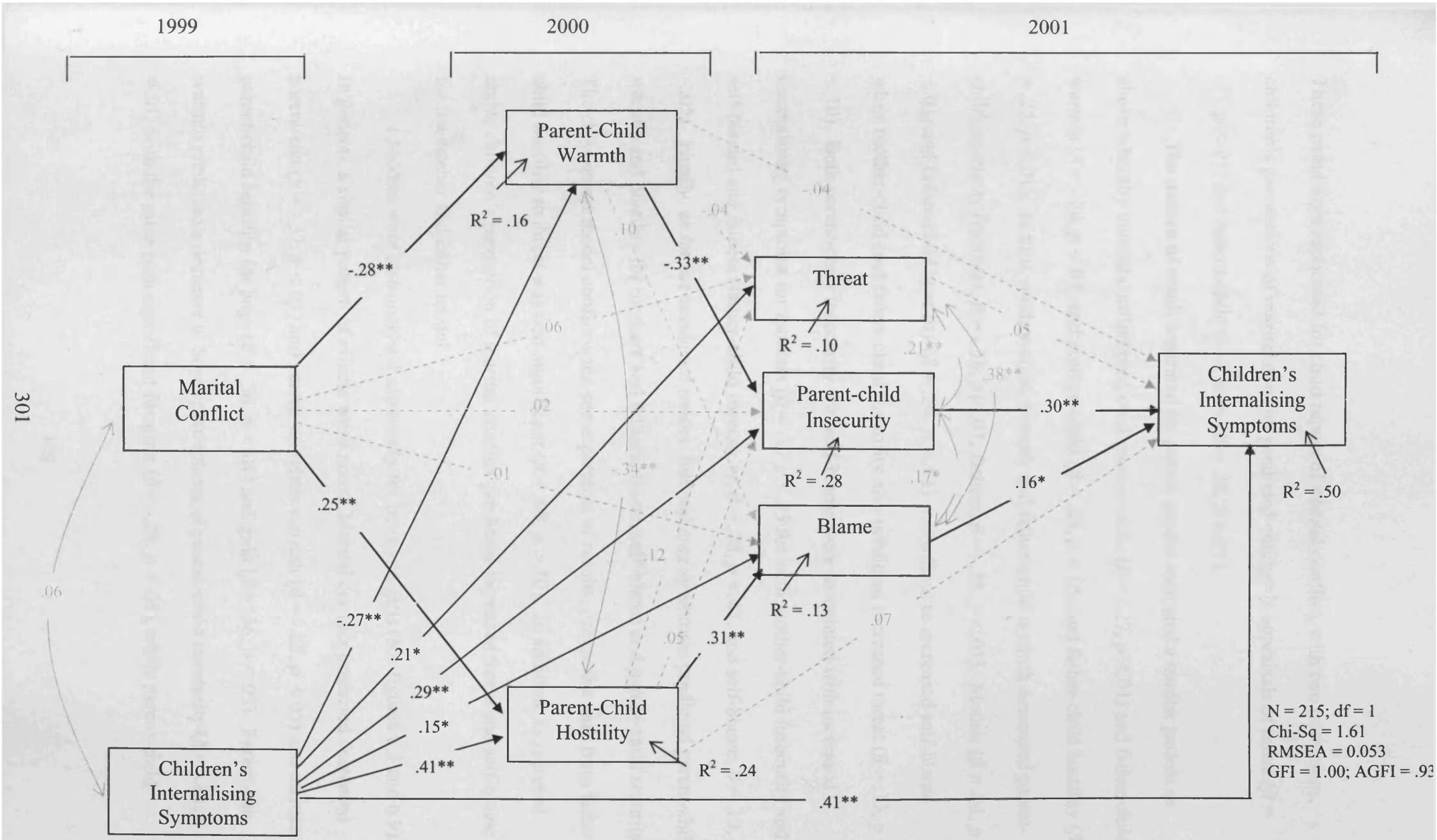


Figure 6.7: Maximum likelihood estimation of the role of parent-child warmth, parent-child hostility, children's appraisals of threat, self-blame and parent-child security mediating the influence of marital conflict (parent report) on children's' adjustment.

These paths were replicated for child report of marital conflict, with two exceptions, children's perceptions of marital conflict predicted children's appraisals of threat (β = .27, p <.01) and parent-child insecurity (β = .28, p <.01).

The pattern of result separated by parent gender indicated a similar pattern as above whereby marital conflict predicted mother-child (β = -.27, p <.01) and father-child warmth (β = -.24, p <.05) and mother-child (β = .21, p <.05) and father-child hostility (β = .25, p <.01). In turn, mother-child warmth and father-child warmth decreased parent-child insecurity (mothers, β = -.38, p <.01, fathers, β = -.34, p <.01). Mother (β = .31, p <.01) and father-child hostility (β = .24, p <.01) was related to increased self-blame while mother-child (not father-child) hostility also predicted increased threat (β = .13, p <.10). Both parent-child insecurity and self-blame were associated with increased internalising symptoms for mothers (β = .17 p <.05 for both mother-child insecurity and self-blame) and fathers (father-child insecurity, β = .28, p <.01, and self-blame, β = .19, p <.05). Finally, as for the combined model, internalising symptoms predicted parent-child warmth and hostility for mothers and fathers, threat, self-blame and parent-child security. The child report model confirms the same patterns of results, except the path from father-child hostility to threat was non-significant (β = .09, p >.10). In addition, as reported above children's perception of marital conflict predicted increased threat and self-blame for the mother and father model.

Models were also analysed separately for boys and girls (see figures 6.8 and 6.9). In general, a similar pattern of effects were noted. Marital conflict predicted decreased parent-son (β = -.32, p <.05) and parent-daughter warmth (β = -.25, p <.05) and increased parent-child hostility for boys (β = .36. p <.01) and girls (β = .36, p <.05). Parent-son warmth predicted a decrease in boys' perceptions of parent-child insecurity (β = -.41, p <.01) with the same path significant for girls (β = -.28, p <.05), while parent-child

hostility predicted an increase in boys and girls' appraisals of self-blame ($\beta = .45, p < .01$, $\beta = .21, p < .10$ for boys and girls respectively). In turn parent-child insecurity was related to increased in boys ($\beta = .34, p < .01$) and girls' ($\beta = .26, p < .05$) internalising symptoms. Self-blame was related to girls ($\beta = .27, p < .05$) but not boys' ($\beta = .01$) internalising symptoms and this was a significant difference according to stacked model tests ($\Delta\chi^2 = 5.18, p < .05$). Finally, parent-child relations and appraisals were more consistently related to girls internalising symptoms at Time 1 than boys, however only one path was significantly different whereby girls' initial internalising symptoms were linked to threat ($\beta = .34, p < .05$), but this path was non-significant for boys ($\beta = .05, p > .10$; $\Delta\chi^2 = 4.28, p < .05$).

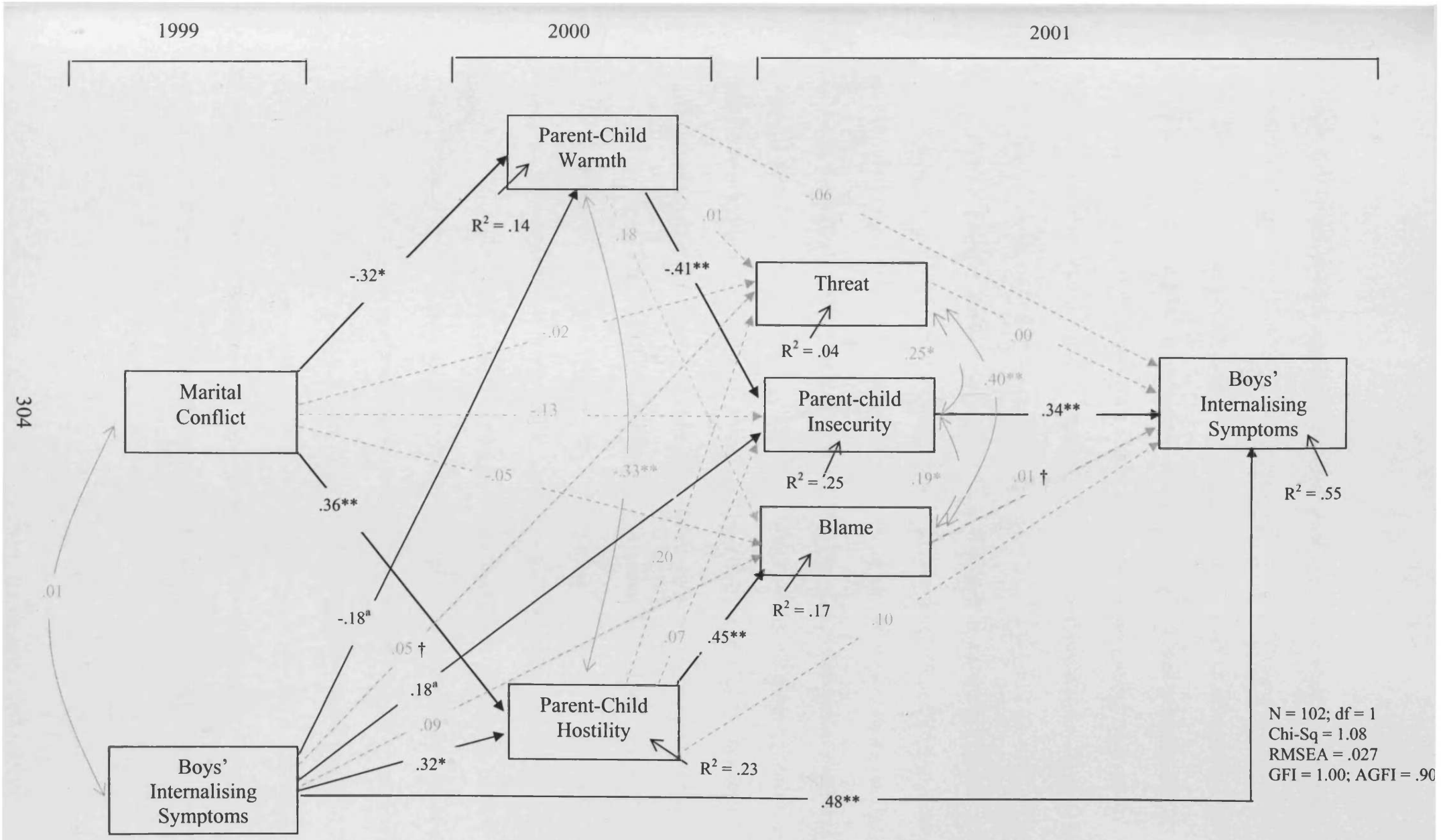


Figure 6.8: Maximum likelihood estimation of the role of parent-child warmth, parent-child hostility, children's appraisals of threat, self-blame and parent-child security mediating the influence of marital conflict (parent report) on boys' internalising symptoms. [a]p<.10, *p<.05, **p<.01. † = denotes a significant gender difference between boys and girls according to stacked model tests.

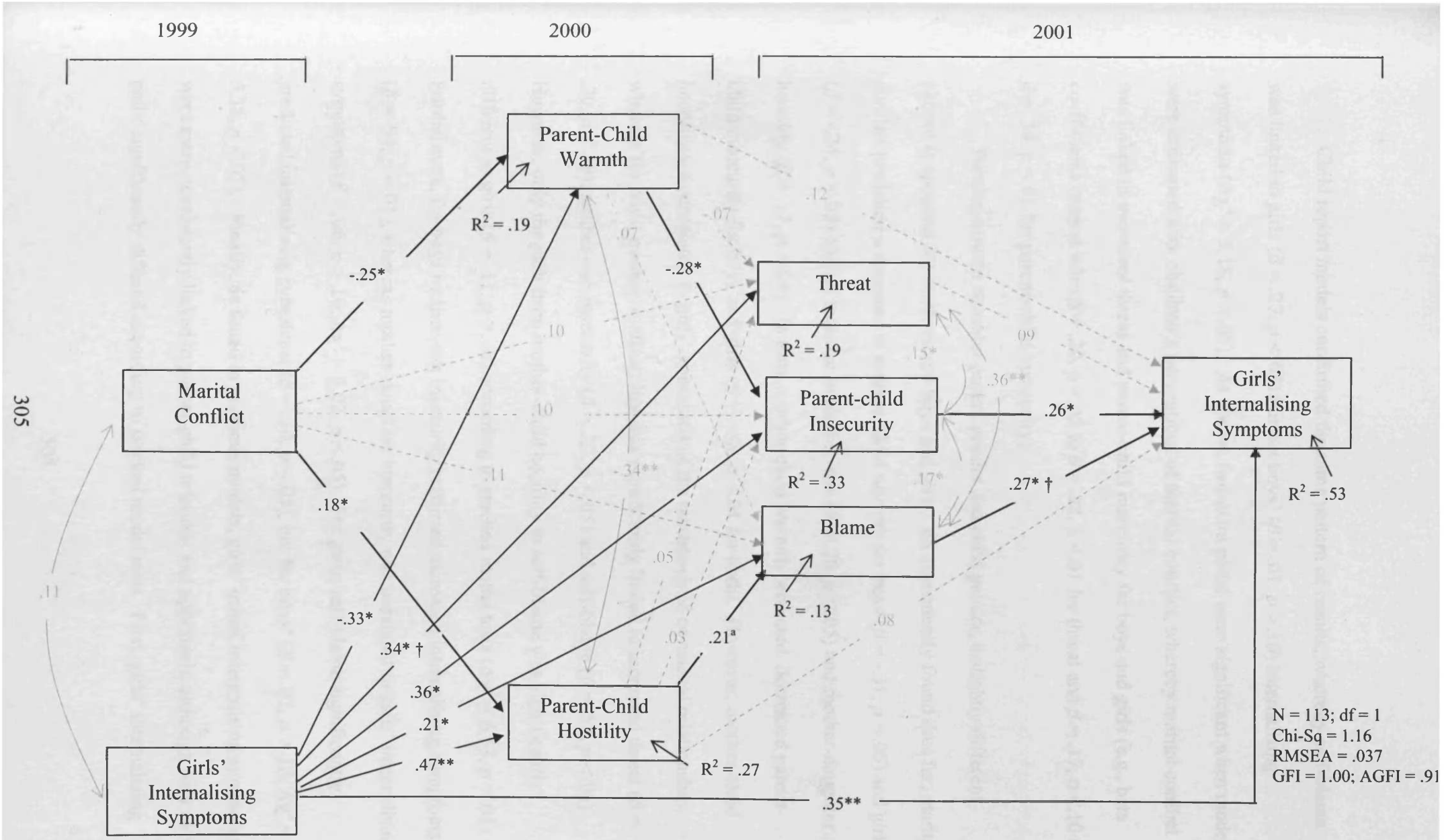


Figure 6.9: Maximum likelihood estimation of the role of parent-child warmth, parent-child hostility, children's appraisals of threat, self-blame and parent-child security mediating the influence of marital conflict (parent report) on girls' internalising symptoms. ª$p<.10$, *$p<.05$, **$p<.01$. † = denotes a significant gender difference between boys and girls according to stacked model tests.

Child report models confirmed the same pattern of results, whereby self-blame was linked to girls ($\beta = .27, p < .05$) but not boys' ($\beta = .01, p > .10$) internalising symptoms ($\Delta\chi^2 = 5.18, p < .05$). As above, two extra paths were significant when models were estimated with children's perceptions of marital conflict, whereby marital conflict was linked to increased threat and parent-child insecurity for boys and girls (e.g., beta coefficients ranged from $\beta = .20$, $p < .05$ to $\beta = .28$, $p < .01$ for threat and $\beta = .17$, $p < .10$ to $\beta = .34$, $p < .01$ for parent-child insecurity).

Turning now to consider parent gender and child gender, a slightly different pattern is apparent for mothers and boys and girls. As consistently found thus far, marital conflict predicted a decrease in mother-child warmth for boys ($\beta = -.31, p < .05$) and girls ($\beta = -.24, p < .05$) and an increase in mother-son ($\beta = .26, p < .05$) and mother-daughter hostility ($\beta = .17, p < .05$). In turn, mother-child warmth predicted decreased parent-child insecurity for boys and girls ($\beta = -.38, p < .01$ for both). However, mother-child hostility was unrelated to girls' appraisals of the mother-child or marital relationship, whereas for boys, mother-son hostility was significantly linked to increased threat ($\beta = .20, p < .10$), mother-son insecurity ($\beta = .22, p < .05$) and self-blame ($\beta = .53, p < .01$). However, only the path from mother-child hostility to self-blame was significantly different to girls ($\beta = .11, p > .10$) according to stacked model tests ($\Delta\chi^2 = 6.53, p < .01$). Furthermore, for boys mother-son insecurity predicted increased internalising symptoms ($\beta = .34, p < .01$), whereas mother-daughter insecurity was unrelated to girls' internalising symptoms ($\beta = .06, p > .10$; $\Delta\chi^2 = 5.02, p < .05$). For girls, self-blame significantly predicted internalising symptoms ($\beta = .30, p < .05$), but for boys' ($\beta = .02, p > .10$; $\Delta\chi^2 = 5.38, p < .05$). Finally, as found in previous models, girls' initial internalising symptoms were more consistently linked to parent-child relations and appraisals, although only two paths significantly differed according to stacked model tests. First, girls' internalising

symptoms predicted increased mother-daughter hostility ($\beta = .49, p < .01$) and while this path was also significant for boys ($\beta = .26, p < .05$) it was significantly stronger for girls ($\Delta\chi^2 = 3.50, p < .10$). Second, girls' internalising symptoms significant predicted increased threat ($\beta = .39, p < .01$) but this was not true for boys ($\beta = .07, p > .10$; $\Delta\chi^2 = 5.12, p < .05$).

The pattern of results for models that examined child report of marital conflict and mother-child relations indicated that mother-child hostility was linked to self-blame for boys, not girls; parent-child insecurity was linked to boys, not girls' internalising symptoms; self-blame only predicted girls internalising symptoms and finally, girls, not boys, internalising symptoms predicted increased threat.

For father-child relations, marital conflict was linked to a decrease in father-child warmth, but was more strongly linked to an increase in father-child hostility for boys ($\beta = .39, p < .01$) than girls ($\beta = .15, p < .10$; $\Delta\chi^2 = 3.79, p < .10$). In contrast to the pattern for mother-child relations, father-child hostility was equally linked to self-blame for boys ($\beta = .28, p < .05$) and girls ($\beta = .24, p < .05$) and father-child insecurity was linked to increased internalising symptoms for boys ($\beta = .24, p < .05$) and girls ($\beta = .32, p < .01$). However, as for mother-child relations, self-blame was only linked to internalising symptoms for girls ($\beta = .30, p < .01$) not boys ($\beta = .04, p > .10$; $\Delta\chi^2 = 5.69, p < .05$). For boys, it appeared that father-child hostility was directly related to internalising symptoms ($\beta = .15, p < .10$) and while this was not significant for girls ($\beta = .04, p > .10$), this comparison was not confirmed by stacked model tests ($\Delta\chi^2 = 0.87, p > .10$). Finally, as for mother-child relations, only girls' initial internalising symptoms at Time 1 predicted increased threat ($\beta = .33, p < .01$; boys, $\beta = .05, p > .10$; $\Delta\chi^2 = 4.04, p < .05$). Child report confirmed the same pattern and differences between self-blame and internalising symptoms and internalising symptoms and threat.

The fit indices for all models examining children's internalising symptoms indicated that models estimated with parent report of marital conflict appeared to indicate a better fit to the data than models estimated with children's perceptions of interparental conflict. For example, for the combined sample of families, the fit indices for parent report and child report respectively were as follows: χ^2_1 = 1.60, 14.45; RMSEA = 0.053, 0.25; GFI = 1.00, .98; AGFI = .93, .42. The remaining fit indices for all the subgroup model tests estimated with parent report of marital conflict were good and ranged from: χ^2_1 = 0.13 to 1.79; RMSEA = 0.00 to 0.088; GFI = 1.00 for all models and AGFI = .99 to 84. In contrast, the remaining subgroup model tests for child report ranged from: χ^2_1 = 2.44 to 14.53; RMSEA = 0.11 to 0.26; GFI = .99 to .98 and AGFI = .81 to .33.

In summary, across model tests, marital conflict predicted a decrease in parent-child warmth and an increase in parent-child hostility one year later. This was true of all subgroup model tests and across reporter (parent; child). One of the most consistent findings was that parent-child warmth predicted a decrease in children's appraisals of parent-child insecurity. In addition, parent-child hostility predicted an increase in children's feelings of self-blame, and this was also true of all subgroup comparisons, except for mother-child relations, whereby mother-child hostility was not related to girls' perceptions of self-blame. In turn, parent-child insecurity predicted increased internalising symptoms across all models, with one exception: Mother-child insecurity was unrelated to girls' internalising symptoms.

Finally, regarding the influence of children's internalising symptoms assessed at Time 1 on parent-child relations and children's appraisals of threat, self-blame and insecurity, internalising symptoms were linked with more negative parent-child relations and children's more negative appraisals of both marital conflict and parent-child relations. Specifically, children's internalising symptoms at Time 1 consistently

predicted increased parent-child hostility, and to a lesser extent, lower parent-child warmth a year later. In addition, internalising symptoms predicted increased threat appraisals (subgroup comparisons indicated this was the case for girls but not boys). Finally, internalising symptoms also predicted children's appraisals of increased parent-child insecurity and feelings of self-blame for boys and girls. Few differences were noted according to child or parent report of marital conflict. The only consistent differences were that for models estimated with parent report, marital conflict was unrelated to children's appraisals of threat, self-blame and parent-child insecurity when parent-child hostility and parent-child warmth were also estimated. In contrast, children's perceptions of marital conflict consistently predicted increased threat and appraisals of parent-child insecurity for all models.

The pattern of results indicates that children's perceptions mediate the link between parent-child relations and children's internalising symptoms when an initial effect was noted between parent-child warmth and hostility and children's internalising (in Chapter 5; more consistently for parent-child hostility and adjustment) and provide a linking mechanism between parent-child relations and children's internalising symptoms in instances where an initial direct effect was not found (Baron & Kenny, 1986; MacKinnon et al., 2002). Specifically, self-blame accounted for the link between parent-child hostility and children's (particularly girls') internalising symptoms, while children's perceptions of parent-child insecurity accounted for the link between parent-child warmth and children's internalising symptoms in the majority of model tests (except mothers and girls). In all instances children's perceptions constitute a full mediator because parent-child warmth or hostility was not related to children's symptoms once children's perceptions were also estimated. Therefore, parent-child relations and children's

perceptions of family relationships mediate or act as indirect linking mechanism between marital conflict and children's internalising symptoms.

Children's externalising symptoms

As for the models estimating the pattern of effects for internalising symptoms, a similar pattern emerged whereby parent-child insecurity and self-blame were directly related to increased externalising symptoms for the combined model presented in Figure 6.10.

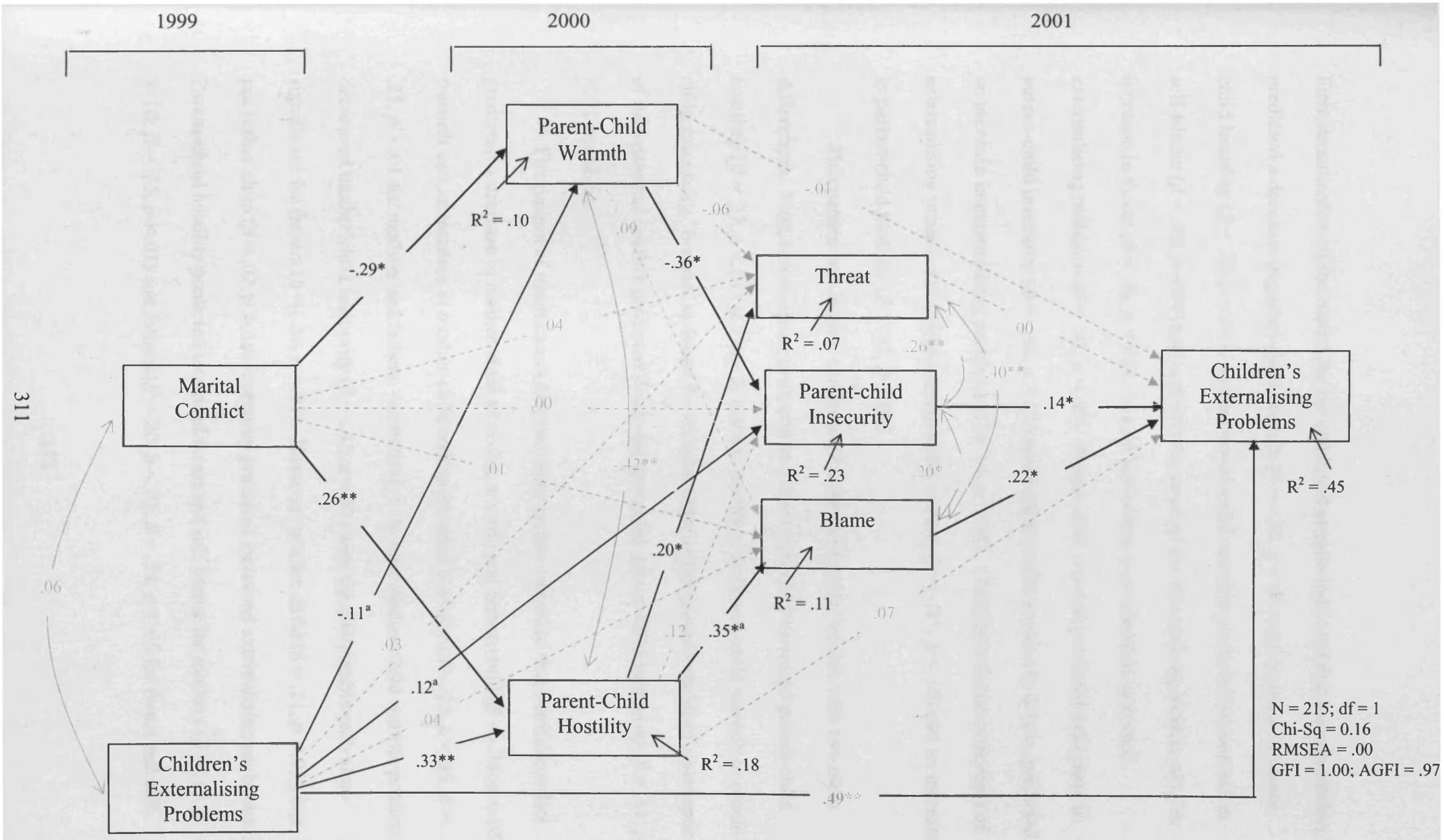


Figure 6.10: Maximum likelihood estimation of the role of parent-child warmth, parent-child hostility, children's appraisals of threat, self-blame and parent-child security mediating the influence of marital conflict (parent report) on children's externalising problems. [a]p<.10, *p<.05, **p<.01

First, examination of the model for the combined sample indicated that marital conflict predicted a decrease in parent-child warmth ($\beta = -.29, p < .01$) and increase in parent-child hostility ($\beta = .26, p < .01$). In turn parent-child hostility predicted an increase in self-blame ($\beta = .35, p < .01$) and as found for some of the internalising models, also an increase in threat ($\beta = .20, p < .05$). In turn self-blame was related to increased externalising problems ($\beta = .22, p < .05$). Parent-child warmth predicted a decrease in parent-child insecurity ($\beta = -.36, p < .01$) while parent-child insecurity in turn, predicted an increase in externalising problems ($\beta = .14, p < .05$). Children's initial symptoms of externalising predicted decreased parent-child warmth ($\beta = -.11, p < .10$) and an increase in parent-child hostility ($\beta = .33, p < .01$).

This pattern was largely confirmed for the child report model, with two main differences. First, externalising problems at Time 1 predicted increased parent-child hostility ($\beta = .27, p < .01$) at Time 2, but was unrelated to parent-child warmth or parent-child insecurity. Second, as found for all other child report models, children's perception of interparental conflict predicted increased threat and parent-child insecurity ($\beta = .31, p < .01$ for both).

The pattern of results according to parent gender indicated that marital conflict predicted a decrease in mother-child ($\beta = -.28, p < .01$) and father-child ($\beta = -.24, p < .05$) warmth and an increase in mother-child and father-child hostility ($\beta = .22, p < .05, \beta = .25, p < .01$ for mothers and fathers, respectively). In turn mother-child warmth predicted decreased mother-child insecurity ($\beta = -.41, p < .01$) with the comparable path also significant for fathers ($\beta = -.36, p < .01$). However, mother-child ($\beta = .21, p < .05$), but not father child ($\beta = .02, p > .10$) insecurity predicted increased externalising problems. Parent-child hostility predicted increased threat and self-blame for mothers ($\beta = .15, p < .10; \beta = .35, p < .01$) and fathers ($\beta = .20, p < .05; \beta = .28, p < .05$ for threat and self-

blame respectively) but only mother-child (not father-child) hostility predicted increased mother-child insecurity ($\beta = .18, p < .05$). Nevertheless, self-blame in turn predicted an increase in externalising for both the model for mothers ($\beta = .18$, p, <.05) and fathers ($\beta = .26, p < .01$). Finally, children's externalising problems predicted an increase in both mother-child ($\beta = .31, p < .01$) and father-child hostility ($\beta = .29, p < .01$) but there was only a trend towards lower mother-child warmth and greater father-child insecurity.

Child report confirmed the main pattern that mother-child, not father-child insecurity was linked to externalising problems ($\beta = .21, p < .05$) and self-blame was linked to externalising problems for both mothers ($\beta = .18, p < .05$) and fathers ($\beta = .26, p < .01$). The model estimated with child report of marital conflict only confirmed one path from initial symptoms, which was the path from externalising problems to increased parent-child hostility for both mothers ($\beta = .33, p < .01$) and fathers ($\beta = .24, p < .05$). In addition, children's perception of marital conflict predicted increased threat ($\beta = .32, \beta = .31$, both $p < .01$) and parent-child insecurity ($\beta = .22, p < .05$; $\beta = .28$, p <.01) for mothers and fathers respectively, and marital conflict marginally predicted increased self-blame for the father model ($\beta = .12, p < .10$).

The pattern of results according to child gender indicated that marital conflict predicted increased hostility and decreased warmth for parent-son and parent-daughter relations and as found for most other models, parent-child warmth decreased parent-child insecurity and parent-child hostility increased self-blame for both boys and girls. In addition, parent-child hostility marginally predicted parent-child insecurity for boys ($\beta = .19, p < .10$) and girls ($\beta = .20, p < .10$). In turn, parent-daughter insecurity predicted increased externalising problems for girls ($\beta = .29, p < .01$), but not boys ($\beta = .04, p > .10$; $\Delta\chi^2 = 4.03, p < .01$). In contrast, for boys it appeared that parent-child hostility directly increased boys but not girls' externalising problems ($\beta = .18, p < .10$; $\beta = .03, p > .10$,

respectively), although this difference was not significant ($\Delta\chi^2 = 1.17, p > .10$). Similarly, self-blame increased boys but not girls' externalising problems ($\beta = .27, p < .05$; $\beta = .12, p > .10$, respectively). However, once again this path was not significantly different for boys and girls according to stacked model tests ($\Delta\chi^2 = 1.32, p > .10$). Finally, both boys ($\beta = .22, p < .05$) and girls' ($\beta = .49, p < .01$) externalising problems at Time 1 were related to increased parent-child hostility. Child report models produced a similar pattern of results, except children's perceptions of marital conflict were linked to a decrease in parent-daughter warmth ($\beta = -.36, p < .01$), but were not related to parent-son warmth ($\beta = -.10, p > .10$; $\Delta\chi^2 = 3.57, p < .10$). In addition, children's perception of interparental conflict predicted increased threat and self-blame for boys and girls.

Examining the mother-child relationship separately for boys and girls revealed that a similar pattern is evident for mothers of boys and mothers of girls (see Figures 6.11 and 6.12). Thus, marital conflict decreased mother-son and mother-daughter warmth and increased mother-child hostility for boys and girls. Mother-son warmth subsequently decreased boys' perception of mother-child insecurity ($\beta = -.39, p < .01$) while mother-daughter warmth also decreased girls' perception of mother-child insecurity ($\beta = -.42, p < .01$). Mother-child hostility predicted increased self-blame for boys ($\beta = .53, p < .01$) and girls ($\beta = .27, p < .05$) and appeared to increase threat ($\beta = .20, p < .10$) and mother-child insecurity ($\beta = .24, p < .05$) for boys but not girls ($\beta = .09$ and $\beta = .11$, both $p > .10$ for threat and self-blame respectively). However, stacked model tests revealed that these were not significant differences (threat, $\Delta\chi^2 = 0.39$, self-blame, $\Delta\chi^2 = 0.79$, both $p > .10$).

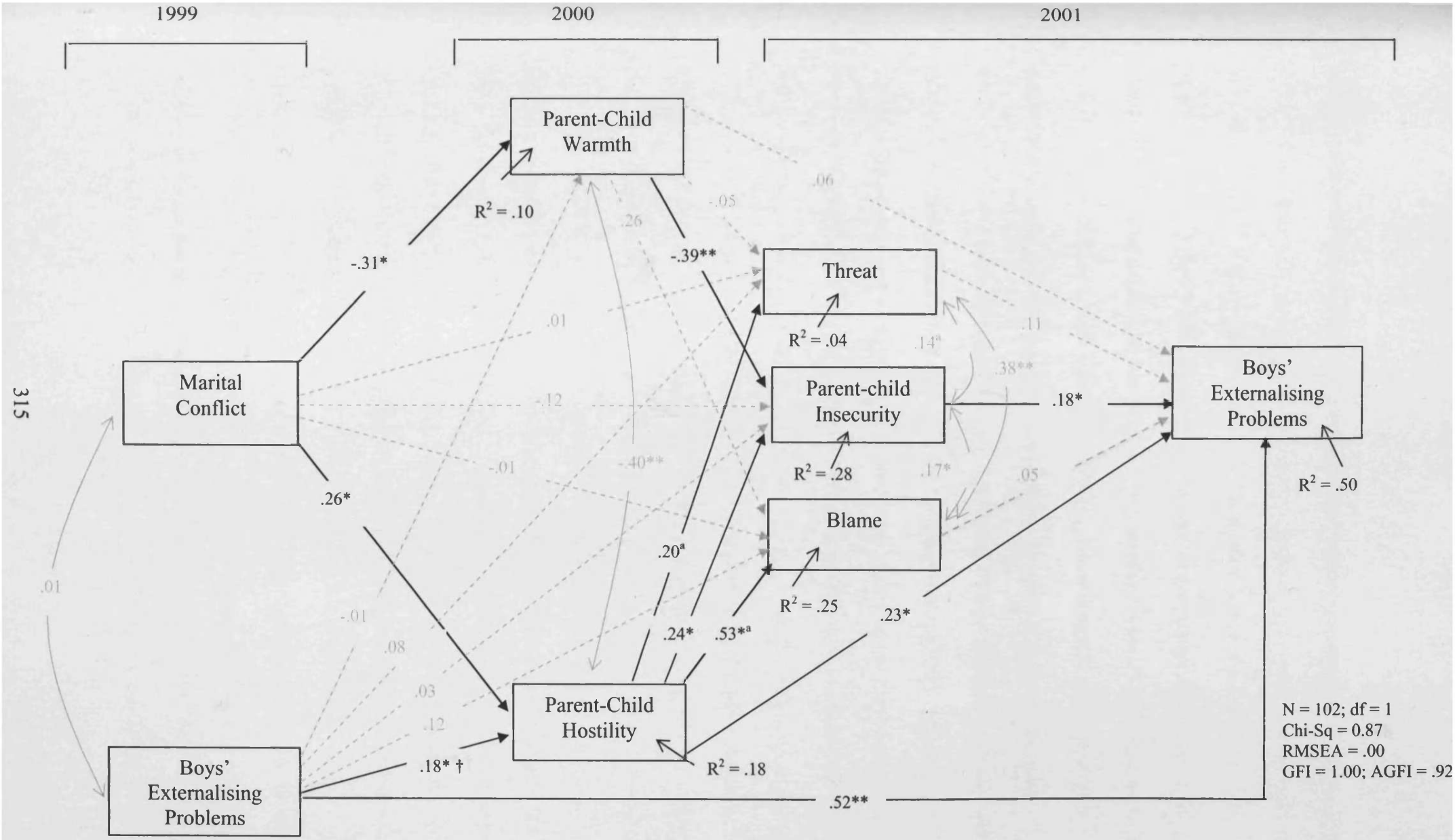


Figure 6.11: Maximum likelihood estimation of the role of mother-son warmth, mother-son hostility, and children's appraisals of threat, self-blame an mother-son security mediating the influence of marital conflict (parent report) on boys' externalising problems. ªp<.10, *p<.05, **p<.01 † = denotes a significant gender difference between boys and girls according to stacked model tests.

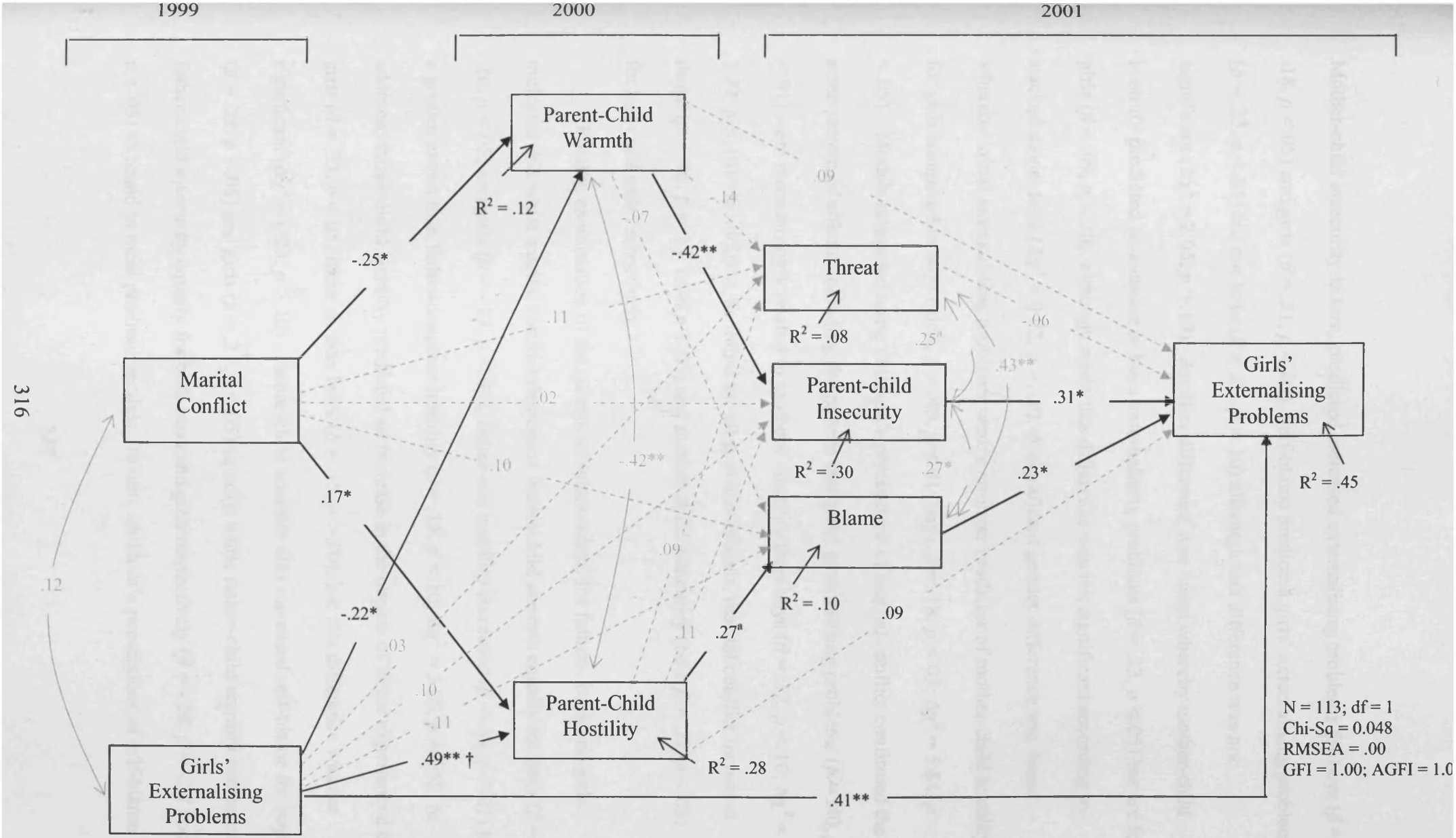


Figure 6.12: Maximum likelihood estimation of the role of mother-daughter warmth, mother-daughter hostility, and children's appraisals of threat, self-blame and mother-daughter security mediating the influence of marital conflict (parent report) on girls' externalising problems. [a]p<.10, *p<.05, **p<.01. † = denotes a significant gender difference between boys and girls according to stacked model tests.

Mother-child insecurity in turn, predicted increased externalising problems for boys (β = .18, p <.05) and girls (β = .31, p <.05). Self-blame predicted girls' externalising problems (β = .23, p <.05) but not boys (β = .05, p >.10) although this difference was not significant ($\Delta\chi^2$ = 2.05, p >.10). Another difference was noted whereby mother-child hostility predicted an increase in boys externalising problems (β = .23, p <.05) but not for girls (β = .09, p <.10), although again this difference was not significant according to stacked model tests ($\Delta\chi^2$ = 0.92, p >.10). A significant gender difference was found whereby initial externalising problems were a stronger predictor of mother-child hostility for girls compared to boys (girls, β = .49, p <.01; boys, β = .18, p <.05; $\Delta\chi^2$ = 5.84, p <.05). Models estimated using children's perceptions of marital conflict confirmed the same pattern of effects, including the pattern that girls' externalising problems (β = .40, p <.01) were more strongly related to mothers' hostility than boys (β = .12, p <.10; $\Delta\chi^2$ = 3.22, p <.10). In addition, as found for all previous models, marital conflict increased threat (β = .32, β = .33, both p <.05) and mother-child insecurity (both β = .22, p <.05) for boys and girls respectively.

Finally, examination of the pattern of relationships for fathers, boys and girls indicated that while marital conflict decreased father-child warmth equally for boys (β = -.26, p <.05) and girls (β = -.23, p <.05), father-son hostility increased (β = .39, p <.01) to a greater extent than father-daughter hostility (β = .15, p <.10; $\Delta\chi^2$ = 3.86, p <.05). In addition, father-child hostility predicted an increase in the degree of threat experienced by girls (β = .23, p <.05) more so than boys (β = .15, p >.10), but this difference was not significant ($\Delta\chi^2$ = 0.23, p >.10). Father-child hostility also increased self-blame for boys (β = .28, p <.05) and girls (β = .37, p <.05) equally, while father-child warmth decreased father-child insecurity equally for both boys and girls respectively (β = -.28, β = -.37 both p <.05) as found in most previous models. In turn, children's perceptions of self-blame

more consistently related to externalising problems for girls ($\beta = .33, p < .05$) than boys ($\beta = .17, p < .10$; $\Delta\chi^2 = 3.81, p < .10$), while father-child insecurity only demonstrated a trend towards increased externalising problems for girls ($\beta = .15, p < .10$). As found in many models thus far, girls' externalising appeared to be more consistently predictive of higher father-child hostility ($\beta = .41, p < .01$) than boys' externalising problems ($\beta = .22, p < .05$) however this was not quite significant according to stacked model tests ($\Delta\chi^2 = 2.48, p > .10$), which implies children's hostility was equally related to father-child hostility for boys and girls. Child report of marital conflict replicated the pattern that only father-child insecurity predicted externalising problems for girls not boys, whereas self-blame was linked to externalising for both boys and girls. Only two differences were apparent, one was that marital conflict predicted an increase in threat and father-child insecurity for boys and girls in line with all other child report models, and second, only girls' perception of marital conflict predicted decreased father-daughter warmth ($\beta = .38, p < .01$), whereas boys' perception of interparental conflict was unrelated to father-son warmth ($\beta = -.13, p > .10$; $\Delta\chi^2 = 3.43, p > .10$).

In contrast to the fit indices for models examining children's internalising symptoms whereby model tests using parent report of marital conflict produced a better fit to the data than models estimated with children's perceptions of interparental conflict, models that examined children's externalising problems indicated models estimated with child or parent report of marital conflict produced comparably good fits to the data. For example, for the combined sample, the fit indices for parent report and child report respectively were: $\chi^2_1 = .061, .011$; RMSEA = .00 for both; GFI = 1.00 for both; AGFI = .97, 1.00. The remaining fit indices for all the subgroup model tests estimated with parent report of marital conflict were good and ranged from: $\chi^2_1 = 0.048$ to 1.94; RMSEA = 0.00 to 0.095; GFI = 1.00 for all models and AGFI = 1.00 to 83. In contrast,

the remaining subgroup model tests for child report ranged from: χ^2_1 = 0.016 to 5.29; RMSEA = 0.00 to 0.19; GFI = 1.00 to .99 and AGFI = 1.00 to .59 (or without the subgroup model for fathers and girls, .73).

In summary, models examining the pattern of interrelationships for children's externalising problems revealed that marital conflict predicted decreased parent-child warmth and increased parent-child hostility across all model comparisons. In addition, parent-child warmth predicted a decrease in children's appraisals of parent-child insecurity while parent-child hostility consistently predicted an increase in children's perceptions of self-blame. In turn, parent-child insecurity was related to externalising problems for almost all subgroup tests, except the models estimating boys' symptoms, whereby parent-child insecurity was generally unrelated to boys' externalising problems, except for mother-son relations, whereby mother-son insecurity was linked with boys' externalising symptoms. In addition, children's appraisals of self-blame were consistently linked to increased externalising problems for models examining mothers, fathers and girls. Children's externalising symptoms at Time 1 consistently predicted increased parent-child hostility at Time 2 across all subgroups and regardless of whether parents or children reported on marital conflict. Only models estimated with parent report of marital conflict indicted that children's initial externalising problems also influenced the level of parent-child warmth, particularly for mothers' warmth in response to girls' externalising problems. As found for internalising symptoms, children's perception of marital conflict consistently predicted increased threat and parent-child insecurity for all models. Finally, in terms of the mediator hypothesis and similar to the pattern of results noted for internalising symptoms, children's perceptions of self-blame mediated or indirectly linked the relationship between parent-child hostility and children's (particularly girls') externalising problems, while children's perceptions of

parent-child insecurity constituted a pathway between parent-child warmth and children's externalising problems (again, for girls more so than boys).

Study 2 Discussion: An integrative model considering parent-child relations and children's social cognitions

This study examined an integrative familywide model of conflict effects (Harold & Conger, 1997) whereby the role of parent-child affect, children's appraisals of threat and self-blame in the context of interparental conflict, and children's insecurity in the parent-child relationship were examined as mechanisms that contribute to explain children's adjustment. Overall, the findings suggest that children's appraisals of marital and parent-child relations provide a linking mechanism to account for the relationship between parent-child affect and children's adjustment in the context of interparental conflict. This is the first study to examine the role of parent-child affect and children's appraisals of both the marital and parent-child relationship together to predict children's adjustment over a three year period. This study confirms the findings by Harold et al., (2004) that children's appraisals of marital conflict and parent-child insecurity both predict children's maladjustment. As found in one previous study (Grych et al., 2003) the pattern of relations were comparable when models were estimated with child or parent report of marital conflict, adding confidence to the robustness of the findings. The paths that were found for both internalising and externalising models will be discussed first, followed by results that differed for each index of maladjustment

The hypothesis that the emotional quality of parent-child interactions would mediate the relationship between marital conflict and parent-child insecurity was supported, replicating previous findings (Owen & Cox, 1997; Frosch & Mangelsdorf, 2000). However, this was only true for parent-child warmth, as parent-child hostility was inconsistently related to parent-child insecurity. This is similar to the findings of Owen

and Cox (1997) who found that marital conflict predicted a decrease in sensitive and involved parenting, and this disruption in parenting increased father-child insecurity. Conversely, Frosch and Mangelsdorf (2000) found that parenting (including decreased warmth) mediated the relationship between marital conflict and father-child insecurity. Therefore, this study supports the findings of both studies, whereby low mother-child and father-child warmth predicted insecure parent-child relations. This suggests that in the context of marital conflict, parents struggle to maintain warm parent-child relations. Specifically, this finding indicates that parents who express less warmth and affection towards children in the context of marital conflict provide children with a distressing situation whereby parents are both the source and the solution to children's distress (Owen & Cox, 1997). In this instance, children are likely to feel their parent is less likely to be there when they need emotional support, and cannot be relied upon to respond to their needs (Harold et al., 2004; Kerns et al., 1996). However, the level of parent-child warmth did not influence children's perceptions of marital conflict. This was not entirely unexpected as it follows that emotion experienced in the context of parent-child interactions will be more likely to influence children's expectations for parent behaviour in the parent-child relationship. However, some have suggested that marital conflict expressed in a context of warm parent-child relations is likely to reduce negative effects on children (Deater-Deckard & Dodge, 1997; Conger, 1999). Nevertheless, it appears that parent-child warmth is not able to reduce the likelihood that children will appraise interparental conflict as threatening, or feel to blame for conflictual exchanges.

As hypothesised, parent-child hostility predicted an increase in children's perceptions of self-blame. Marital conflict that spills over to parent-child interactions is likely to increase children's feelings that they are to blame for marital conflict (Grych & Fincham, 1990). While some results indicated a trend that parent-child hostility also

increased children's appraisals of threat and parent-child insecurity, this was not a consistent relationship. The absence of a relationship between parent-child hostility and children's appraisals of parent-child insecurity is somewhat unexpected due to previous findings and the initial correlations. For example, studies have found that parent-child hostility increases children's insecurity in the parent-child relationship whereby children who are aware of conflict between parents are likely to interpret parent-child relations as hostile (Cummings & Davies, 1994; e.g. Frosch & Mangelsdorf, 2000)). The pattern of results may be due to the simultaneous estimation of the relationship between parent-chid hostility and children's appraisals of the marital and parent-child relationship. Therefore, it may be that parent-child warmth is a more robust predictor of parent-child insecurity than parent-child hostility, and thus, it is the absence of warmth, affection and nurturance from parents that leads children to appraise the parent-child relationship as insecure, rather than the presence of parent hostility. These findings attest to the importance of assessing the influence of parent warmth and hostility within the same conceptual framework in order to derive insights into how the quality of family relationships influences adjustment outcomes.

Children's internalising symptoms

For all models estimated with parent report of marital conflict, parent-child warmth and hostility mediated the influence of marital conflict on children's appraisals of parent-child insecurity and self-blame and in turn, parent-child insecurity and self-blame mediated the link between parent-child warmth and hostility and children's internalising symptoms. This suggests that parent-child warmth, parent-child hostility and the relationships with parent-child insecurity and self-blame provide the linking mechanisms through which marital conflict influences children's internalising symptoms.

The link between children's appraisals of parent-child insecurity and increased internalising symptoms replicates previous findings (Harold et al., 2004). Children who perceive that their parents are physically and emotionally unavailable, and that they cannot be relied upon in times of stress, especially in the context of marital conflict, are likely to experience a range of internalising symptoms capturing general dysphoria (Davies et al., 2003; Harold et al., 2004). Specifically, consistent with previous research (Grych et al., 2000; Grych et al., 2003; Kerig, 1998b), the finding of the present study indicated that self-blame was related to increased internalising symptoms for girls. This supports the hypothesis by Grych et al., (1992) that feelings of self-blame for interparental conflict are likely to lead children to feel sadness and shame. The finding that this relationship was significant for girls, but not boys, may reflect the differential emphasis on socialisation of girls, whereby girls are socialised to be concerned with other people's feelings and well being more than boys (Helgeson, 1994). For example, Davies and Lindsay, (2001) explain that girls are socialised to take on a 'caregiving' role, and this coupled with their proclivity for expressing distress in an internalised manner (as opposed to aggressive, disruptive behaviour) mean that marital conflict is likely to cause girls, more so than boys, to feel responsible and internalise these feelings of blame.

Finally, there was a consistent relationship between children's initial internalising symptoms and subsequent parent-child relations and appraisals of marital conflict and parent-child security. Regarding the relationship between internalising symptoms and parent-child affect, internalising symptoms were more consistently linked to increased parent-child hostility than decreased parent-child warmth. It is possible that children who experience symptoms of anxiety and depression seek to withdraw from social interactions. Parents may respond to children's depressed affect with frustration and increased hostility. In the context of marital conflict, parents may have fewer emotional

resources available to engage effectively with children, and thus respond to children's dysphoria with negative affect.

Children's internalising symptoms predicted increased threat appraisals, a finding more consistent for girls than boys. This suggests that children who are experiencing feelings of dysphoria are more likely to perceive marital conflict as threatening. This can be understood when considering that the threat subscale of the CPIC includes an estimate of children's coping efficacy, and there is evidence to suggest that depression decreases children's coping efficacy (Compas, 1987). In addition internalising symptoms also predicted increased self-blame and parent-child insecurity for girls and boys. Similar to the logic outlined above, children who are dysphoric may be more likely to blame themselves for events and feel less secure in the parent-child relations (Harold & Conger, 1997). Indeed, Watson and Pennebaker (1989) suggest that internalising symptoms are likely to lead children to have a more negative view of the world around them, including parents.

Children's externalising problems

As for internalising symptoms, children's appraisals of parent-child insecurity predicted their externalising problems. This suggests that children who feel unable to rely on their parents in times of stress are likely to express this insecurity via disruptive, aggressive behaviour (Kerns et al., 1996). Indeed, insecure parent-child relations are likely to be particularly distressing in the context of marital conflict (Harold et al., 2004), and this is indicated by the fact that parent-child insecurity was associated with increased behavioural and psychological maladjustment in the present study. This further attests to the significance of parent-child relations. This link was a consistent path for all models, except subgroup comparisons which revealed that parent-child insecurity was unrelated to boys' externalising problems, particularly for father-son relations. However, this

suggests that mother-child insecurity has more implications for boys' externalising problems than father-child insecurity. This supports the original conception of attachment theory (Bowlby, 1958) which proposed that mother-child relations are more important for children's adjustment than father-child relations. Thus, it appears that during early adolescence, mother-child insecurity is associated with increased aggression and hostility in boys.

Children's perceptions of self-blame were related to boys and girls' externalising problems, which supports previous findings (Dadds et al., 1999; Grych et al., 2003). As Grych et al, (2003) suggest, this may be because when children feel to blame for conflict, they become motivated to intervene in the conflict in order to help and resolve the disagreement. Children who misbehave may temporarily distract parents from their arguments and in doing so such acting out behaviour is reinforced (Patterson et al., 1992).

In contrast to children's internalising symptoms, children's initial externalising problems were only consistently linked to increased parent-child hostility. This suggests that marital conflict, combined with children's disruptive misbehaviour increases parents' hostility expressed during parent-child interactions. This was particularly true for girls' externalising problems and mother-child hostility, suggesting that parents were more hostile towards aggressive behaviour expressed by girls than boys. This may be explained because aggressive behaviour is considered less acceptable in girls (Davies & Lindsay, 2001; Kerig, 2001).

The only consistent difference between models that employed parent or child report of marital conflict was that children's perceptions of interparental conflict were directly related to increased appraisals of threat and parent-child insecurity for child report. Grych and Fincham's cognitive contextual framework (1990) suggests that children's awareness of marital conflict will predict their subsequent interpretation of

how threatening the conflict is to their own and the family's well being. In addition, the direct effect from marital conflict to parent-child insecurity is consistent with previous research indicating that marital conflict can cause a dilemma for children whereby parents are both the source and solution to their distress if the parent-child relationship is usually used as a secure base in times of stress (Owen & Cox, 1997; Frosch & Mangelsdorf, 2000). Thus, marital conflict is likely to reduce children's ability to use parents as a secure base, and feel directly vulnerable from awareness of interparental conflicts (Harold et al., 2004).

Limitations

The present study offers significant advances over previous tests of the relationship between marital conflict, parent-child relations and adjustment problems because it employs a multi-informant, prospective longitudinal design that also controls for the stability of maladjustment over time and assesses both positive and negative aspects of the parent-child relationship. However, several limitations may be noted. First, the measurement of children's appraisals of threat, self-blame, parent-child insecurity and children's symptoms of maladjustment were all measured within the same time point. This means that it is difficult to determine the direction of effects between children's appraisals and adjustment. However, Grych et al., (2003) examined the direction of effects between children's appraisals of threat and self-blame and children's adjustment a year later and concluded that it was more likely that appraisals influenced adjustment than vice versa. Nevertheless, it is likely that there is a reciprocal relationship between children's appraisals of threat and self-blame and children's adjustment, particularly between internalising symptoms and appraisals as the models examined in this study demonstrated children's internalising symptoms were linked to more negative appraisals of threat, self-blame and parent-child insecurity.

Summary

The series of studies presented in this thesis have identified the relative impact of parental warmth versus hostility on children's long-term psychological and behavioural well being. The findings noted in Chapter 4 suggest that marital conflict increases the propensity for parent-child interactions characterised by hostility and rejection, whilst also decreasing parents' ability to behave in a warm, accepting manner towards children both concurrently and across time. Furthermore, interparental conflict predicted the level of parent-child warmth and hostility more so than the converse, which supports the hypothesis that marital conflict orients the nature of parent-child relations. In addition, this study was able to conclude that while boys were most likely to experience a greater level of parent-child hostility engendered from interparental conflict, girls were likely to experience a combination of high parent-child hostility and low parent-child warmth. As a complement to Chapter 4, Chapter 5 investigated the relative impact of parent-child warmth and parent-child hostility for children's adjustment problems and concluded that parent-child hostility had greater implications for children's externalising behaviours. Specifically, a bidirectional relationship was noted between parent-child hostility and children's externalising behaviour, particularly for father-son relations, whereby father-child hostility predicted an increase in boys' externalising behaviours, while boys' externalising problems predicted an increase in father-child hostility. In contrast, within time girls' symptoms of maladjustment were linked to girls' perception of more negative parent-child relations (high hostility and low warmth). Together, these findings highlight the role of children's initial symptoms levels for the interplay between family relations.

The present studies contained in this chapter suggest that interparental conflict determines parental warmth and hostility expressed during parent-child interactions and children's cognitions regarding the level of threat and self-blame engendered from

marital conflict and feelings of insecurity within the parent-child relationship which accounts for the link between the affective quality of parent-child relations and children's adjustment. A particular strength of this programmatic series of studies was the use of a prospective longitudinal design to consider both positive and negative aspects of the parent-child relationship, which is likely to be more representative of family life. The findings delineate a 'chain of events' (Harold & Conger, 1997) set in motion by the presence of marital conflict.

CHAPTER 7

The studies contained within this thesis represent a focus on the interplay between interparental conflict, the affective quality of parent-child relations and children's adjustment, in order to delineate processes within the family that may explain children's long-term psychological well being and behavioural distress. Importantly, this thesis represents an attempt to move beyond the consideration of only negative processes that may undermine children's adjustment as a consequence of exposure to interparental conflict, but to integrate this knowledge with processes that may reduce the likelihood that children will experience symptoms of maladjustment. This chapter presents a synthesis of the key empirical findings, including the need to study both positive and negative aspects of family relations, the main conclusions drawn from each study, some overall limitations and how these findings might be applied to address the problems of children's maladjustment that arise from disrupted family relationships.

Specifically, this series of studies has programmatically advanced the hypothesis that interparental conflict determines parents' hostile and rejecting, and warm and responsive behaviours expressed during parent-child interactions, and how the relative impact of parental warmth versus hostility affects children's long-term symptoms of emotional and behavioural distress. In addition, this thesis has examined the alternative hypothesis that children's behaviour serves as a stimulus for increased parent-child problems, which, in turn, increases the propensity for conflict within the interparental relationship, whilst also addressing questions relating to the role of parent and child gender. In addition, consideration was given to the implications parent-child warmth and hostility have for children's appraisals of family

relations, which together with the parent-child relationship, contribute to account for children's adjustment to interparental conflict.

Chapter 1 provided a review of previous research that has documented a relationship between marital conflict and child adjustment and discussed theoretical frameworks that inform attempts to explain this relationship. Theoretical frameworks were described which highlight the role of children's appraisals of marital and parent-child relations in determining their adjustment to interparental conflict. Chapter 2 reviewed theoretical and empirical evidence for a conceptual model which proposed that marital conflict determines the quality of parent-child relations which in turn, determine children's adjustment. This chapter concluded that there is a dearth of longitudinal research that is able to test the direction of effects between marital conflict, parent-child relations and children's adjustment. Chapter 3 highlighted that the focus of research to date has been biased towards the consideration of negative aspects of parent-child relations (e.g., hostility and rejection) and the potential role of positive aspects of the parent-child relationship (e.g., warmth and responsiveness) has been relatively neglected. Yet the relative role of positive and negative aspects of the parent-child relationship in the context of interparental conflict is a conceptually important question as proposed by the developmental psychopathology framework, which suggests that all aspects of the continuum of family life (positive and negative) should be investigated in order to understand factors that contribute to or promote children's successful development and factors that may divert children from this path towards maladjustment (Cicchetti & Cohen, 1995). Together, these three chapters identified questions regarding the direction of effects between marital conflict, the parent-child relationship and children's adjustment, the relative influence of parent-child warmth versus hostility, the role of children's appraisals of family relations and

the role of parent and child gender, which provided a theoretical and empirical platform from which to inform the studies that follow.

The first study of this thesis presented in Chapter 4, examined the direction of effects between marital conflict and the affective quality of parent-child relations, represented by a measure of parent-child warmth and parent-child hostility. This is the first study to simultaneously examine the direction of effects between marital conflict and parent-child warmth and parent-child hostility using a longitudinal cross-lagged panel correlation design with an early adolescent age group. In addition this study remedied the lack of research that has considered the consequences of marital conflict for positive aspects of the parent-child relationship (e.g., a reduction in warmth and responsiveness) in contrast to many studies which have consistently documented an increase in negative aspects such as inconsistent discipline and hostility. Furthermore, this study was able to simultaneously identify how marital conflict influences levels of parent-child warmth relative to levels of parent-child hostility. This study also addressed the question of the best reporter of family relations, and how the pattern of results may vary according to parent and child gender.

The findings of the study described in Chapter 4 revealed that marital conflict predicted decreased parent-child warmth and increased parent-child hostility more so than the converse, supporting the spillover hypothesis (Engfer, 1988; Erel & Burman, 1995). That is, the quality of the marital relationship determined the quality of the parent-child relationship both within and across time. However, interesting differences were noted according to whether child or parent report of relations was employed, and whether mothers, fathers, sons or daughters were examined. In general, child report of both the marital and parent-child relationship indicated more

significant effects than parent report of both constructs, especially for models estimated using mothers' report of relations. This may be explained from the parental investment hypothesis, whereby parents, particularly mothers, are considered to have a strong interest in preserving the family and may present family relations in a more positive light (Gonzales et al., 1996; Schwarz et al., 1985). Alternatively, this may provide evidence for the compartmentalisation hypothesis (Erel & Burman, 1995) whereby mothers are more able than fathers to treat their roles as spouse and parent as distinct, making it less likely that discord in the marital relationship will spillover to effect mothers' interactions with their children.

This study also tested a combined reporter model, whereby parents reported on the marital relationship, and parents and children on the parent-child relationship, based on the logic that parents are likely to be privy to unique information regarding the marital relationship, particularly feelings of anger or hostility that children may not be aware of. In turn both parents and children can be thought to equally contribute to the parent-child dyad (Hinde & Stevenson-Hinde, 1988), and therefore allowing both parents and children's perceptions to contribute to this measure may provide a richer source of information to either reporter alone. This provides a more comprehensive test of the interrelationships between the marital and parent-child subsystem because it can be inferred that the link between the marital and parent-child relationship is not just due to mono-informant bias, whereby correlations may be attenuated simply because of the same reporter's disposition to see both relationships in a certain way. The results of this model did not confirm the absence of findings for mothers' report of the marital and parent-child relationship, and therefore the former hypothesis (that mothers' may be biased towards presenting a more favourable view of relations) rather than the latter hypothesis is likely to apply to these findings.

However, one exception to the unidirectional influence of marital conflict on parent-child relations was noted for father-daughter relations. Specifically, reciprocal effects, which identify the interplay between marital conflict and parent-child warmth and hostility within the same time point whilst controlling for earlier levels of marital and parent-child behaviour were noted, whereby marital conflict increased father-daughter hostility and father-daughter hostility simultaneously increased marital conflict. This supports the notion that father-child relations may be more vulnerable to the negative effects of marital conflict than mother-child relations, and that it is the father-daughter relationship in particular that may become more hostile (Kerig, Cowan & Cowan, 1993). Furthermore, this finding also suggests that fathers may be particularly reactive to hostile interactions with daughters, possibly because they view daughter hostility as less acceptable than when these interactions occur with sons (Durkin, 1995). In addition, marital conflict more consistently predicted the level of parent-child hostility than parent-child warmth, whereby marital conflict reduced only parent-daughter warmth. This suggests that parent-child hostility is a more pervasive consequence of marital conflict than disruption to parent-child warmth, supporting the large body of evidence for the spillover hypothesis (Erel & Burman, 1995). Questions remain from this study, for example, if parent-child warmth remains relatively high in the context of marital conflict (particularly for boys), can this reduce the likelihood of children's maladjustment that may be expected from exposure to marital conflict, above and beyond the presence of parent-child hostility? Alternatively, does parent-child hostility place children at risk for adjustment problems, regardless of the level of parent-child warmth? Finally, is the relationship between parent-child affect and children's adjustment unidirectional, or do children's behaviour problems and psychological well being influence the affective quality of

the parent-child relationship? These questions were addressed in the second study presented in Chapter 5.

Chapter 5 examined the relationship between parent-child warmth and parent-child hostility and children's internalising symptoms and externalising problems over a period of one year using a cross-lagged panel correlation design. Due to the interesting differences found in Chapter 4, this study also addressed the question of the best reporter of the parent-child relationship for prediction of children's adjustment, and how the pattern of results varied according to parent and child gender. In summary, parent-child hostility was more consistently linked to children's externalising problems. The findings revealed that a different pattern of results was apparent depending on whether relations were investigated within or across time, and parent or child report of parent-child relations was employed. Most notably, across time parent report of the quality of parent-child relations was more consistently linked to children's symptoms than child report of parent-child relations, however the lack of significant findings for child report was probably due to the high stability of both parent-child relations and children's adjustment, as the zero-order correlations were all moderately significant. Specifically, a bidirectional relationship was noted between parent-child hostility and children's externalising problems for parent report of parent-child hostility. This suggests that parent-child hostility increased children's externalising problems a year later, while children's earlier level of externalising problems increased parent-child hostility, creating a cyclical relationship. This is consistent with social learning theory, particularly Patterson's coercive family process theory (1982) that children reproduce aggressive coercive behaviour they have observed in the parent-child relationship and imitate this in subsequent interactions. Parents are also more likely to use hostile behaviour in response to children's

externalising if the hostility they express towards children temporarily halts children's aggression. In this way, both parents and children are likely to engage in further hostility and aggressive behaviour in subsequent interactions (Patterson, 2000).

The pattern of relations within-time replicated the finding that parent-child hostility was more closely associated with increased externalising problems particularly for boys and mothers and parent-child warmth was more closely related to children's internalising symptoms. The link between parent-child warmth and children's emotional symptoms may be explained whereby parenting characterised by warmth influences the development of self-competence and this allows children to cope better with a wide range of stressors (Scaramella et al., 1999). Therefore, low warmth may decrease children's ability to cope effectively with marital conflict, which may lead to symptoms of depression.

There was evidence for the alternative, child effects hypothesis (that children's behaviour determines parent behaviour) for models estimated with child report. Parent report more often indicated the direction of influence was from parent-child relations to children's adjustment, whereas child report indicated that children's behaviour influenced children's perceptions of the level of parent-child warmth and hostility more so than the converse. This highlights the importance of assessing children's perceptions, whereby children's internalising symptoms increased their perception of parent-child hostility and decreased their perception of parent-child warmth, particularly for mothers and girls. Children who experience symptoms of depression may see the world and their relations with others (including parents) in a more negative light, reflecting a trait negativity bias (Watson & Pennebaker, 1989) This may be particularly true for girls who, owing to socialisation experiences which emphasises the maintenance of interpersonal relations and caregiving, may be more

concerned with family relationships, and more likely to internalise than boys (Davies & Lindsay, 2001). However, this pattern of findings was also found for externalising problems, whereby child report indicated the direction of influence was from child behaviour to parent behaviour whereas parent report indicted the direction of effects was from parent behaviour to child behaviour. This suggests the finding for child report is not simply due to depressive symptoms, but may be that children who experience either internalising or externalising problems are sensitive to resulting changes in parent-child affect. Indeed, according to the information processing hypothesis (e.g., Dodge, 1993; Crick & Dodge, 1994) aggressive children may also experience a bias in processing social events, which could extend to children interpreting parent behaviour in a more negative light.

A final reporter difference was noted whereby child report suggested parent-child warmth decreased, but parent report indicated an increase in parent-child warmth in response to children's externalising problems. This link was most consistently noted for girls. The disparity between child and parent report regarding the influence of children's externalising problems may also be understood according to parental investment theory, whereby parents attempt to represent themselves in a better light. This is likely when considering findings that children's externalising problems often increase negative parenting (Kandel & Wu, 1995; Brunk & Henggeler, 1984). This may have been particularly true for girls' externalising because parents may view externalising behaviours to be less appropriate for girls (Durkin, 1995) and therefore marital arguments regarding their behaviour and parenting strategies may be more likely to ensue (Almeida et al., 1999).

This is the first study to examine the direction of effects between parent-child warmth, parent-child hostility and children's adjustment using a longitudinal cross-

lagged panel correlation design with an early adolescent age group. The study attests to the importance of assessing both warmth and hostility accounting for children's symptoms of maladjustment, by demonstrating that children's initial adjustment can influence parent-child relations as proposed by Cowan and Cowan (2002) and therefore suggests that future studies should control for children's initial symptoms of maladjustment. In addition, this study confirms the need to consider different reporters of the parent-child relationship to further understand processes occurring within the family (Davies & Lindsay, 2001). While a different pattern of results was noted according to parent or child report of the parent-child relationship, the combined measure introduced in Chapter 4 is likely to be the most desirable measure to employ in further studies because two sources of information regarding the same construct is likely to reduce the influence of individual biases (Cook, Kenny & Goldstein, 1991). Taken together, Chapter 4 and Chapter 5 provide separate information on two interrelationships that are likely to constitute one process induced from a discordant marital relationship. Combined, these two relationships provide one possible mechanism, the quality of parent-child relations, which may determine children's adjustment to interparental conflict. The next chapter integrates and extends the mechanisms delineated in the first two studies.

Chapter 6 presents two studies, the first of which tested a conceptual model derived from the findings above that marital conflict determines the level of parent-child warmth and parent-child hostility, and that these indexes of the quality of the parent-child relationship, in turn, account for children's internalising symptoms and externalising problems. In addition, as suggested by Chapter 5, children's initial symptom levels were accounted for. No study has attempted to address the relative influence of parent-child hostility and parent-child warmth in the context of marital

conflict on children's internalising and externalising symptoms in a prospective longitudinal design whilst controlling for children's initial symptom levels, in addition to investigating how the pattern of relations may differ when considering mother-child and father-child relations for boys and girls. In general, the results provide support for the indirect effects hypothesis (Emery, 1982) whereby the quality of parent-child relations provided a linking mechanism between marital conflict and children's adjustment.

In particular, findings suggested that in the context of marital conflict the presence of parent-child hostility had a greater influence on children's adjustment than the presence of parent-child warmth. Specifically, parent-child hostility increased and parent-child warmth decreased in the context of marital conflict, however only parent-child hostility predicted an increase in both internalising symptoms and externalising problems. In terms of gender differences, mother-child hostility more consistently predicted children's externalising symptoms, particularly for boys. This supports the hypothesis that the opposite-sex gender dyad may be most disrupted in the context of marital conflict (Osborne & Fincham, 1996), and coercive family process theory (Patterson, 1982) whereby mothers' hostility may cause boys to act out in an attempt to halt mothers' aversive behaviour. However, father-child hostility most consistently predicted increased internalising symptoms, particularly for boys. This may be because hostility expressed by fathers is particularly threatening and boys may fear further hostility if they respond with aggression. In addition, father-child warmth appeared to reduce boys' internalising symptoms. This contradicts finding from Vandewater and Lansford (1998) who reported that parent-child warmth was only a significant mediator for girls not boys, and therefore warrants further investigation. However, the results of Chapter 4 did suggest that

parent-daughter warmth was more likely to be disrupted than parent-son warmth, and it could be that because father-son warmth is often reported to be lower than mother-child warmth (Maccoby & Jacklin, 1974; Rohner, 1986), that boys' are particularly reassured by even a low level of father-child affection.

Finally, this study also examined if the pattern of results differed when estimated with child or parent report of the marital relationship, and generally very few differences were observed. Models that employed child report of the marital relationship indicated a direct effect between girls' perceptions of marital conflict and girls' externalising problems. This suggests that girls' perception of marital conflict influences their adjustment over and above the quality of parent-child relations, which may explain the lower number of significant paths from parent-child relations to girls, than boys' maladjustment noted for child report, because more variation in girls' adjustment is accounted for by marital conflict than for boys. As found in Chapter 5, children's initial symptoms influenced the quality of parent-child relations, whereby both internalising symptoms and externalising problems decreased parent-child warmth. This suggests that children who exhibit symptoms of maladjustment may elicit more negative parent behaviour, particularly in the presence of marital conflict. This is similar to the findings that child temperament influences parenting (Sanson & Rothbart, 1995), and children's behaviour influences parent behaviour (Bell & Harper, 1977). This suggests that children's adjustment problems are particularly difficult for parents to cope with in the context of a discordant marital relationship. In contrast, parent-child warmth was more consistently disrupted by marital conflict than children's behaviour, confirming that parent-child hostility is jointly determined by marital conflict and children's adjustment problems.

Noted throughout this thesis is the primacy of children's perceptions of both the marital and parent-child relationship, and previous research suggests that the quality of parent-child relations are likely to influence children's perceptions of the level of threat and self-blame they appraise from marital conflict (Grych & Cardoza-Fernandes, 2001). Furthermore, children's responses to marital conflict are unlikely to occur in isolation of their perception of parent-child security (Harold et al., 2004). Therefore, Study 2 proposed that the introduction of two further potential mechanisms, children's perceptions of threat and self-blame and parent-child insecurity, may provide a further level of explanation to account for children's adjustment in the context of marital conflict. Specifically, it was proposed that the affective quality of the parent-child relationship would inform children's appraisals of both marital and parent-child relations, which in turn would account for their adjustment.

Findings indicated that children's appraisals of marital and parent-child relations mediated the link between parent-child relations and children' adjustment. Specifically, marital conflict predicted low parent-child warmth and high parent-child hostility, parent-child warmth decreased children's feelings of insecurity in the parent-child relationship while parent-child hostility increased children's perceptions of self-blame engendered from marital conflict. This suggests that levels of parent-child warmth expressed in the context of marital conflict may reassure children that their own relationship with parents is not threatened. Consistent with the cognitive-contextual framework (Grych & Fincham, 1990), children who experience hostile parent-child interactions in the context of marital conflict are more likely to perceive themselves to be the cause of parent's arguments. In turn, children's appraisals of self-blame were consistently linked to children's internalising symptoms and

externalising problems, with few differences according to parent or child gender. Parent-child insecurity was more consistently linked to increased internalising symptoms than externalising problems which suggests that when children feel unable to trust and depend on parents in the context of marital conflict they are likely to experience depression, possibly because they feel unable to cope with marital conflict when they cannot rely on parents for support (Harold et al., 2004; Jenkins & Smith, 1990). However, parent-child insecurity was also linked to increased externalising problems, particularly for models examining mother-daughter insecurity. Further investigation of gender differences revealed that children's perceptions of mother-child insecurity predicted boys but not girls' internalising symptoms, but predicted both girls and boys' externalising problems. This suggests that mother-child insecurity may cause both boys and girls to act out in the context of marital conflict, but boys also internalise their distress in the form of heightened anxiety and dysphoria. This is consistent with the opposite-sex hypothesis, (Osborne & Fincham, 1996) which suggests that mother-son and father-daughter relations are particularly vulnerable in the context of interparental conflict.

Children's perceptions of self-blame were also consistently linked to children's internalising symptoms and externalising problems, particularly for girls. The link between girls' symptoms of self-blame and internalising symptoms has been noted in previous studies (Grych et al., 2000; Kerig, 1998) and accounted for by the proposal that girls experience sadness and shame from feeling responsible for the conflict. In addition, the link between self-blame and externalising for girls has also been noted in a previous study (Grych et al., 2003) whereby aside from feeling sadness, children may also feel greater proclivity towards intervening in marital conflict because of the feelings that they are responsible for the conflict. Over time,

ineffective efforts to bring an end to parents' arguments may lead children to manifest feelings of helplessness and depression. Similarly, heightened efforts by children to distract parents from marital problems by acting out may manifest as aggressive behaviours that generalise to other social contexts including interactions in school and with peers.

Models estimated using child or parent report of marital conflict revealed very few differences. The only consistent difference was that paths estimated using child report of marital conflict indicated that parent-child relations did not entirely mediate the direct effect of marital conflict on some of children's appraisals. Thus, for all child report models (across tests of child and parent gender) marital conflict continued to predict increased threat and parent-child insecurity when parent-child warmth and hostility were considered. Interestingly, parent-child hostility mediated the association between marital conflict and self-blame, suggesting that parents who behave in a hostile manner during parent-child interactions in the context of a discordant marital relations increases the probability that children will feel to blame for interparental conflict. This supports the proposal made by Grych and Cardoza-Fernandes (2001), that one contextual factor that may influence children's appraisals of self-blame is the quality of the parent-child relationship.

In summary, Study 2 of Chapter 6 constitutes the most advanced longitudinal test of the role of parent-child warmth and hostility and children's perceptions of family relations as mechanisms that account for the link between marital conflict and children's adjustment, whilst controlling for children's initial levels of adjustment. Examining data across three waves whilst controlling for initial symptom levels means the effects from the proposed intervening variables (parent-child affect and children's perceptions) serve as an index of change in adjustment at Time 3 (Grych et

al., 2003; Kessler & Greenberg, 1981) This increases the confidence in the conclusion that parent-child relations and children's appraisals operate as a mechanism through which exposure to marital conflict can lead to adjustment problems, although only experimental research can unambiguously address questions of causality (Grych et al., 2003). To summarise, this study highlights that parent-child hostility may have greater implications for children's adjustment than parent-child warmth. Despite the finding that parent-child warmth predicted a decrease in children's appraisals of parent-child insecurity, parent-child insecurity continued to exert an effect on children's adjustment problems. Therefore, parent-child insecurity may operate as an indirect link in the relationship between parent-child warmth and children's adjustment. However, parent-child warmth did not reduce the likelihood that children would experience adjustment problems in the context of marital conflict. In contrast, children's perception of self-blame mediated the link between parent-child hostility and children's symptoms of maladjustment. This means that children's feelings that they are to blame for marital conflict constitutes the mechanism through which parent-child hostility influences maladjustment. Finally, this suggests that parent-child warmth may have greater implications for children's appraisals of the parent-child relationship, while parent-child hostility has greater implications for children's perceptions of the marital relationship, in particular, how much children feel to blame for interparental conflict.

Applications

The findings from the series of studies contained in this thesis have the potential to be applied to social policy concerns, namely the mental health of children exposed to discord and conflict in the home. First, this thesis confirms the hypothesis suggested by Erel and Burman (1995) that cohesive parent-child relations are hard to

maintain in the context of a discordant marital relationship and that parent-child hostility is particularly distressing for children who are exposed to interparental conflict. In particular, this collection of studies demonstrates that parent-child hostility has greater implications for children's adjustment problems than low levels of parent-child warmth. Therefore, this suggests that even if parents behave in a warm, responsive manner towards children for the majority of parent-child interactions, expressions of rejection or hostility may override this experience and have a greater impact on their adjustment in the context of marital conflict. This indicates that it is important for parents to curb the spillover of marital anger to parent-child hostility. While parent-child warmth may reassure children that the parents will still be there for them in times of stress, the presence of parent-child hostility appears to negate the effects of warmth. If parents are unable to prevent some marital anger spilling over into parent-child relations, this study also suggests that it may be important to reassure children that they are not to blame for the conflict, or that they will still be available and responsive to their children's needs, particularly during adolescence. This important message is derived from the attempt to delineate the relative effect of negative and positive parent-child relations.

This information could be passed on to parents in the form of an educational programme as recently demonstrated by a study conducted at Cardiff University. Harold (2002) devised an intervention study whereby parents were informed of the negative consequences of marital conflict and asked to reflect on their own conflict management skills. The act of reflection, in company with information on constructive marital conflict styles including calm discussion with some degree of resolution enabled parents to identify how they could better manage interparental conflicts in order to increase the likelihood that children learn positive lessons from

the interparental conflict they are aware of. This technique also enabled parents to identify how marital disagreements can influence family functioning, particularly via spillover into parent-child interactions. Such an intervention programme provides one useful method for disseminating the findings of research to those to whom it matters most, the families themselves.

Limitations

Some limitations may be noted in relation to the studies described in this thesis. First, this thesis examined the role of individual parent behaviour, from mothers and fathers. However, it has been recently noted that the construct of coparenting may also be linked to children's' adjustment (Kitzmann, 2000; McHale & Cowan, 1996). This refers to how parenting changes in the presence of the other parent. For example, father-son interactions have been noted to decrease in the presence of the mother, while mother-son interactions may increase in the presence of the father (Gjerde, 1986). Indeed, Minuchin (1985) suggests that the parent-child dyad may become less significant after infancy, and therefore whole family dynamics should be measured, including triadic interactions (mother, father, child). McHale (1995) demonstrated that parents were more likely to engage in hostile competitive coparenting of boys when under the strain of a discordant marital relationship, but more likely to withdraw or become overinvolved with daughters. However, while this provides important information, it is also necessary to first understand the differential influence of mothers and fathers (Parke & Buriel, 1998) before coparenting is considered.

Second, this study investigated the role of parent-child relations as a mediator of the link between marital conflict and children's adjustment. Frosch and Mangelsdorf (2000) suggest however that studies of this nature should also

investigate the quality of parent-child relations as a moderator of the relationship between marital conflict and child adjustment. A relationship that indicates the presence of a moderator is noted when there is an interaction between marital conflict and parent-child relations (Baron & Kenny, 1986), for example, marital conflict may only be related to increased child adjustment problems in the context of low levels of parent-child warmth or, conversely, high levels of parent-child hostility. Indeed, Frosch and Mangelsdorf (2000) found more evidence for the moderating effects of parenting whereby when marital conflict was high, children whose parents displayed the lowest amount of warmth and highest hostile or intrusive behaviour exhibited the highest level of behaviour problems. The next step for research is to examine the role of parent-child warmth and hostility as mediators *and* moderators of the marital conflict-child adjustment relationship. Nevertheless, the studies presented in this thesis, represent a significant advance on existing cross-sectional studies that have assessed these constructs in isolation of one another.

Third, this study employed manifest measures of all constructs. Manifest measures were employed in order to identify the separate influence of warmth, hostility, and children's appraisals. Nevertheless, a reliance on manifest measurement is not as accurate as latent measures because manifest measures are unable to separate 'true' variability from measurement error. A measure that is constructed from more than one indicator (or scale, e.g., observer and child report of parent-child warmth) is able to allow the shared variance between each measure to contribute to the variable, which is likely to represent a more valid measure (Cook et al., 1996). However, the use of latent measures would have decreased the parameter-to-N ratio and may have precluded the ability for subgroup comparisons.

Fourth, this sample was based on a sample derived from South Wales, and therefore primarily comprised white-European families. While this sample was selected to be representative of families living within the United Kingdom, it cannot be assumed that the findings from this study will generalise to other non-Western groups, such as African or Indian cultures. Indeed, there is evidence that socialisation practices differ in these cultures, with less of an emphasis on individualism (autonomy and independence) and more collective responsibility (interdependence) which may mean that the impact of parenting practices differ according to emphasis on individualism or interdependence. For example, studies have demonstrated that the influence of parenting styles may differ across cultures, e.g., authoritarian parenting is linked to high academic achievement in some non-Western or disadvantaged cultures, but negative outcomes in middle-class, North American or European cultures (Darling & Steinberg, 1993). In addition, parent-child warmth is not linked with more secure attachment in Uganda (Ainsworth, 1967) but is linked with less insecure attachment in North American samples (Owen & Cox, 1997). Therefore, the question of whether there are differences between ethnic groups regarding the impact of parent-child relations on children's adjustment in the context of interparental conflict requires further consideration (McLoyd, Harper & Copeland, 2001). Nevertheless, this study improves upon the majority of the literature which is primarily based on samples derived from North America.

Finally, the children included in the studies contained within this thesis were aged between 11 and 14 years old and thus it should be considered that the pathways delineated between marital conflict, parent-child relations and children's adjustment may be limited to early adolescence. Investigating the effects of marital conflict on children at this age is particularly interesting because adolescents contend with

several social and biological transitions or challenges during this period including the move to secondary school and pubertal changes. Research indicates that the timing of pubertal maturation relative to peers may moderate the effect of stressful life events on children's adjustment. Both boys and girls who mature early have been noted to be more vulnerable to stressful life events (Ge, Conger & Elder, 2001). Thus, it may be that children who experience early maturation may be more vulnerable to the occurrence of decreased parental warmth and increased parental hostility in the context of a discordant marital relationship. Similarly, it may be that children who are contending with a move to secondary school are more sensitive to changes in parental affect, more likely to perceive interparental conflict as threatening, or more likely to attribute that that their behaviour is the cause of the marital conflict, all of which may increase adolescents' adjustment problems as suggested by Grych and Fincham (1990). These studies are also particularly timely considering that the majority of research investigating the effects of marital conflict on children's adjustment has considered children in middle childhood with less research on family processes in early childhood or adolescence. To further understand the impact of marital conflict on adolescent adjustment, research should consider the potential moderating role of pubertal maturation both on the quality of parent-child relations and adolescents' perceptions of family relationships.

Future directions

The body of evidence presented in this thesis provides an account of the relative role positive and negative parent-child relations play in accounting for the relationship between marital conflict and children's adjustment. Furthermore, interesting gender differences were noted in the relationship between mother-child and father-child relations for boys and girls. The ways in which future work can

capitalise and extend the findings of this thesis relate to the role of constructive marital conflict, assessing children's behaviour along a continuum of competence to maladjustment and finally consideration of genetic factors.

Many authors have claimed that marital conflict is not a unidimensional construct (Emery, 1982; Cummings & Davies, 1994; Grych & Fincham, 1990; Harold & Conger, 1997). Interparental conflict can range from relatively benign disagreements characterised by calm discussion, to violent arguments characterised by mutual hostility and contempt (Gottman, 1999). Accordingly, it is hypothesised that not all styles of marital conflict are likely to have negative consequences for children's adjustment, and even some forms that include some degree of resolution may teach children important lessons (Goeke-Morey et al., 2001). This is a promising area of study, as it may be that some forms of conflict improve family harmony, for example if parents are able to resolve disagreements in a non-destructive manner, they may be more available for their children's needs and less likely to become distracted from their parenting role (Miller et al., 1993). For example, the absence of conflictual behaviour does not equate to a positive marital relationship (Frosch & Mangelsdorf, 2000), thus more research is required to understand the types of conflict styles that increase parent-child relationship quality and those that undermine it.

On a related topic, this thesis focuses on children's maladjustment rather than indicators of adjustment because a large body of evidence indicates that marital conflict is likely to have detrimental effects on children's adjustment. Previous research has aimed to account for the factors that contribute to account for children's symptoms of maladjustment, with the ultimate aim of devising intervention programmes (Masten, 2001). However, a recent shift in the literature is apparent, whereby researchers have begun to focus on the family factors that account for the

development of children's adjustment. Indeed, it may be that parent-child warmth contributes more to measures of positive adjustment, e.g., social competence. Furthermore, Eberly (1995) claims that the absence of maladjustment does not necessarily imply the presence of adaptive development, therefore in order to identify if parent-child hostility reduces adaptive development or parent-child warmth foster successful adjustment, indicators of this outcome should be investigated.

Finally, consideration of genetic influences is likely to be important, especially when considering the influence of children's behaviour on marital or parent-child relations. The impact of parenting on children has been questioned by Harris (1995), who claims that the influence of parenting on children's adjustment is not as pervasive as has been demonstrated, with the role of other factors being more influential, such as peers and heredity factors (Harris, 1995). Indeed, there is evidence that genes and environments are correlated, which may mean that parenting may be an artefact of genetic factors (Scarr and McCartney, 1983). Parents, for example, may create environments for their children that are consistent with their own and children's genetic propensities (Vandell, 2000). For example, parents may have negative dispositions, such as a tendency to be hostile, which may create problems in the marital and parent-child relationship and this trait may also be passed on to children, which may manifest in a difficult temperament (e.g., hard to sooth, overactive), which may increase the probability for parent irritability or hostility. However the occurrence of genetic transmission of behavioural dispositions does not eliminate the possibility that parents' behaviour also influences children. Vandell (2000) argues that parenting is not a shared experience in that siblings do not experience parenting in the same way. Previous research indicates that parents' treat children differently (Kim, Hetherington & Reiss, 1999) and children may perceive the same parenting

behaviour differently (Ge et al., 1996). Thus, there remains a need for research to continue to consider how children perceive and respond to their experience of interparental conflict and parent-child relationship functioning.

Summary

This thesis proposes that the relative impact of parental warmth and responsiveness versus parental hostility and rejection expressed in the parent-child relationship but engendered from interparental conflict is integral to understanding children's long-term emotional and behavioural adjustment. Specifically, the series of studies contained within this thesis have considered the consequences that parental warmth and hostility may have for children's social cognitions of family relationships, and how children's appraisals of marital and parent-child relations may explain how positive and negative emotions within the parent-child relationship influence children's adjustment in the context of a discordant interparental relationship. The prospective longitudinal design employed in this series of studies is among the very first to systemically consider the proposed direction of effects between marital conflict, parent-child relations and children's adjustment against the theoretically plausible alternative that children's emotional and behavioural problems serve as a stimulus for an increase in negative parent-child affect, which, in turn, increase the probability for interparental disagreements. Studies within this thesis also delineated interesting gender differences when considering mother-child and father-child relations for boys and girls. These findings lay the foundation for future research to further explore how positive and negative parent-child behaviour determine what helps, and what hurts children in the context of a discordant marital relationship.

REFERENCES

Achenbach, T. M. (1991). *Manual for the Youth Self-Report and 1991 Profile.* Burlington: University of Vermont, Department of Psychiatry.

Achenbach, T. M., & Edelbrock, C. S. (1978). The classification of child psychopathology: A review and analysis of empirical efforts. *Psychological Bulletin, 85*, 1275-1301.

Acock, A. C., & Bengston, V. L. (1980). Socialisation and attribution processes: Actual versus perceived similarity among parents and youth. *Journal of Marriage and the Family, 42*, 501-515.

Ainsworth, M. D. S. (1967). *Infancy in Uganda: Infant care and the growth of love.* Baltimore: Johns Hopkins University Press.

Ainsworth, M. D. S. (1972). Attachment and dependency: A comparison. In J. L. Gewirtz (Eds.), *Attachment and dependency*. New York: Wiley.

Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachment: Assessed in the strange situation and at home.* Hillsdale, N. J.: Lawrence Erlbaum.

Allen, J. P. & Land., D. (1999). Attachment in adolescence. In. Shaver, P. R., Cassidy, J. (Eds.), *Handbook of attachment: Theory, research, and clinical applications.* (pp.319-335). New York, NY, US: Guilford Press.

Almeida, D. M., Wethington, E., & Chandler, A. L. (1999). Daily transmission of tensions between marital dyads and parent-child dyads. *Journal of Marriage and the Family, 61*, 49-61.

Amato, P .R. (2001). Children of divorce in the 1990s: An update of the Amato and Keith (1991) meta-analysis. *Journal of Family Psychology, 15,* 355-370.

Amato, P. R. (1986). Marital conflict, the parent-child relationship and child self-esteem. *Family Relations: Journal of Applied Family and Child Studies, 3*, 403-410.

Amato, P. R. (1993). Children's adjustment to divorce: Theories, hypotheses, and empirical support. *Journal of Marriage and the Family, 55*, 23-38.

Amato, P. R. (1994). The implications of research findings on children in stepfamilies. In J. Dunn, & A. Booth (Eds.), *Stepfamilies, Who benefits? How does not?* (pp. 81-87). Hillsdale, N.J., England: Lawrence Erlbaum Associates.

Amato, P. R. & Booth, A. (1996). A prospective study of divorce and parent-chid relationships. *Journal of Marriage and the Family, 58*, 356-365.

Amato, P. R., & Booth, A. (2001). The legacy of parents' marital discord: Consequences for children's marital quality. *Journal of Personality and Social Psychology, 81,* 627-638.

Amato, P. R., & Keith, B. (1991). Parental divorce and the well-being of children: A meta-analysis. *Psychological Bulletin, 110,* 26-46.

Amato, P. R., & Ochiltree, G. (1987). Interviewing children about their families: A note on data quality. *Journal of Marriage and the Family, 49*, 669-675.

Anderson, K. E., Lytton, H., & Romney, D. M. (1986). Mothers' interactions with normal and conduct-disordered boys: Who affects whom? *Developmental Psychology, 22*, 604-609.

Armsden, G. C., & Greenberg, M. T. (1987). The inventory of parent and peer attachment: Individual differences and their relationship to psychological well-being in adolescence. *Journal of Youth and Adolescence, 16*, 427-454.

Ausubel, D. P., Balthazar, E. E., Rosenthal, I., Blackman, L. S., Schpoont, S. H., & Welkowitz, J. (1954). Perceived parent attitudes as dominants of children's ego structure. *Child Development, 25*, 175-183.

Aquilino, W. S. (1999). Two views of one relationship: Comparing parents; and young adult children's reports of the quality of intergenerational relations. *Journal of Marriage and the Family,61*, 858-870.

Babbie, E. (1996). *The practice of social research (7th Ed)*. Belmont, CA, US: Wadsworth/Thomson Learning.

Bakeman, R & Brown. J (1980). Early interaction: Consequences for social and mental development at three years. *Child Development, 51*, 437-447.

Baldwin, A. L. (1955). *Behaviour and development in childhood.* New York: The Dreyden Press.

Baldwin, A. L., Baldwin, C., & Cole, R. E.. (1990). Stress-resistant families and stress-resistant children. In A. S. Masten & J. E. Rolf (Eds.), *Risk and protective factors in the development of psychopathology* (pp. 257-280). New York, US: Cambridge University Press.

Baldwin, A. L., Kalhoun, J., & Breese, F. H. (1945). Patterns of parent behaviour. *Psychological Monographs, 58*(3).

Baldwin, D. V., & Skinner, M. L. (1989). Structural model for antisocial behaviour: Generalisation to single-mother families. *Developmental Psychology, 25*, 45-50.

Ballard, M. & Cummings, E. M. (1990). Response to adults' angry behaviour in children of alcoholic and non-alcoholic parents. *Journal of Genetic Psychology, 151*, 195-209.

Bandura A. (1989). Human agency in social cognitive theory. *American Psychologist, 44*, 1175-1184.

Bandura, A. (1965). Influence of models' reinforcement contingencies on the acquisition of imitative responses. *Journal of Personality and Social Psychology, 1,* 589-595.

Bandura, A. (1977). *Social learning theory.* Englewood Cliffs, NJ: Prentice-Hall.

Bandura, A., & Walters, R. H. (1959). Adolescent aggression: A study of the influence of child-training practices and family interrelationships. Oxford, England: Ronald

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51,* 1173-1182.

Bates, J. E., Pettit, G. S., Dodge, K. A., & Ridge, B. (1998). Interaction of temperamental resistance to control and restrictive parenting in the development of externalizing behaviour. *Developmental Psychology, 34*, 982-995.

Baumrind, D. (1991). The influence of parenting style on adolescent competence and substance use. *Journal of Early Adolescence, 11*, 56-94.

Baumrind, D. (1967). Child care practices anteceding three patterns of preschool behaviour. *Genetic Psychology Monographs, 75*, 43-88.

Baumrind, D. (1971). Harmonious parents and their preschool children. *Developmental Psychology, 4,* 99-102.

Baumrind, D. (1983). Rejoinder to Lewis's reinterpretation of parental firm control effects: Are authoritative families really harmonious? *Psychological Bulletin, 94*, 132-142.

Baumrind, D. (1989). The permanence of change and the impermanence of stability. *Human Development, 32,* 187-195.

Baumrind, D. (1993). The average expectable environment is not good enough: A response to Scarr. *Child Development, 64,* 1299-1317.

Becker, W. C. (1964). Consequences of different kinds of parental discipline. In M. L. Hoffman & L. W. Hoffman (Eds.), *Review of child development research* (Vol. 1). New York: Russell Sage Foundation.

Bell, S. M., & Ainsworth, M. D. (1972). Infant crying and maternal responsiveness. *Child Development, 43*, 1171-1190.

Bell, R. Q. (1968). A reinterpretation of the direction of effects in studies of socialisation. *Psychological Review, 75*, 81-95.

Bell, R. Q. (1979). Parent, child, and reciprocal influences. *American Psychologist, 34,* 821-826.

Bell, R. Q., & Chapman, M. (1986). Child effects in studies using experimental or brief longitudinal approaches to socialisation. *Developmental Psychology, 22*, 595-603.

Bell, R. Q., & Harper, L. V. (1977). *Child effects on adults*. Hillsdale, NJ.: Erlbaum.

Bell, R. Q., Silvia, M. & Ainsworth, M. D. (1972). Infant crying and maternal responsiveness. *Child Development, 43*, 1171-1190.

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

Belsky, J. (1984). The determinants of parenting: A process model. *Child Development, 55*, 83-96.

Belsky, J. (1990). Parental and nonparental childcare and children's socio-emotional development: A decade in review. *Journal of Marriage and the Family, 52,* 885-903.

Belsky, J. (1993). Etiology of child maltreatment: A developmentalecological analysis. *Psychological Bulletin, 114*, 413-434.

Belsky, J. (1999). Interactional and contextual determinants of attachment security. In Cassidy, J. & Shaver, P. R. (Eds.). *Handbook of Attachment: Theory, Research and clinical applications.* The Guildford Press: New York. Ch. 12.

Belsky, J., Crnic, K. & Gable, S. (1995). The determinants of coparenting in families with toddler boys: Spousal differences and daily hassles. *Child Development, 66*, 629-642.

Belsky, J., Fish M., & Isabella, R. (1991). Continuity and discontinuity in infant negative and positive emotionality: family antecedents and attachment consequences. *Developmental Psychology. 27*, 421-431.

Belsky, J., Gilstrap, B., & Rovine (1984). The Pennsylvania Infant and Family Development Project: I. Stability and change in mother-infant and father-infant interaction in a family setting at one, three, and nine months. *Child Development., 55*, 692-705.

Belsky, J., Rovine, M., & Fish, M. (1989). The developing family system: The Minnesota symposia on child psychology, Vol, 22. In E. Thelen & M. R. Gunnar, (Eds), *Systems and development* (pp. 119-166). Hilsdale: NJ, England: Lawrence Erlbaum Associates.

Belsky, J., Taylor, D. G., & Rovine, M. (1984). The Pennsylvania Infant and Family Development Project: II. The development of reciprocal interaction in the mother-infant dyad. *Child Development, 55,* 706-717.

Belsky, J., Youngblade, L., Rovine, M., & Volling, B. (1991). Patterson of marital change and parent-child interaction. *Journal of Marriage and the Family, 53*, 457-498.

Berardo, F. M., & Shehan, C., L. (1999). *Contemporary Perspectives on Family Research: Vol. 1. Through the Eyes of the Child: Re-visioning Children as Active Agents in Family Life.* Stanford, CT: JAI Press.

Bertalanffy, L. von. (1968). *General systems theory.* New York: Braziller.

Bless, H., Fiedler, K., & Strack, F. (2004). *Social cognition: How individuals construct social reality* Hove: Psychology Press.

Block, J. H., Block, J., & Morrison, A. (1981). Parental agreement-disagreement on child rearing orientations and gender-related personality correlates in children. *Child Development, 53,* 487-498.

Bollen, K. A. (1989). *Structural equations with latent variables.* New York: Wiley.

Booth, A., Crouter, A. C., & Clements, M. (2001). *Couples in Conflict.* Mahwah, NJ, US: Lawrence Erlbaum Associates.

Bornstein, M. H. (Ed) (2002). *Handbook of parenting: Vol. 1: Children and parenting* (2nd ed.).Mahwah, NJ, US: Lawrence Erlbaum Associates, Publishers.

Bowlby J. (1973). *Attachment and loss. Vol 1. Attachment.* New York: Basic Books.

Bowlby, J. (1952). *Maternal care and mental health.* (2nd Ed.), Geneva: World Health Organisation.

Bowlby, J. (1958). The nature of the child's tie to his mother. *International Journal of Psycho Analysis, 39*, 350-373.

Bowlby, J. (1980). *Attachment and loss. Vol 2. Separation: Anxiety and anger.* New York: Basic Books.

Brody, G. H., Arias, I., & Fincham. F. D. (1996). Linking marital and child attributions to family processes and parent-child relationships. *Journal of Family Psychology, 10*, 408-421.

Brody, G. H., Pillegrini, D., & Siegel, I. E. (1986). Marital quality and mother-child and father-child interactions with school-aged children. *Developmental Psychology, 22,* 291-296.

Bronfenbrenner, U. (1986). *The ecology of human development: Experiments by nature and design.* Cambridge, MA: Harvard University Press.

Bronstein, P., Clauson, J., Stoll, M. F., & Abrams, C. L. (1993). Parenting behaviour and children's social, psychological and academic adjustment in diverse family structures. *Family Relations, 42*, 268-276.

Brunk M. A., & Henggeler, S. W. (1984). Child influences on adult controls: An experimental investigation. *Developmental Psychology, 20*, 1074-1081.

Buchanan, C. M., Maccoby, E. E., & Dornbusch, S. M. (1991). Caught between parents: Adolescents' experience in divorced homes. *Child Development, 62*, 1008-1029.

Buehler, C., & Gerard, J. M. (2002). Marital conflict, ineffective parenting, and children's and adolescents' maladjustment. *Journal of Marriage and Family, 64*, 78-92.

Buehler, C., Anthony, C., Krishnakumar, A., & Stone, G. (1997). Interparental conflict and youth problem behaviours: A meta-analysis. *Journal of Child and Family Studies, 6*, 223-247.

Bugental, D. B., & Goodnow, J. S. (1998). Socialisation processes. In W. Damon & N. Eisenberg (Eds.), *Handbook of child psychology: Vol. 3: Social, emotional and personality development* (5the ed., pp.389-462). New York: Wiley.

Buhrmeister, D. P., & Furman, W. C. (1990). Perceptions of sibling relationships during middle-childhood and adolescence. *Child Development, 59*, 1387-1398.

Burbach, D. J. & Borduin, C. M. (1986) Parent-child relations and the etiology of depression: A review of methods and findings. *Clinical Psychology Review., 6*, 133-153.

Burman, B. J., John, R. S. & Margolin, G. (1987). Effects of marital and parent-child relations on children's adjustment. *Journal of Family Psychology, 1*, 91-108.

Burman, B. J., Margolin, G., & John, R. S. (1995). *Observed parental behaviour of violent, non-violent, and nondistressed couples during family discussions.* Unpublished manuscript

Camara, K. A. & Resnick, G. (1989). Styles of conflict resolution and cooperation between divorced parents: Effects on child behaviour and adjustment. *American Journal of Orthopsychiatry, 59*, 560-575.

Carslon, E. A. & Sroufe, L A. (1995). Contribution of attachment theory to developmental psychopathology. In D Cicchetti & D. Cohen (Eds), *Developmental psychopathology: Theory and methods* (Vol. 1, pp. 581-617). New York: Basic Books.

Cassidy, J. (1995). Attachment and generalised anxiety disorder. In D. Cicchetti and S. L. Toth (Eds.), *Emotion, cognition, and representation* (pp.343-370). Rochester, NY: University of Rochester Press.

Cassidy, J. & Shaver, P. R. (Eds.) (1999). *Handbook of attachment: Theory, research, and clinical applications.* New York, NY, US: Guilford Press.

Cassidy, J., Kirsh, S. J., Scolton, K. L., & Parke, R. D. (1996). Attachment and representations of peer relationship. *Developmental Psychology, 32,* 892-904.

Chan, Y. (1981). Friendship comprehension among conduct disordered boys. *Dissertation Abstracts International, 42*, 1587.

Chang, L., Schwartz, D., Dodge, K. A., McBride-Cheng, C. (2003). Harsh parenting in relation to child emotion regulation and aggression. *Journal of Family Psychology, 17*, 598-606.

Chen, X, Lui, M., & Li, D. (2000). Parental warmth, control and indulgence and their relationship to adjustment in Chinese children: A longitudinal study. *Journal of Family Psychology. 14*, 401-419.

Chapman, M., & Zahn-Waxler, C. (1982). Young children's compliance and non-compliance to parental discipline in a natural setting. *International Journal of Behavioural Development, 5*, 81-94.

Christensen, A. & Heavey, C. L. (1990). Gender and social structure in the demand/withdraw pattern of marital conflict. *Journal of Personality and Social Psychology, 59,* 73-81.

Christensen, A., & Margolin, G. (1988). Conflict and alliance in distressed and nondistressed families. In R. A Hinde & J Stevenson-Hinde (Eds.), *Relationships within families: Mutual influences* (pp. 263-282). New York: Oxford University Press.

Cicchetti, D., & Cohen, D. J. (1995). *Developmental Psychopathology: Vol. 1: Theory and methods.* New York: Wiley.

Cicchetti, D., & Rosgosch, F. A. (1996). Equifinality and multifinality in developmental psychopathology. *Development and Psychopathology, 8*, 597-600.

Clark, L. A., & Watson, D. (1988). Mood and the mundane: Relations between daily life events and self-reported mood. *Journal of Personality and Social Psychology, 5*, 296-308.

Clarke-Stewart, K. (1972). *Interactions between mothers and their young children: Characteristics and consequences*. Doctoral dissertation.

Coiro, M. J., & Emery, R. E. (1998). Do marriage problems affect fathering more than mothering? A quantitative and qualitative review. *Clinical Child and Family Psychology Review, 1,* 23-40.

Collins, W. A. (1990). Shared views and parent-adolescent relationships. In R. L. Paikoff (Ed.), *Shared views in the family during adolescence: New directions for child development* (Vol.51, pp.103-110). San Francisco: JoBass.

Collins, W. A., Maccoby, E. E., Steinberg, L., Hetherington, E. M., & Bornstein, M. H. (2000). Contemporary research on parenting: The case for nature and nurture. *American Psychologist, 55*, 218-232.

Compas, B. E. (1987). Coping with stress during childhood and adolescence. *Psychological Bulletin, 101*, 393-403.

Compas, B. E., Conner-Smith, J. K., Saltzman, H., Thomsen, A. H., & Wadsworth, M. E. (2001). Coping with stress during childhood and adolescence: Problems, progress and potential in theory and research. *Psychological*

Bulletin, 127, 87-127.

Conger, R. D. (2001). *Understanding child and adolescent response to caregiver conflict: Some observations on context, process, and method.* In A.C. Crouter, and A. Booth (Eds). Couples in conflict (pp. 161-172). Mahwah, NJ, US: Lawrence Erlbaum Publishers.

Conger, R. D., Cui, M., Bryant, C. M., & Elder, G. H. (2000). Competence in early adult romantic relationships: A developmental perspective on family influences. *Journal of Personality and Social Psychology. 79*, 224-237.

Conger, R. D., & Elder, G. H. (1994). *Families in troubled times: Adapting to change in rural America.* Hillsdale, NJ: Aldine.

Conger, R. D., & Ge, X. (1999). *Conflict and cohesion in parent-adolescent relations: Changes in emotional express from early to midadolescence.* In M.J. Cox, & J. Brooks-Gunn (Eds). Conflict and cohesion in families: Causes and consequences. The advances in family research series. Mahwah, NJ, US: Lawrence Erlbaum Associates, Publishers.

Conger, R. D., Ge., X., Elder., G. H., & Lorenz., F. O. (1994). Economic stress, coercive family process, and developmental problems of adolescents. *Child Development, 65*, 541-561.

Conger, J. J., & Miller, W. C. (1966). *Personality, social class, and delinquency.* New York: John Wiley.

Cook, W. L., & Goldstein, M. J. (1993). Multiple perspectives on family relationships: A latent variables model. *Child Development, 64,* 1377-1388.

Cook, W. L., Kenny, D. A., & Goldstein, M. J. (1991). Parental affective style risk and the family systems: A social relations models analysis. *Journal of Abnormal Psychology, 100*, 492-501.

Coopersmith, S. (1967). *The antecedents of self-esteem.* San Francisco: W. H Freeman & Co.

Cowan, P. A., Cowan, C., & Kerig, P. K. (1993). Mothers, fathers, sons and daughters: Gender differences in family formation and parenting style. In P. A. Cowan, D. A. Hansen, A. Skolnich, & G. Swanson. (Eds.), *Family, Self and Society.* Mahwah, New Jersey: Lawrence Erlbaum Associates.

Cowan, P. A., Cowan, P. A., Heming, G., & Miller, N .B. (1991). Becoming a family: Marriage, parenting, and child development. In P. A. Cowam, & E.

M. Hetherington (Eds.), *Family transitions* (pp. 79-109). Hillsdale, NJ: Erlbaum.

Cowan, P.A., & Cowan, C.P. (2002). Interventions as tests of family systems theories: Marital and family relationships in children's development and psychopathology. *Development and Psychopathology, 14*, 731-759.

Cowan, P.A., Cowan, C.P., & Schulz, M.S. (1996). *Thinking about risk and resilience in families.* In E.A. Blechman & E.M. Heatherington (Eds). Stress, Coping and resiliency in children and families (pp. 1-38). Hilsdale, NJ, England: Lawrence Erlbaum Associates, Inc.

Cowan, P.A., Cowan, C.P., Schulz, M.S., & Heming, G. (1994). *Premarital to preschool family factors in children's adaptation to kindergarten.* In S.G. Kellam and R.D. Parke (Eds). Exploring family relationships with other social contexts (pp. 75-114). Hilsdale, N.J, England. Lawrence Erlbaum Associates Inc.

Cowan, P. A., Powell, D., & Cowan, C. P. (1998). Parenting interventions: A family systems perspective. In W. Damon (Ed.), *Interparental conflict and child development: Theory, research, and applications* (pp.249-272). New York: Cambridge University Press.

Cox, S. H. (1970). Intrafamily comparison of loving-rejecting and child-rearing practices. *Child Development, 41,* 437-448.

Cox, M. J., & Paley, B. (1997). Families as systems. *Annual Review of Psychology, 48,* 243-267.

Cox, M. J., Burchinal, M., & Payne, C. C. (1999). Marital perceptions and interactions across the transition to parenthood. *Journal of Marriage and the Family, 61*, 611-625.

Cox, M. J., Owen, M. T., Lewis, J. M. & Henderson,V. K (1989). Marriage, adult adjustment, and early parenting. *Child Development, 60,* 1015-1024.

Cox, M. J., Paley, B., Burchinal, M., & Payne, C. C. (1999). Marital perceptions and interactions across the transition to parenthood. *Journal of Marriage and the Family, 61*, 611-625.

Cox, M. J., Paley, B., & Harter, K. (2001). Interparental conflict and parent-child relationships. In J. Grych & F. Fincham (Eds.), *Child development and interparental conflict* (pp. 249-272). New York: Cambridge University Press.

Cox, M.J., & Brooks-Gunn, J. (1999). *Conflict and cohesion in families: Causes and*

consequences. The advances in family research series. Mahwah, NJ, US: Lawrence Erlbaum Associates, Publishers.

Crick, N. R., & Dodge, K. A. (1994). A review and reformulation of social-information processing mechanisms in children's social adjustment. *Psychological Bulletin, 115,* 74-101.

Crick, N. R., & Dodge, K. A. (1996). Social information-processing mechanisms in reactive and proactive aggression. Child Development, 67, 993-1002.

Crnic, K. A., Greenberg, M. T., Robinson, N. M., & Ragozin, (1984). Maternal stress and social support: Effects on the mother-infant relationship from birth to eighteen months. *American Journal of Orthopsychiatry*, 54, 224-235.

Crockenberg, S. & Leerkes, E. M. (2003). Parental acceptance, postpartum depression, and maternal sensitivity: Mediating and moderating processes. *Journal of Family Psychology, 17*, 80-93.

Crockenberg, S., & Covey, S. L. (1991). Marital conflict and externalising behaviour in children. In D Cicchetti, & S. L. Toth (Eds.), *Rochester symposium on developmental psychopathology, Vol 3. Models and integration* (pp. 235-260). Rochester, NY: University of Rochester Press.

Crouter, A. C., & Booth, A. (2003). *Children's influence on family dynamics: The neglected side of family relationships.* Mahwah, NJ, US: Lawrence Erlbaum Associates.

Cummings, E. M. & Cicchetti, D. (1990) Toward a transactional model of relations between attachment and depression. In Cicchetti, D. & Greenberg, M. T. (Eds). *Attachment in the preschool years: Theory, research, and intervention.* (pp.339-372). Chicago, IL, US: University of Chicago Press.

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

Cummings, E. M. (1994). Marital conflict and children's functioning. *Social Development, 3*, 16-36.

Cummings, E. M., & Cummings, J. L. (1988). A process-oriented approach to children's coping with adults' angry behaviour. *Developmental Review, 8*, 296-321.

Cummings, E. M., & Cummings, J. S. (2002). Parenting and attachment. In M. Bornstein (Ed), *Handbook of parenting, Vos 5: Practical issues in parenting* (2nd ed, pp 35-58). Mahwah, NJ, US: Lawrence Erlbaum Associates.

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

Cummings, E. M., & Davies, P. T. (1996). Emotional security as a regulatory process in normal development and the development of psychopathology. *Development and Psychopathology, 8*, 123-139.

Cummings, E. M., & Davies, P. T. (2002). Effects of marital conflict on children: Recent advances and emerging themes in process-oriented research. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 43*, 31-63.

Cummings, E. M., & El-Sheikh, M. (1991). Children's coping with angry environments: A process-oriented approach. In E. M. Cummings, A. L. Greene, & K. H. Karraker (Eds.). *Lifespan developmental psychology: Perspectives on stress and coping.* (pp. 131-150). Hillsdale, NJ: Lawrence Erlbaum Associates.

Cummings, E. M., & Wilson, A. (1999). Contexts of marital conflict and children's emotional security: Exploring the distinction between constructive and destructive conflicts from the children's perspective. In J. Brooks-Gunn, & M. J. Cox, (Eds), *Conflict and cohesion in families: Causes and consequences.* (pp.105-129). Mahwah, NJ, US: Lawrence Erlbaum Associates.

Cummings, E. M., Ballard, M., & El-Sheikh, M. (1991). Responses of children and adolescents to interadult anger as a function of gender, age, and mode of expression. *Merrill-Palmer Quarterly, 37*, 543-560.

Cummings, E. M., Ballard, M., El-Sheikh, M., & Lake, M. (1991). Resolution and children's responses to interadult anger. *Developmental Psychology, 27*, 462-470.

Cummings, E. M., Davies, P. T., & Simpson, K. S. (1994). Marital conflict, gender, and children's appraisals, and coping efficacy, as mediators of child adjustment. *Journal of Family Psychology, 8*, 141-149.

Cummings, E. M., Goeke-Morey, M. C., & Dukewich, T. L. (2001). The study of relations between marital conflict and child adjustment: Challenges and new directions for methodology. In J. H. Grych & F. D. Fincham (Eds.). *Interparental conflict and child development. Theory, research and application.* (pp. 39-63). Cambridge: Cambridge University Press.

Cummings, E. M., Iannotti, R. J., & Zahn-Waxler, C. (1985). The influence of conflict between adults on the emotions and aggression of young children. *Developmental Psychology, 21*, 495-507.

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., Zahn-Waxler, C., & Radke-Yarrow, M. (1981). Young children's responses to expressions of anger and affection by others in the family. *Child Development, 52*, 1274-1282.

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

Dadds, M. R., Atkinson, E., Turner, C., Blums, G. J., & Lendich, B. (1999). Family conflict and child adjustment: Evidence for a cognitive-contextual model of intergenerational transmission. *Journal of Family Psychology, 13*, 194-208.

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.

Davies, P. T., & Cummings, E. M. (1998). Exploring children's emotional security as a mediator of the link between marital relations and child adjustment. *Child Development, 69,* 124-139.

Davies, P. T., & Lindsay, L. L. (2001). Does gender moderate the effects of marital conflict on children? In J. H. Grych & F. D. Fincham (Eds.). *Interparental conflict and child development. Theory, research and application.* (pp. 64-97). Cambridge: Cambridge University Press.

Davies, P. T., & Rasi, J. A. (2002). Parental conflict and child emotional security in the family system (in Davies, Harold, Goeke-Morey & Cummings). Child Emotional Security and Interparental Conflict. *Monographs of the Society for Research in Child Development,* Serial 270, 67(3).

Davies, P. T., Myers, R. L., & Cummings, E. M. (1996). Responses of children and adolescents to marital conflict scenarios as a function of the emotionality of conflict endings, *Merrill-Palmer Quarterly, 42,* 1-21.

Davies, P. T., Myers, R. L., Heindel, S., & Cummings, E. M. (1999). Adult conflict history and children's subsequent responses to conflict: An experimental test. *Journal of Family Psychology, 13*, 610-628.

Davies, P.T., Harold, G.T., Goeke-Morey, M.C., & Cummings, E.M. (2002). Child emotional security and interparental conflict. *Monographs of the Society for Research in Child Development, 270, 67, 3.*

Davis, B. T., Hops, H., Alpert, A., & Sheeber, L. (1998). Child responses to parental conflict and their effect on adjustment: A study of triadic relations. *Journal of Family Psychology, 12,* 163-177.

Deater-Deckard, K., & Dodge, K. A. (1997). Spare the rod, spoil the authors: Emerging themes in research on parenting and child development. *Psychological Inquiry, 8*, 230-235.

DeGarmo, D. S., & Forgatch, M. S. (1997). Confidant support and maternal distress: Predictors of parenting practices for divorced mothers. *Personal Relationships, 4*, 305-317.

Demo, D. H., & Acock, A. C. (1996). Family structure, family process, and adolescent well-being. *Journal of Research on Adolescence, 6,* 457-488.

Demo, D. H., Small, S. A., & Savin-Williams, R. C. (1987). Family relations and the self-esteem of adolescents and their parents. *Journal of Marriage and the Family, 49*, 705-715.

Dix, T. (1991). The affective organization of parenting: adaptive and maladaptive processes. *Psychological Bulletin, 110*, 3-25.

Dix, T., & Lochman, J. E. (1990). Social cognition and negative reactions to children: A comparison of mothers and aggressive an nonaggressive boys. *Journal of Social and Clinical Psychology, 9*, 418-438.

Dodge, K. A. (1983). Behavioural antecedents of peer social status. *Child Development, 54*, 1386-1399.

Dodge, K. A. (1993). Social cognitive mechanisms in the development of conduct disorder and depression. *Annual Review of Psychology, 44*, 559-584.

Dodge, K. A., (2002). Mediation, moderation, and mechanisms in how parenting affects children's aggressive behaviour. In J. G. Borkowski, and Ramey, S. L., (Eds.), *Parenting and the child's world: Influences on academic, intellectual,*

and social-emotional development (pp.215-229). Mahwah, NJ, US: Lawrence Erlbaum Associates.

Dodge, K. A., & Frame, C. L. (1982). Social cognitive biases and deficits in aggressive boys. *Child Development, 53*, 620-635.

Dodge, K. A., & Price, J. M. (1994). On the relation between social information processing and socially competent behaviour in school-aged children. *Child Development, 65,* 1385-1397.

Domitrovich, C. E., & Bierman, K. L. (2001). Parenting practices and child social adjustment: Multiple pathways of influence. *Merrill Palmer Quarterly, 47*, 235-263.

Dorkey, M., & Amen, E. W. (1947). A continuation study of anxiety reactions in young children by means of a projective technique. *Genetic Psychology Monographs, 35*, 139-183.

Downey, G. & Coyne, J. C. (1990). Children of depressed parents: An integrative review. *Psychological Bulletin, 108*, 50-76.

Dumas, J. E. (1986). Indirect influence of maternal and social contacts on mother-child interactions: A setting event analysis. *Journal of Abnormal Chid Psychology, 14*, 205-216.

Dunn, J. F., & Munn, P. (1985). Becoming a family member: Family conflict and the development of social understanding n the second year. *Child Development, 56*, 480-492.

Durkin, K. (1995). *Developmental social psychology: From infancy to old age.* Oxford: Blackwell.

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. Stevenson-Hinde (Eds.), *Relationships within families: Mutual influences* (pp. 83-103). Oxford: Clarendon Press.

Egeland, B., & Farber, E. A. (1984). Infant-mother attachment. Factors related to its development and changes over time. *Child Development, 55*, 753-771.

Egeland, B., Pianta, R. & O'Brien, M. A. (1993). Maternal intrusiveness in infancy and child maladaptation in early school years. *Development and Psychopathology, 5*, 359-370.

Eisenberg, N., & Valiente, C. (2002). Parenting and children's prosocial and moral development. In Bornstein, M. H. (Ed), *Handbook of parenting: Vol. 5:*

Practical issues in parenting. Mahwah, NJ, US: Lawrence Erlbaum Associates, Publishers.

Emery, R. E. (1982). Interparental conflict and the children of discord and divorce. *Psychological Bulletin, 92*, 310-330.

Emery, R. E. (2001). Interparental conflict and social policy. In J. H. Grych and F. Fincham (Eds.), *Interparental conflict and child development: Theory, research, and applications* (pp.417-439). New York: NY, US: Cambridge University Press.

Emery, R. E., & O' Leary, K. D. (1982). Children's perceptions of marital discord and behaviour problems of boys and girls. *Journal of Abnormal Child Psychology, 10,* 11-24.

Emery, R. E., Fincham, F. D., & Cummings, E. M. (1992). Parenting in context: Systematic thinking about parental conflict and its influence on children. *Journal of Consulting and Clinical Psychology, 60*, 909-912.

Emery, R. E., Hetherington, E. M., & Dilalla, L. F. (1984). Divorce, children and social policy. In H. W., Stevenson and A. E. Sigel (Eds.), *Child development research and social policy* (pp.189-266). Chicago: University of Chicago Press.

Engfer, A. (1988). The interrelatedness of marriage and the mother-child relationship. In R. A. Hinde & J. Stephenson-Hinde (Eds.), *Relationships within families.* Oxford, England: Clarendon Press.

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

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

Fauber, R., Forehand, R., Thomas McCombs, A., & 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.

Fauchier, A., & Margolin, G. (2004). Affection and Conflict in Marital and Parent-Child Relationships. *Journal of Marital and Family Therapy*, 30, 197-211.

Feldman, S. S., Nash, S. C., & Aschenbrenner, B. G. (1983). Antecedents of fathering. *Child Development, 54*, 1628-1636.

Feldman, S. S., Wentzel, K. R., & Gehring, T. M. (1989). A comparison of the views of authors and reviews about family cohesion and power. *Journal of Family Psychology, 3,* 64-68.

Fincham, F. D. (1994). Understanding the association between marital conflict and child adjustment: Overview. *Journal of Family Psychology, 8,* 123-127.

Fincham, F. D. (1998). Child development and marital relations. Child Development, 69, 543-574.

Fincham, F. D., Beach, S. R. H., Arias, I., & Brody, G. H. (1998). Children's attributions in the family: The children's relationship attribution measure. *Journal of Family Psychology, 12,*481-493.

Fincham, F. D., Beach, S. R. H., Harold, G. T., & Osborne, L. N. (1997). Marital satisfaction and depression: Different causal relationships for men and women? *Psychological Science, 8,* 351-357.

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

Fiske, S. T., & Taylor, S. E. (1991). *Social cognition.* (2nd ed.). New York: McGraw-Hill Inc.

Flavell, J. H., Miller, P. H & Miller, S. A. (1993). Cognitive development (3rd ed.) Upper Saddle River, NJ, US: Prentice-Hall, Inc.

Forehand, R., Long, N., Brody, G. H., & Fauber, R. (1986). Home predictors of young adolescents' school behaviour and academic performance. *Child Development, 57,* 1528-1533.

Foxcroft, D. R., & Lowe, G. (1991). Adolescent drinking behaviour and family socialisation factors: A meta-analysis. *Journal of Adolescence, 14,* 255-273.

Freud, A. (1958). Adolescence. *Psychoanalytic study of the child, 13,* 255-278.

Frijda, N. H. (1986). *The emotions*: Studies *in emotion and social interaction.* New York, US: Cambridge University Press.

Frosch, C. A., & Mangelsdorf, S. C. (2001). Marital behaviour, parenting behaviour, and multiple reports of preschoolers' behaviour problems. Mediation or moderation? *Developmental Psychology, 37,* 502-519.

Frosch, C. A., Mangelsdorf, S. C., & McHale, J. L. (2000). Marital behaviour and the security of preschooler-parent attachment relationships. *Journal of Family Psychology, 14,* 144-161.

Galambos, N. L., Barker, E. T., & Almeida, D. M. (2003). Parents do matter: Trajectories of change in externalising and internalising problems in early adolescence. *Child Development, 74, 578-594.*

Gamezey, N., Masten, A. S., & Tellegen, A. (1984). The study of stress and competence in children: A building block for developmental psychopathology. *Child Development, 55,* 97-111.

Gardner, F. E. M. (1994). The quality of joint activity between mothers and their children with behaviour problems. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 35,* 935-948.

Ge, X., Best, K. M., Conger, R. D., & Simons, R. L. (1996). Parenting behaviours and the occurrence and co-occurrence of adolescent depressive symptoms and conduct problems. *Developmental Psychology, 32,* 717-731.

Ge, X, Conger, R. D. & Elder, G. H. (2001). Pubertal transition, stressful life events, and the emergence of gender differences in adolescent depressive symptoms. *Developmental Psychology, 3,* 404-417.

Gecas, V. (1971). Parental behaviour and dimensions of adolescent self-evaluation. *Sociometry, 34,* 466-482.

Gjerde, P. F. (1986). The interpersonal structure of family interaction setting: Parent-adolescent relations in dyads and triads. *Developmental Psychology, 22,* 297-304.

Glendinning, A., Schucksmith, J., & Hendry, L. (1997). Family life and smoking in adolescence. *Social Science and Medicine, 44,* 93-101.

Glick, I. D., & Kessler, D. R. (1974). *Marital and family therapy.* Oxford, England. Grune & Stratton.

Goeke-Morey, M.C., & Cummings, E. M. (2000). The impact of marital conflict on children: The importance of the distinction between destructive, productive, and constructive conflict. Paper presented at the Biennial Meeting of the Society for Research on Adolescence. Chicago, IL.

Goeke-Morey, M.C., Cummings, E. M., Harold, G. T., & Shelton, K. H. (2002). Child responses to interparental conflict: Comparing the relative roles of emotional security and social learning processes (in Davies, Harold, Goeke-Morey & Cummings). Child Emotional Security and Interparental Conflict.

Monographs of the Society for Research in Child Development, Serial No. 270, 67(3).

Goeke-Morey, M.C., Cummings, E. M., Harold, G. T., & Shelton, K. H. (2003). Categories and continua of destructive and constructive marital conflict tactics form the perspective of US and Welsh children. *Journal of Family Psychology,17,* 327-338.

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

Gomez, R., Gomez, A., DeMello, L., & Tallent, R. (2001). Perceived maternal contril and support: Effects on hostile biased social information processing and aggression among clinic-referred children with high aggression. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 42,* 513-522.

Gonzales, N. A., Cauce, A. M., Friedman, R., & Mason, C. A. (1996). Family, peer and neighbourhood influences on academic achievement among African-American adolescents. *American Journal of Community Psychology, 26,* 365-387.

Gonzales, N. A., Pitts, S. C., Hill, N. E., & Roosa, M. W. (2000). A mediational model of the impact of interparental conflict on child adjustment in a multiethnic, low-income sample. *Journal of Family Psychology, 3,* 365-379.

Gordis, E. B., Margolin, G., & John, R. S. (1997). Marital aggression, observed parental hostility, & child behavior during triadic family interaction. *Journal of Family Psychology, 11,* 76-89.

Gordis, E. B., Margolin, G., & John, R. S. (2001). Parents' hostility in dyadic marital and triadic family settings and children's behavior problems. *Journal of Consulting and Clinical Psychology, 69,* 727-734.

Gottman, J. M. (1979). Detecting cyclicity in social interaction. *Psychological Bulletin, 86,* 338-348.

Gottman, J. M. (1993).The roles of conflict engagement, escalation, and avoidance in marital interaction A longitudinal view of five types of couples. *Journal of Consulting and Clinical Psychology, 61,* 6-15.

Gottman, J. M. (1998). A theory of marital dissolution and stability. *Journal of Family Psychology, 7*, 57-75.

Gottman, J. M. (1999). *The marriage clinic: A scientifically based marital therapy.* New York: Norton & Co., Inc.

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

Greenberg, M. T. (1999). Attachment and psychopathology in childhood. In J. Cassidy, & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research and clinical applications* (pp.469-496. New York: Guilford Press.

Grych, J. H. (1998). Children's appraisals of interparental conflict: Situational and contextual influences. *Journal of Family Psychology, 12,* 437-453.

Grych, J. H., & Cardoza-Fernandes, S. (2001). Understanding the impact of marital conflict on children: The role of social cognitive processes. In J. H. Grych & F. D. Fincham (Eds.). *Interparental conflict and child development. Theory, research and application.* (pp. 157-187). Cambridge: Cambridge University Press.

Grych, J. H., & Fincham, F. D. (1990). Marital conflict and children's adjustment: A cognitive–contextual framework. *Psychological Bulletin, 108*, 267-290.

Grych, J. H., & Fincham, F. D. (1993). Children's appraisals of marital conflict: initial investigations of the cognitive-contextual framework. *Child Development, 64*, 215-230.

Grych, J. H., & Fincham, F. D. (2001). Interparental conflict and child development. Theory, research and application. Cambridge: Cambridge University Press.

Grych, J. H., Fincham, F. D., Jouriles, E. N., & McDonald, R. (2000). Interparental conflict and child adjustment: Testing the mediational role of appraisals in the cognitive-contextual framework. *Child Development, 71*, 1648-1661.

Grych, J. H., Harold, G. T., & Miles, C. J. (2003). A prospective investigation of appraisals as mediators of the link between interparental conflict and child adjustment. *Child Development, 74,* 1176-1193.

Grych, J. H., Seid, M., & Fincham, F. D. (1992). Assessing marital conflict from the child's perspective: The children's perception of interparental conflict scale. *Child Development, 63*, 558-572.

Guteck, B. A., Repetti, R.L., & Silver, D. L. (1988). Nonwork roles and stress at work. In C. L. Cooper and R. Payne (Eds.), *Causes, coping and consequences of stress at work* (pp. 141-174). Chichester, England: Wiley.

Hala, S. (1997). *The development of social cognition.* Studies in developmental psychology. Hove, England: Psychology press/Erlbaum Taylor & Francis.

Harold, G. T. (1998). Marital conflict, Parenting and Children's Adjustment: The role of children's perceptions of parental behaviour. *Poster presented at XVth Biennial ISSBD Meetings,* Berne, Switzerland, July 1998.

Harold, G. T. & Murch, M. M. (in press). Children of separated and divorced parents: Theory, Research and Future Direction. *Irish Journal of Family Law*

Harold, G. T., & Conger, R. D. (1997). Marital conflict and adolescent distress: The role of adolescent awareness. *Child Development, 68,* 333-350.

Harold, G. T., & Howarth, E. L. (in press). How marital conflict and violence affects children: Theory, research and future directions.

Harold, G. T., Fincham, F. D., Osborne, L. N., & Conger, R. D. (1997). Mom and Dad are at it again: Adolescent perceptions of marital conflict and adolescent psychological distress. *Developmental Psychology, 33,* 333-350.

Harold, G. T., Pryor, J., & Reynolds, J. (2001). *Not in front of the children? How conflict between parents affects children.* London: One Plus One Marriage and Partner Research.

Harold, G. T., Shelton, K. H., Goeke-Morey, M. C., & Cummings, E. M. (2004). Marital conflict, child emotional security about family relationships and child adjustment. *Social Development, 13,* 350-376.

Hart, C. H., Nelson, D. A., Robinson, C. C., Olsen, S. F., McNeilly-Choque, M. K. (1998). Overt and relational aggression in Russian nursery-school-age children: Parenting style and marital linkages. *Developmental Psychology, 34,* 687-697.

Harrist, A. W., & Ainslie, R. C. (1998). Marital discord and child behaviour problems: Parent-child relationship quality and child interpersonal awareness as mediators. *Journal of Family Issues, 19,* 140-163.

Hastorf, A. H., Schneider, D. J., & Polefka, J. (1970). *Person Perception.* MA, US: Addison-Wesley Publishing Company.

Heider, F. (1958). *The psychology of interpersonal relationship.* Oxford, England: Wiley.

Helgeson, V. S. (1994). Prototypes and dimensions of masculinity and femininity. *Sex Roles, 31*, 653-682.

Hess, R. D., & Camara, K. A. (1979). Post-divorce family relationships as mediating factors in the consequences of divorce for children. *Journal of Social Issues, 35*, 79-96.

Hetherington, E. M. (1999). *Coping with divorce, single parenting and remarriage: A risk and resiliency perspective.* Mahwah, NJ: Erlbaum.

Hetherington, E. M., & Clingempeel, W. (1992). Coping with marital transitions: A family systems perspective. *Monographs of the Society for Research in Child Development, 57*, 1-242.

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

Hill, N. E., Bush, K. R., & Roosa, M. W. (2003). Parenting and family socialisation strategies and children's mental health: Low income, Mexican-American and Euro-American mothers and children. *Child Development, 74*, 189-204.

Hinde, R. A., & Stevenson-Hinde, J. (Eds.) (1988). *Relationships within families: Mutual influences.* Oxford: Clarendon Press.

Hoffman, M. L. (1960). Power assertion by parent and its impact on the child. *Child Development, 31*, 129-143.

Hoffman, M. L., (1970). Moral development. IN P. H Mussen (Ed.), *Carmichael's manual of child psychology* (Vol. 2). New York: Wiley.

Holden, G. W, Geffner, R., Jouriles. E. (1998).*Children exposed to marital violence: Theory, research, and applied issues.* Washington, DC, US: American Psychological Association.

Holden, G. W. (1985). The effect of caregiving experience on solving child-rearing problems. *Dissertation Abstracts International, 46*, 673.

Holden, G. W., & Ritchie, K. L. (1991). Linking extreme marital discord, child rearing and child behaviour problems: Evidence from battered women. *Child Development, 62*, 311-327.

Holmbeck, G. N. (1997). Toward terminological, conceptual, and statistical clarity in the study of mediators and moderators: Examples form the child-clinical and paediatric psychology literatures. Journal of Consulting and Clinical Psychology, 65, 599-610.

Isabella, R., & Belsky, J. (1991). Interactional synchrony and the origins of infant=mother attachment: A replication study. *Child Development, 62,* 373-384.

Jenkins, J. M., & Smith, M. A. (1990). Factors predicting children living in disharmonious homes: Maternal reports. *Journal of the American Academy of Child and Adolescent Psychiatry, 29*, 60-69.

Jenkins, J. M., Smith, M. A., Graham, P. J. (1998). Coping with parental quarrels. *Journal of the American Academy of Child and Adolescent Psychiatry, 28*, 182-189.

Jerslid, A. T., Woodyard, E. S., & Del-Solar, C. (1949). *Joys and problems of child rearing.* Oxford, England: Bureau of Publications, Teachers co.

Jessop, D. J. (1981). Family relationships as viewed by parents and adolescents: A specification. *Journal of Marriage and the Family, 43,* 95-107.

Johnson, B. M., Shulman, S., & Collins, W. A. (1991). Systemic patterns of parenting as reported by adolescents: Developmental differences and implications for psychosocial outcomes. *Journal of Adolescent Research, 6*, 235-252.

Johnson, P. L., & O'Leary, K. D. (1987). Parental behaviour patterns and conduct disorder in girls. *Journal of Abnormal Child Psychology, 15*, 573-581.

Johnston, J.R., Gonzalez, R., & Campbell, L.E. (1987). Ongoing post divorce conflict and child disturbance. *Journal of Abnormal Child Psychology, 15*, 493-509.

Joreskog, K. G., & Sorbom, D. (1996). LISREL 8: Structural equation modelling with a SIMPLIS command language. Mahwah, NJ: Erlbaum.

Jouriles, E. N. & Farris, A. M. (1992). Effects of marital conflict on subsequent parent-son interactions. *Behaviour Therapy, 23*, 355-374.

Jouriles, E. N., Murphy, C. M., & O'Leary, K. D. (1989). Effects of maternal mood on mother-son interaction patterns. *Journal of Abnormal Child Psychology, 17*, 513-525.

Jouriles, E. N., Murphy, C. M., Farris, A. M., Smith, D. A., et al., (1991). Marital adjustment, parental disagreements about child rearing, and behaviour problems in boys: Increasing the specificity of the marital assessment. *Child Development, 62*, 1424-1433.

Jouriles, E. N., Norwood, W. D., McDonald, R., Vincent, J. P., Mahoney, A. (1996). Physical violence and other forms of marital aggression: Links with children's behaviour problems. *Journal of Family Psychology, 10*, 223-234.

Kagan, J. (1978). Continuity and stage in human development. In P. H. Klopfer & P. P. Bateson (Eds.), *Perspectives in ethology II social behaviour* (pp. 67-84). Oxford, England: Plenum

Kahen, V., Katz, L. F., & Gottman, J. M. (1994). Linkages between parent-child interaction and conversations of friends. *Social Development, 3*, 238-254.

Kanel, D. B., & Wu, P. (1995). Disentangling mother-child effects in the development of antisocial behaviour. In J. McCord (Ed), *Coercion and punishment in long-term perspectives* (pp.106-123). New York, US: Cambridge University Press.

Katz L.F., & Gottman, J.M. (1997). Buffering children from marital conflict and dissolution. *Journal of Clinical Child Psychology, 26*, 157-171.

Katz, L.F., & Gottman, J.M. (1993). Patterns of marital conflict predict children's internalizing and externalizing behaviours. *Developmental Psychology, 29*, 157-171.

Kavanagh, K. A., Youngblade, L., Reid, J. B., & Fagot, B. I. (1988). Interactions between children and abusive versus control parents. *Journal of Clinical Child Psychology, 17*, 137-142.

Kelloway, E. K. (1998). *Using LISREL for structural equation modeling: A researcher's guide.* Thousand Oakes, CA, US: Sage Publications Inc.

Kenny, D. A. (1979). *Correlation and causality.* New York, US: John Wiley & Sons Inc.

Kerig, P. K. (1995). Triangles in the family circle: Effects of family structure on marriage, parenting, and child adjustment. *Journal of Family Psychology, 9,* 28-43.

Kerig, P. K. (1998a). Gender and appraisals as mediators of adjustment in children exposed to interparental violence. *Journal of Family Violence, 13*, 345-363.

Kerig, P. K. (1998b). Moderators and mediators of the effects of interparental conflict on children's adjustment. *Journal of Abnormal Child Psychology, 26*, 199-212.

Kerig, P. K. (2001). Children's coping with interparental conflict. In J. H. Grych and F. D. Fincham (Eds.) *Interparental conflict and child development. Theory, research, and applications* (pp.213-245). New York, US: Cambridge University Press.

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

Kerns, K. A. (1994). A longitudinal examination of links between mother-child attachment and children's friendships in early childhood. *Journal of Social and Personal Relationships, 11*, 379-381.

Kerns, K.A., Kelpac, L., & Cole, A.K. (1996). Peer relationships and preadolescents' perceptions of security in the child-mother relationship. *Developmental Psychology, 32*, 457-466.

Kerr, M., & Stattin, H. (2003). Straw men, untested assumtoions, and bi-directional models: A response to Capaldi and Brody. In A. Booth and A. C. Crouter (Eds.), *Children's influence on family dynamics: The neglected side of family relationships* (181-187). Mahwah, NJ, US: Lawrence Erlbaum Publishers.

Kessler, R. C., & Greenberg, D. F. (1981). *Linear panel analysis: Quantitative models of change.* New York: Academic Press.

Kim, K.J., Conger, R.D., Lorenz, F.O., & Elder, G.H. (2001). Parent-adolescent reciprocity in negative affect and its relation to early adult social development. *Developmental Psychology, 37(6),* 775-790.

Kim, S., & Ge, X. (2000). Parenting practices and adolescent depressive symptoms in Chinese American families. *Journal of Family Psychology, 14*, 420-435.

Kim, J. E., Hetherington, E. M., & Reiss, D. (1999). Associations among family relationships, antisocial peers, and adolescents' externalising behaviours: Gender and family type differences. *Child Development, 70*, 1209-1230.

Kitzmann, K. M. (2000). Effects of marital conflict on subsequent triadic family interactions and parenting. *Developmental Psychology, 36,* 3-13.

Kochanska, G. (1997). Mutually responsive orientation between mothers and their young children: implications for early socialisation. *Child Development, 68*, 94-112.

Kovacs, M. (1981). Rating scales to assess depression in school-aged children. *Acta Paedopsychiatrica, 46,* 305-315.

Krishnakumar, A. & Buehler, C. (2000). Interparental conflict and parenting behaviours: A meta-analytic review. *Family Relations: Interdisciplinary Journal of Applied Family Studies, 49*, 25-44.

Kuczynski, L. (1983). Reasoning, prohibitions, and motivations for compliance. *Developmental Psychology, 19*, 126-134.

Ladd, G. W., (1999). Peer relationships and social competence during early and middle childhood. *Annual Review of Psychology, 50*, 339-359.

Lamb, M. E. (1976). The relationships between infants and their mothers and fathers. *Dissertation Abstracts International 37*, 31-53.

Lamb, M. E. (1987). Predictive implications of individual differences in attachment. *Journal Consulting and Clinical Psychology. 55,* 817-824.

Lamb, M. E., Hwang, C. P., Ketterlinus, R. D., & Fracasso, M. P. (1999). Parent-child relationships: Development in the context of the family. In M. Bornstein & M. E. Lamb (Eds.), *Developmental psychology: An advanced textbook* (4th ed, pp.411-450). Mahwah, NJ: US: Lawrence Erlbaum Associates.

Lamborn, S. D. & Steinberg, L. (1993). Emotional autonomy redux: Revisiting Ryan and Lynch. *Child-Development, 64*, 483-499.

Lapsley, D. K., Rice, K. G., & Fitzgerald, D. P. (1990). Adolescent attachment, identity, and adjustment to college: Implications for the continuity of adaptation hypothesis. *Journal of Counselling and Development, 68*, 561-565.

Lay, K. L. Walters, E., & Park, D. A (1989). Maternal responsiveness and child compliance: The role of mood as a mediator. *Child Development, 60*, 1405-1411.

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal and coping*. New York: Springer publishing company.

Lazerlere, R. E. & Patterson, G. R. (1990). Parental management: Mediator of the effect of socioeconomic status on early delinquency. *Criminology, 28*, 301 324.

Lee, C. L., & Bates, J. E. (1985). Mother-child interaction at age two years and perceived difficult temperament. *Child Development, 56*, 1314-1325.

LeVine, R. A., & LeVine, S. E. (1966). Parental strategies among the Gusii of Kenya. In R. A. LeVine, P. M. Miller, & M. M. West (Eds.), *Parental behaviour in diverse societies* (pp.27-35). San Francisco: Jossey-Bass.

Levy, D. M. (1943). Hostility patterns, deviations from the "unit act" of hostility.

American Journal of Orthopsychiatry, 13, 441-462.

Lewin, K. (1951*). Field theory in social science.* New York: Harper.

Lewinsohn, P. M., & Libet, J. (1972). Pleasant events, activity schedules, and depressions. *Journal of Abnormal Psychology, 79*, 291-295.

Lewis, J. M., Owen, M. T., & Cox, M. J. (1988). The transition to parenthood III: Incorporation of the child into the family. *Family Process, 27*, 411-421.

Lindahl, K. M., Clements, M., & Markman, H. (1997). Predicting marital and parent functioning in dyads and triads: A longitudinal investigation of marital processes. *Journal of Family Psychology, 11*, 139-151.

Litovsky, V. G., & Dusek, J. B. (1985). Perceptions of child rearing and self-concept development during the early adolescent years. *Journal of Youth and Adolescence, 14* 373-387.

Locke, H. J., & Wallace, K. M. (1959). Short Marital-Adjustment and prediction tests: Their reliability and validity. *Marriage and Family Living,*,251-255.

Loeber, R. D. & Dishion, T. J. (1984). Boys who fight at home and school: Family conditions influencing cross-setting consistency. *Journal of Consulting and Clinical Psychology, 52,* 759-768.

Loeber, R., & Farrington, D. P. (1994). Problems and solutions in longitudinal and experimental treatment studies of child psychopathology and delinquency. *Journal of Consulting and Clinical Psychology, 62*, 887-900.

Long, N., Forehand, R., Fauber, R., Brody, G.H. (1987). Self-perceived and independently observe red competence of young adolescents as a function of parental marital conflict and recent divorce. *Journal of Abnormal Child Psychology, 15*, 15-27.

Long, N., Slater, E., Forehand, R., & Fauber, R. (1988). Continued high or reduced interparental conflict following divorce. Relation to young adolescent adjustment. *Journal of Consulting and Clinical Psychology, 56,* 467-469.

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

Lytton, H. & Romney, D. M. (1991). Parents' differential socialisation of boys and girls: A meta-analysis. *Psychological Bulletin, 109*, 267-296.

Maccoby, E. E. (1983). Social-emotional develop and response to stressors. In M. Rutter and N. Garmezy (Eds), *Stress, coping and development in children* (pp. 217-234). Balitmore, MD, US: Johns Hopkins University Press.

Maccoby, E. E., & Jacklin, C. N. (1974). *The psychology of sex differences*. Stanford University Press.

Maccoby, E., E. (1984). Socialization and developmental change. *Child Development. 55*, 317-328

Maccoby, E., E. (1992). Trends in the study of socialization: Is there a Lewinian heritage? *Journal of Social Issues, 48*, 171-185

Maccoby, E., & Martin, J. A. (1983). Socialisation in the context of the family: Parent-child interaction. From: P.H Mussen (Ed), *Handbook of Child Psychology, Vol. 4: Socialisation , Personality and Social Development.* New York, Wiley.

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

MacDonald, K. (1992). Warmth as a developmental construct: An evolutionary analysis. *Child Development, 63*, 753-773.

MacKinnon, D. P., Krull., J. L., Lockwood, C. M. (2000). Equivalence of the mediation, confounding and suppression effect. *Prevention Science*, 1, 173-181.

MacKinnon, D. P., Lockwood, C. M., Hoffman, J. M., West, S. G., & Sheets, V. (2002). A comparison of methods to test mediation and other intervening variable effects. *Psychological Methods, 7,* 83-104.

Main, M., & Cassidy, J. (1988). Categories of response to reunion with the parent at age 6.: Predictable from infant attachment classification and stable over a 1-moth period. *Developmental Psychology, 24*, 415-426.

Margolin, G. (1981). The reciprocal relationship between marital and child problems. In J. P. Vincent (Ed.), *Advances in family intervention, assessment and theory* (Vol. 2) (pp. 131-182). Greenwich, CT: JAI Press.

Margolin, G., & John, R.S. (1997). *Children's exposure to marital aggression: Direct and mediated effects.* In J.L. Jasinski and G.K. Kantor (Eds). Out of darkness: Contemporary perspectives on family violence (pp. 90-104). Thousand Oakes, CA, UK: Sage Publications Inc.

Margolin, G., Gordis, E. B., & John, R. S. (2001). Parenting: A link between marital conflict and parenting in two-parent families. Journal of Family Psychology, 15, 3-21.

Margolin, G., Oliver, P., & Medina, A. M. (2001). Conceptual issues in understanding the relation between interparental conflict and child adjustment: Integrating developmental psychopathology and risk/resilience perspectives. In J. H. Grych & F. D. Fincham (Eds.). *Interparental conflict and child development. Theory, research and application.* (pp. 9-38). Cambridge: Cambridge University Press.

Marolin, G., Christensen, A., & John, R. S. (1996). The continuance and spillover of everyday tensions in distressed and nondistressed families. *Journal of Family Psychology, 10*, 304-321.

Margolin, G., Burman, B., & John, R. S. (1989). Home observations of married couples re-enacting naturalistic conflicts. *Behavioural Assessment, 11*, 101-118

Masten, A. S. (2001). Ordinary magic: Resilience processes in development. *American Psychologist, 56*, 227-238.

Martin, B. (1975). Parent-child relations. In F. D. Horrowitz (ed.) *Review of Child Development Research,* Vol. 4. Chicago: University of Chicago Press.

McHale, J. P, & Cowan, P. A. (1996). *Understanding how family-level dynamics affect children's development: Studies of two-parent families: New directions for child development.* San Francisco, CA, US: Jossey-Bass.

McHale, J. P. (1995). Coparenting and triadic interactions during infancy: The roles of marital distress and child gender. *Developmental Psychology, 31*, 985-996.

McHale, J. P., Rao, N., & Krasnow, A. D. (2000). Construting family climates: Chinese mothers' reports of their co-parenting behaviour and preschoolers' adaptation. *International Journal of Behavioural Development, 24*, 111-118.

McLoyd, V. C. (1998). Changing demographics in the American population: Implications for research on minority children and adolescents. In L. Steinberg, V. C., McLoyd (Eds) *Studying minority adolescents: Conceptual, methodological, and theoretical issues* (pp. 3-28). Mahwah, NJ, US: Lawrence Erlbaum Associates.

Melby, J., Conger, R., Book, R., Rueter, M., Lucy, L., Repinski, D., Ahrens, K., Black, D., Brown, D., Huck, S., Mutchler, L., Rogers, S., Ross, J., & Stavros, T. (1993). The Iowa family interaction rating scales, 2nd Edition. Unpublished manuscript. Iowa State University Centre for Family Research in Rural Mental Health.

Melby, J.N., & Conger, R.D. (1996). Parental behaviours and adolescent academic performance: A longitudinal analysis. *Journal of Research on Adolescence, 6,* 113-137.

Melby, J. N., Conger, R. D., Conger, K. J., & Lorenz F. O. (1993). Effects of parental behaviour on tobacco use by young male adolescents. *Journal of Marriage and the Family, 55,* 439-454.

Michaels, G. Y., Messe, L. A., & Stollak, G. E. (1983). Seeing parental behaviour through different eyes: Exploring the importance of person perception processes in parents and children. *Genetic Psychology Monographs, 107,* 3-60.

Miller, N. B., Cowan. P. A., Cowan. C. P., Hetherington, E. M., & Clingempeel, W. G. (1993). Externalising in preschoolers and early adolescents: A cross-study replication of a family model. *Developmental Psychology, 29,* 3-18.

Miller, P. H. (1993). Theories of developmental psychology. San Francisco, CA: W. H. Freeman and Company.

Minuchin, S. (1974). *Families and family therapy.* Cambridge, MA: Harvard University Press.

Minuchin, P. (1985). Families and individual development: Provocations from the field of family therapy. *Child Development, 56,* 289-302.

Minuchin, S., Rossman, B. L., & Baker, L. (1978). *Psychosomatic families: Anorexia nervosa in context.* Oxford, England: Harvard University Press.

Mischel, W. (1976). Introduction to personality (2nd ed.). New York: Holt, Rinehart & Winston.

Montemayor, R. (1983). Parents and adolescents in conflict: All families some of the time and some families most of the time. *Journal of Early Adolescence, 3,* 83-103.

Nicols. M. (1984). *Family therapy.* New York: Gardner Press.

Nielson, G. (1983). *Borderline and acting-out adolescents: A developmental approach.* New York: Human Sciences Press.

Noller, P., & Callan, V. J. (1986). Adolescent and parent perceptions of family cohesion and adaptability. *Journal of Adolescence, 9,* 97-106.

O'Leary, K. D. (1984). Marital discord and children: Problems, strategies, methodologies, and results. *New Directions for Child Development, 24,* 34-46.

O'Leary. K. D. & Emery, R. E. (1984). Marital discord and child behaviour problems. In M. D. Levine, & P. Satz (Eds.). *Developmental variation and dysfunction* (pp.345-364). New York: Academic Press.

Osborne, L. N., & Fincham, F. D. (1996). Marital conflict, parent-child relationships, and child adjustment: Does gender matter? *Merrill-Palmer Quarterly, 42,* 48-75.

Owen, M. T., & Cox, M. J. (1997). Marital conflict and the development of infant-parent attachment relationships. *Journal of Family Psychology, 11*, 2, 152-164.

Pagel, M., & Becker, J. (1987). Depressive thinking and depression: Relations with personality and social resources. *Journal of Personality and Social Psychology, 52*, 1043-1052.

Paikoff, R. L., & Brooks-Gunn, J. (1991). Do parent-child relationships change during puberty? *Psychological Bulletin, 110*, 47-66.

Paley, B., Conger, R.D., & Harold, G.T. (2000). Parents' affect, adolescent cognitive representations, and adolescent social development. *Journal of Marriage and the Family, 62*, 761-776.

Parke, R. D. (2002). Fathers and families. In M. H. Bornstein (Ed.), *Handbook of parenting: Vol. 3: Being and becoming a parent* (2nd ed., pp.27-73). Mahwah, NJ, US: Lawrence Erlbaum Associates.

Parke, R. D., & Buriel, R. (1998). Socialisation in the family: Ethnic and ecological perspectives. In W. Damon, & N. Eisenberg (Eds.), *Handbook of child psychology: Vo.l 3: social, emotional and personality development* (5th ed., pp.463-552). New York: Wiley.

Parke, R. D., & Ladd, G. W. (1992). *Family-peer relationships: Modes of linkage.* Hillsdale, NJ, England: Lawrence Erlbaum Associates.

Parke, R D., & Tinsley, B, J. (1987). Family interaction in infancy. In J. D. Osofsky, (Ed), *Handbook of infant development.* Oxford, England: John Wiley & Sons.

Patterson, G. R. & Capaldi., D. M. (1991). Antisocial parents: Unskilled and vulnerable. In P. A. Cowan & E. M. Hetherington (Eds.), *Family transitions* (pp. 195-218). Hillsdale, NJ: Lawrence Erlbaum.

Patterson, G. R. & Fisher P. A. (2002). Recent developments in our understanding of parenting: Bidirectional effects, causal models, and the search for parsimony.

In Bornstein, M. H (Ed), *Handbook of parenting: Vol. 5: Practical issues in parenting* (2nd ed., pp.59-88). Mahwah, NJ, US: Lawrence Erlbaum Associates, Publishers.

Patterson, G. R. (1982). *Coercive family process*. Eugene, OR: Castalia.

Patterson, G. R. (1992). Developmental changes in adntisocial behaviour. In R. D. Peters, R. J. McMahon, & V. L. Quinsey (Eds.). *Aggression and violence throughout the life span* (pp.52-82). Newbury Park, CA: Sage.

Patterson, G. R. (1993). Orderly change in a stable world: The antisocial trait as a chimera. *Journal of Consulting and Clinical Psychology, 61*, 911-919.

Patterson, G. R. (1995). *Coercion as a basis for early age of onset for arrest.* In J Mcord (Ed), Coercion and punishment in long-term perspectives (pp. 81-105). New York, NY, US: Cambridge University Press.

Patterson, G. R. (2002). The early development of coercive family process. In G. R. Paterson & J. Reid (Eds.), *Antisocial behaviour in children and adolescents: A development analysis and model for intervention* (pp. 25-44). Washington DC, US: American Psychological Association.

Patterson, G. R., Dishion, T. J., Bank, L. (1984). Family interaction: A process model of deviancy training. *Aggressive Behaviour, 10*, 253-267.

Patterson, G. R., Reid, J. B., & Dishion, T. J. (1992). *A social interactional approach: Vol.4: Antisocial boys*. Eugene, OP: Castalia.

Paulson , S. E., & Cheryl, L. (1996). Patterns of parenting during adolescence: Perceptions of adolescents and parents. *Adolescence, 31*, 369-381.

Pelton, J., & Forehand, R. (2001). Discrepancy between mother and child perceptions of their relationship: I. Consequences for adolescents considered within the context of parental divorce. *Journal of Family Violence, 16*, 1-15.

Peterson, J. L. & Zill, N. (1986). Marital disruption, parent-child relationships, and behaviour problems in children. *Journal of Marriage and the Family, 48,* 295-307.

Pettit, G. S., & Bates, J. E. (1989). Family interaction patterns of children's behaviour problems from infancy to 4 years. *Developmental Psychology, 25*, 413-420.

Pettit, G. S., Bates, J. E., & Dodge, K. A. (1993). Family interaction patterns and children's conduct problems at home and school: A longitudinal perspective. *School Psychology Review, 22*, 403-420.

Pettit, G. S., Bates, J. E., & Dodge, K. A. (1997). Supportive parenting, ecological

context, and children's adjustment: A seven-year longitudinal study. SO: Child-Development. Oct 1997; Vol 68 (5): 908-923

Phares, V. (1996). *Fathers and developmental psychopathology.* Wiley series on personality and process. Oxford, England: John Wiley & Sons.

Phares, V., & Compas, B. E. (1992). The role of fathers in child and adolescent psychopathology: Make room for daddy. *Psychological Bulletin, 111*, 387-412.

Piaget, J. (1929). *The child's conception of the world.* Oxford, England. Harcourt, Brace.

Piaget, J. (1952). *The origins of intelligence in children.* Oxford, England. International Universities Press.

Piaget, J. (1954). *The construction of reality in the child.* Oxford, England. Basic Books.

Pianta, R. C., & Caldwell, C. B. (1990). Stability of externalising symptoms from kindergarten to first grad and factors related to instability. *Development and Psychopathology, 2*, 247-258.

Porter, B., & O'Leary, D. K. (1980). Marital discord and childhood behaviour problems. Journal of Abnormal Child Psychology, 8, 287-295.

Powers, S. L., Welsh, D. P., & Wright, V. (1994). Adolescents' affective experience of family behaviours: The role of subjective understanding. *Journal of Research on Adolescence, 4*, 585-600.

Pryor, J., & Rodgers, B. (2001). *Children in changing families: Life after parental separation.* Understanding children's worlds. Malden, MA, US: Blackwell Publishers.

Putallaz, M. (1987). Maternal behaviour and children's sociometric status. *Child Development, 68*, 324-340.

Quiggle, N. L., Garber, J., Panak, W. F., & Dodge, K. A. (1992). Social information processing in aggressive and depressive children. *Child Development, 6,* 1305-1320.

Rajecki, D. W., Lamb, M. E., & Obmascher, P. (1978). Toward a general theory of infantile attachment A comparative review of aspects of the social bond.

Ramey, S. L. (2002). The science and art of parenting. In J. G. Borkowski, and S. L. Ramey (Eds.), *Parenting and the child's world: Influences on academic, intellectual and social-emotional development* (pp.47-71). Mahwah, NJ, US:

Lawrence Erlbaum Associates.

Reid, W. J., & Crisafulli, A. (1990). Marital discord and child behaviour problems: A meta-analysis. Journal of Abnormal Child Psychology, 18, 105-117.

Reid, J. B., Patterson, G. R., & Loeber, R. (1981). The abused child: Victim, instigator, or innocent bystander? *Nebraska Symposium on Motivation, 29,* 47-68.

Rodgers, B., & Pryor, J. (1998) *Divorce and Separation: The outcomes for children.* Joseph Rowntree Foundation.

Rogers, M. J., & Holmbeck, G.N. (1997). Effects of interparental aggression on children's adjustment: the moderating role of cognitive appraisal and coping. Journal of Family Psychology, 11, 125-130.

Rohner, R. P. (1986). *The warmth dimension: Foundation of parental acceptance-rejection theory.* Thousand Oakes, CA, US: Sage Publications Inc.

Rollins, B. C., & Feldman, H. (1970). Marital satisfaction over the family life cycle. *Journal of Marriage and the Family,* 32, 20-28.

Rothbaum, F.W. & Weisz, J. R. (1994). Parental caregiving and child externalising behaviour in nonclinical samples. A meta-analysis. *Psychological Bulletin, 116,* 55-74.

Rubin, L. B. (1995). *Families on the fault line.* New York: Harper.

Russell, A. (1997). Individual and family factors contributing to mothers' and fathers' positive parenting. *International Journal of Behavioural Development, 21,* 111-132.

Russell, A., & Russell, A. (1996). Positive parenting and boys' and girls' misbehaviour during a home observation. *International Journal of Behavioural Development, 19,* 291-307.

Rutter, M. (1971). Parent-child separation: psychological effects on the children. *Journal of Child Psychology and Psychiatry, 12,* 233-260.

Rutter, M. (1981). Stress, coping and development: Some issues and some questions. Journal of Child Psychology and Psychiatry, 22, 323-356.

Rutter, M. (1985). Family and school influences on cognitive development. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 26,* 683-704.

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

Sameroff, A. J., Lewis, M., & Miller, S. M. (2000). *Handbook of developmental psychopathology* (2nd ed.). Dordrecht, Netherlands: Kluwer Academic Publishers.

Sampson, R. J., & Laub, J. H. (1993). *Crime in the making: Pathways and turning points through life.* Cambridge MA, US: Harvard University Press.

Sanson, A. V., & Rothbart, M. K (1995). Child temperament and parenting. In M. H. Bornstein (Ed), *Handbook of parenting, Vol 4: Applied and practical parenting* (pp. 299-321). Hillsdale, NJ, England: Lawrence Erlbaum Associates.

Scaramella, L.V., Conger, R. D., & Simons, R. L. (1999). Parental protective influence and gender-specific increases in adolescent internalising and externalising problems. *Journal of Research on Adolescence, 9*, 111-141.

Scarr, S., & McCartney, K. (1983). How people make their own environments: A theory of geneotype-environment effects. *Child Development, 54*, 424-435.

Schaefer, E. S. (1959). A circumplex model for maternal behaviour. *Journal of Abnormal and Social Psychology, 59*, 226-235.

Schaefer, E. S. (1965). Children's reporter of parental behaviour: An inventory. *Child Development, 36*, 413-424.

Schludermann, E., & Schludermann, S. (1970). Replicability of factors in children's' report of parent behaviour (CRPBI). *Journal of Psychology, 76*, 239-249.

Schludermann, E., & Schludermann, S. (1983). Sociocultural change and adolescents' perceptions of parent behaviour. *Developmental Psychology, 19*, 674-685.

Schneider, B. H., Atkinson, L., & Tardiff, C. (2001). Child-parent attachment and children's peer relations: A quantitative review. *Developmental Psychology, 37*, 86-100.

Schwarz, J. C., Barton-Henry, M. L., & Pruzinsky, T. (1985). Assessing child-rearing behaviours: A comparison of ratings made by mother, father, child and sibling on the CRPBI. *Child Development, 56,* 462-479.

Sears, R. R., Maccoby, E. E., & Levin, H. (1957). *Patterns of child rearing.* Evanston, III: Row Peterson.

Serot, N. M., & Teevan, R. C. (1961). Perception of the parent-child relationship and its relation to child adjustment. *Child Development, 32,* 373-378.

Sessa, F. M., Avenevoli, S., Steinberg, L., & Morris, A. S. (2001). Correspondence among informants on parenting: Preschool children, mothers, and observers. *Journal of Family Psychology, 15*, 53-68.

Shifflett-Simpson, K., & Cummings, E. M. (1996). Mixed message resolution and children's responses to interadult conflict. *Child Development, 67*, 437-448.

Simons, R. l., Beaman, J., Conger, R. D., & Chao W. (1993). Childhood experience, conceptions of parenting, and attitudes of spouse as determinants of parental behaviour. *Journal of Marriage and the Family, 55*, 91-106.

Simons, R. L., Johnson, C., & Lorenz, F. O. (1996). Family structure differences in stress and behavioural predispositions. In R. L. Simons, *Understanding differences between divorced and intact families: Stress, interaction and child outcome* (pp. 45-64). Thousand Oakes, CA, US: Sage Publications Inc.

Simons, R. L., Whitbeck, ,L. B., Conger, R. D., & Melby, J. N. (1990). Husband and wife differences in determinants of parenting: A social learning and exchange model of parental behaviour. *Journal of Marriage and the Family, 2*, 375-392

Simons, R. L., Whitbeck, L. B., Beaman, J., & Conger, R. D. (1994). The impact of mother's parenting, involvement by nonresidential fathers, and parental conflict on the adjustment of adolescent children. *Journal of Marriage and the Family, 56* , 356-374.

Simons, R. L., Whitbeck, L.S., Melby, J. N., & Wu, C. (1994). Economic pressure and harsh parenting. In R. D. Conger, G. H. Elder, F. O. Lorenz, R. L. Simons, & L.B. Whitbeck (Eds.), *Families in troubled times: Adapting to change in rural America* (pp. 207-222). New York: Aldine De Gruyter.

Simons, R. L., Wu, C., Conger, R. D., & Lorenz, F. O. (1994). Two routes to delinquency: Differences between early and late starters in the impact of parenting and deviant peers. *Criminology, 32*, 247-274.

Simons, R. L., Lorenz, F. O., Conger, R. D., & Wu, C. (1992). Support from spouse as mediator and moderator of the disruptive influences of economic strain on parenting. *Child Development, 63*, 1282-1301.

Simpson, K., & Cummings, E. M. (1996). Mixed message resolution and children's responses to interadult conflict. Child Development, 67, 437-448.

Singh, A., & Sharma, S. (1977). The effect of broken homes on juvenile delinquency. *Indian Psychological Review, 15*, 10-14.

Skinner, B. F. (1948). *Walden Two.* Oxford, England. Macmillian,

Snyder, J. (1991). Discipline as a mediator of the impact of maternal stress and mood on child conduct problems. *Development and Psychopathology, 3, 263-276.*

Snyder, J. (1998). Marital conflict and child adjustment: What about gender? *Developmental Review, 18*, 390-420.

Snyder, J. & Patterson, G. R. (1995). Individual differences in social aggression: A test of a reinforcement model of socialization in the natural environment. *Behaviour Therapy, 26*, 371-391.

Social Trends (2002). Office for National Statistics. London: The Stationary Office.

Sroufe, L. A. (1990). Considering normal and abnormal together: The essence of developmental psychology. *Development and Psychopathology, 2*, 335-347.

Sroufe, L. A., & Fleeson, J. (1988). The coherence of family relationships. In R. Hinde and J. S. Hinde (Eds.), *Relationships within families: Mutual influences* (pp.27-47). Oxford, England: Oxford University Press.

Sroufe, L. A., & Rutter, M.. (1984). The domain of developmental psychopathology. *Child Development, 55*, 17-29.

Sroufe, L. A. & Waters, E. (1977). Heart rate as a convergent measure in clinical and developmental research. *Merrill Palmer Quarterly, 23*, 3-27.

Steger, C., & Kotler, T. (1979). Contrasting resources in disturbed and non-disturbed family systems. *British Journal of Medical Psychology. 52,*243-251.

Steinberg, L. (2001). We know some things: Parent-adolescent relationships in retrospect and prospect. *Journal of Research on Adolescence, 11*, 1-19.

Steinberg, L., Elmen, J. D., & Mounts, N. S. (1989). Authoritative parenting, psychosocial maturity, and academic success among adolescents. *Child Development, 60*, 1424-1436.

Steinberg, L., Mounts, N. S., Lamborn, S. D. & Dornbusch, S. M. (1991). Authoritative parenting and adolescent adjustment across varied ecological niches. *Journal of Research on Adolescence, 1*, 19-36.

Steinglass, P. (1987). A systems view of family interaction and psychopathology. In T. Jacob (Ed.), *Family interaction and psychopathology: Theories, methods, and findings,* (pp. 25-65). New York, US: Plenum Press.

Stice, E., & Barrera, M. (1995). A longitudinal examination of the reciprocal relations between perceived parenting and adolescents' substance use and externalising behaviour. *Developmental Psychology, 31*, 322-334.

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.

Stouthamer-Loeber, M., & Loeber, R. (1986). Parents as intervention agents for children with conduct problems and juvenile offenders. *Child and Youth Services, 11*, 127-148.

Symonds, P. W. (1939). *The Psychology of parent-child relationships.* Oxford, England, Appleton-Century.

Tein, J., Roosa, M. W., & Michaels, M. (1994). Agreement between parent and child reports of parental behaviours. *Journal of Marriage and the Family, 56*, 341-355.

Thelen, E., & Smith, L. B. (1998). Dynamic systems theories. In W. Damon (Ed.) Handbook of Child Psychology Volume 1: Theoretical models of human development (5th Ed.) pp. 563-634. New York: John Wiley & Sons.

Thompson, R. A. (1998). Emotional competence and the development of self. *Psychological Inquiry, 9*, 308-309.

Tronick,E. Z. (1989). Emotions and emotional communication in infants. *American Psychologist, 44*, 112-119.

Udry, J. R. (2003). How to spin straw into gold. In A. Booth and A. C. Crouter (Eds). *Children's influence on family dynamics: The neglected side of family relationships* (pp.49-54). Mahwah, NJ, US: Lawrence Erlbaum Associates.

Vandell, D. L. (2000). Parents, peer groups, and other socialising influences. *Developmental Psychology, 36*, 699-710.

Van den Boom, D. C. (1994). The influence of temperament and mothering on attachment and exploration: An experimental manipulation of sensitive responsiveness among lower-class mothers with irritable infants. *Child Development, 65*, 1457-1477.

Vandewater, E. A., & Lansford, J. E. (1998). Influences of family structure and parental conflict on children's well-being. *Family Relations: Interdisciplinary Journal of Applied Family Studies, 47*, 323-330.

Vogal, E. F., & Bell, N. W. (1960). The emotionally disturbed child as a family scapegoat. In N.W. Bell & E.F. Vogel (Eds.), *A modern introduction tto the family* (pp. 382-397).

Von Bertalanffy, L. (1968). *General systems theory*. New York: George Braziller.

Vuchinich, S., Emery, R. E., & Cassidy, J. (1988). Family members as third parties in dyadic family conflict: Strategies, alliances, outcomes. *Child Development, 59,* 1293-1302.

Wallerstein, J.S., & Kelly, J. B. (1980). Effects of divorce on the visiting father-child relationship. *American Journal of Psychiatry, 137,* 1534-1539.

Waters, E., & Cummings, E. M. (2000). A secure base from which to explore close relationships. *Child Development, 71,* 164-172.

Waters, E., & Deane, K. E. (1985). Defining and assessing individual differences in attachment relationships: Q-methodology and the organisation of behaviour in infancy and early childhood. *Monographs of the Society for Research in Child Development, Vol. 50,* 41-65.

Waters, E., Wippman, J., & Sroufe, A. L (1979). Attachment, positive affect, and competence in the peer group: Two studies in construct validation. *Child Development, 50,* 821-829.

Watson, D., & Pennebaker, J. W. (1989). Health complaints, stress, and distress: Exploring the central role of negative affectivity. *Psychological Review, 96,* 234-254.

Watson, J. B. (1924). The unverbalised in human behaviour. *Psychological Review, 31,* 273-280.

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

Weinfield, N. S., Sroufe, L. A., & Egeland, B. (2000). Attachment from infancy to early adulthood in a high-risk sample: Continuity, discontinuity and their correlates. *Child Dev elopement, 71,* 695-702.

Weiss, B., Dodge, K. A., Bates, J. E., & Pettit, G. S. (1992). Some consequences of early harsh discipline: Child aggression and a maladaptive social information processing style. *Child Development, 63,* 1321-1335.

Wilson, B. J. & Gottman, J. M. (1995). Marital interaction and parenting. In M. H. Bornstein (Ed), *Handbook of parenting, Vol. 4: Applied and practical parenting* (pp.35-55). Hillsdale, NJ, England: Lawrence Erlbaum Associates.

Zahn-Waxler, C., Radke-Yarrow, M., & King, R. A. (1979). Child rearing and children's prosocial initiations towards victims of distress. *Child Development, 50,* 319-330.

Zebrowitz, L. A. (1990). *Social Perception.* Mapping social psychology series. Belmont, CA, US: Brooks/Cole Publishing Co.

Zussman, J. U. (1980). Situational determinants of parental behaviour: Effects of competing cognitive activity. *Child Development, 51*, 792-800.

