

Parenting and internalizing problems:
Testing models of bidirectional socialization in early childhood.

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ABSTRACT

Parenting and internalizing problems:

Testing models of bidirectional socialization in early childhood.

Caroline Sullivan, Ph.D.
Concordia University, 2007

Internalizing problems (IP) comprise the most common form of psychological difficulty in early childhood. Variations in parental socialization have been identified as consistent correlates of young children's IP. In particular, overprotection, punitiveness, and criticism have been associated with children's IP. These associations are principally based on single time-point studies, however, such that the direction of effect cannot be inferred, but there is some evidence to suggest that children's anxious characteristics and parental over-control predict each other over time. Thus, results suggest bidirectional processes may be operating to maintain children and parents on stable, maladaptive pathways of development.

The current study tested a bidirectional model on a sample of 89 families (87 mothers and 55 fathers) with a preschool-aged child (38 girls and 51 boys) using a short-term (16 months) longitudinal design, with repeated assessments of parenting and children's IP. Mothers reported three times on children's IP using the Child Behavior Check List (CBCL), and mothers and fathers reported twice on their parenting using the Child Rearing Practices Report (CRPR). Scores for strict authoritarian control, protective control, and authoritative parenting were derived. Path analyses and hierarchical linear modeling (HLM) were used to examine directions of effect.

Analyses identified mother and father parental effects on children as well as child effects on maternal and paternal parenting. However, most of the significant effects were not direct, but moderated by other child characteristics, such as sex of child, suggesting that reciprocal influences between parents and children may be even more complex than previously thought. The only direct effect of parenting was that mothers' earlier authoritarian control predicted higher levels of later IP. Conversely, mothers' earlier authoritative parenting predicted fewer subsequent IP for boys only, and only boys' initial IP predicted lower maternal protectiveness later. Similarly, younger preschoolers with more IP initially also had mothers who were less protective later, but this was not seen for older preschoolers. Effects of fathers' parenting were moderated by the severity of children's initial IP, such that fathers' initial authoritative and protective parenting predicted lower levels of later IP only for children who initially had fewer IP, whereas these beneficial effects were not found for children who were high on IP originally.

Findings imply that current models of socialization need to be re-evaluated and redefined to be applied to younger children as well as to children with more clinical levels of difficulties. Clinical implications include the importance of including parents and children in treatment and of intervening early in the child's development. Finally, the importance of including fathers in socialization research and treatment cannot be underestimated. Overall, this research clearly points to the importance of examining questions of socialization with properly-designed, longitudinal studies and sophisticated, robust tests of change and influence. Continuing to build on the sophistication of our science might reveal things that overturn current perspectives. Socialization is likely to be even more complex and multi-faceted than we think.

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Wow...what a journey! Although I have had my heart set on working with children and families for as long as I can remember, it is somehow difficult to believe that this long academic voyage is finally over! The last five (or one could say ten) years have greatly challenged my endurance, determination, focus and at times even my sanity. The pursuit of a PhD is no easy undertaking and is quite the test of perseverance and dedication. I owe an enormous amount of gratitude to many people who made this daunting task not only possible, but bearable.

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Table of Contents

	page
List of Figures	x
List of Tables	xii
List of Appendices	xiii
Introduction	1
Socialization Theory	2
Models of Socialization Effects	5
Parenting Theory	12
Development of Internalizing Problems in Children	17
Overview of Correlational Research on Parenting and Children's Early Anxiety	20
Parent Effects	24
Child Effects	29
Moderators of Parent and Child Effects	32
Age	33
Sex	34
Parent or Child Characteristics	35
Bidirectional Effects	36
Methodological Considerations and Limitations of Past Research	38
Design and Analysis	38
Measurement	39
Fathers	40

	page
Goals of the Current Project	40
Hypotheses	41
Method	44
Participants	44
Measures	46
Procedure	51
Reliability of Coding	57
Validity of Parent Report	57
Results	59
Descriptive Statistics	60
Path Analyses	66
Mother-child relationship: Authoritative parenting	69
Mother-child relationship: Authoritarian parenting	73
Mother-child relationship: Protective parenting	74
Father-child relationship: Authoritative parenting	79
Father-child relationship: Authoritarian parenting	82
Father-child relationship: Protective parenting	84
Hierarchical Linear Modeling Analyses	87
Maternal parenting in predicting change in internalizing problems	89
Paternal parenting in predicting change in internalizing problems	93
Discussion	95

	page
Maternal Effects	98
Paternal Effects	106
Child Effects	108
Mothers	108
Fathers	113
Methodological Issues	114
Limitations	116
Implications	119
Summary	121
Footnotes	124
References	125
Appendices	146

List of Figures

	page
Figure 1. Models of socialization effects	8
Figure 2. Transactional model	11
Figure 3. Proposed bidirectional model	21
Figure 4. Proposed model	43
Figure 5a. Bidirectional model for maternal authoritative parenting and children's internalizing problems	70
Figure 5b. Bidirectional model for maternal authoritarian parenting and children's internalizing problems	70
Figure 5c. Bidirectional model for maternal protective parenting and children's internalizing problems	70
Figure 6. Maternal authoritative parenting as a function of child sex in the prediction of children's internalizing problems	71
Figure 7. Internalizing problems as a function of child age in the prediction of maternal protective parenting	77
Figure 8. Internalizing problems as a function of child sex in the prediction of maternal protective parenting	78
Figure 9a. Bidirectional model for paternal authoritative parenting and children's internalizing problems	80
Figure 9b. Bidirectional model for paternal authoritarian parenting and children's internalizing problems	80
Figure 9c. Bidirectional model for paternal protective parenting and children's internalizing problems	80
Figure 10. Paternal authoritative parenting as a function of internalizing problems in the prediction of children's internalizing problems	81
Figure 11. Paternal protective parenting as a function of internalizing problems in the prediction of children's internalizing problems	86

	page
Figure 12. HLM analysis for Time 1 maternal authoritarian parenting predicting change in internalizing problems over time	92
Figure 13. HLM analysis for Time 1 maternal protective parenting predicting change in internalizing problems over time	94

List of Tables

	page
Table 1. Timeline Summary	48
Table 2. Coefficient Alphas for all Measures .	50
Table 3. Correlations between Parent Report Measures and Observational Codes	58
Table 4. Means, Standard Deviations and Ranges for all Measures	61
Table 5. Correlations between all Time 1, Time 2, and Time 3 Measures for Mothers	64
Table 6. Correlations between all Time 1, Time 2, and Time 3 Measures for Fathers	65
Table 7. Final Level-2 Results for the Prediction of the Intercept and the Time Slope for Internalizing Problems and for Maternal Parenting	91
Table 8. Final Level-2 Results for the Prediction of the Intercept and the Time Slope for Internalizing Problems and for Paternal Parenting	96

List of Appendices

	page
Appendix A. The Child Behavior Checklist	146
Appendix B. The Child Rearing Practices Report	149
Appendix C. Parent and Child Consent Forms	153
Appendix D. Parent Examiner Script for the CRPR	163
Appendix E. Child Examiner Script for the Parent-Child Interactions	168
Appendix F. Coding Manual for Puzzle Task	176
Appendix G. Coding Manual for Doll Story Task	180
Appendix H. Coding Manual for Clean-up Task	190
Appendix I. Regression Tables for Path Analyses	197
Table I1. Summary of Hierarchical Regression Analyses for Maternal and Paternal Parent Effects	198
Table I2. Summary of Hierarchical Regression Analyses for Maternal and Paternal Child Effects	201

Parenting and internalizing problems: Testing models of bidirectional socialization in early childhood.

Traditionally, socialization research has focused on parents' influence on children's development. For many years, however, theorists and researchers have recognized that a simple parent-effects model of socialization is not an accurate depiction of development (e.g., Bell, 1968; Parke, 1977). Children are now seen not simply as passive recipients of parents' influences, but as active contributors to their environment, growth, and even their own parents' development. It is important to recognize and study child effects in addition to parent effects.

Despite these advanced perspectives, developmental scientists have not produced copious evidence of bidirectional socialization. Some researchers have demonstrated that parents and children have reciprocal effects on each other's actions; that both partners are affecting and being affected by each other's behaviours (see Kerr & Stattin, 2003, for a review). However, these studies are scarce. One popular area where this issue of bidirectional socialization is being discussed is within the field of parenting and children's anxious characteristics.

Existing studies on the development of children's anxious tendencies in the preschool years suggest bidirectional processes may be operating to maintain children and parents on stable, maladaptive pathways of development. Longitudinal studies have shown that parental socialization practices reflecting psychological control influence the stability of children's anxious tendencies over time (e.g., Rubin, Burgess, & Hastings, 2002). In addition, children's anxious characteristics predict greater parental over-control over time (Rubin, Nelson, Hastings, & Asendorpf, 1999; Kennedy, Rubin, Hastings, &

Maisel, 2004). However, relatively few of these studies have been designed in such a way that bidirectionality can be adequately evaluated, with multiple measures of parent and child characteristics over time. Moreover, these studies utilized different parental behaviour or style dimensions (e.g. authoritative, authoritarian, controlling, protective, rejecting, punitive, encouragement of independence, etc.) and different measures of children's anxious characteristics (e.g. temperament, inhibited behaviours, anxiety problems, vagal tone, etc.), making it difficult to compare studies. Past studies have not often addressed possible moderating variables including age, sex, or other characteristics that could influence meaningful associations over time. In addition, most of these studies have focused on normative samples and not risk samples where influences might be stronger (Sameroff, Gutman, & Peck, 2003). Finally, most of the studies in this area have examined mothers and not fathers. In this dissertation, an attempt to address these issues was taken by examining the bidirectional relations between children's internalizing problems and maternal and paternal parenting. An overview of the main theories guiding this thesis will first be provided including socialization theory, parenting theory, and developmental psychopathology, specifically internalizing problems. Following this detailed theoretical overview, an examination of the empirical literature on parent effects, child effects, moderating variables, and bidirectional effects will be reviewed. To narrow this very broad focus, this review will be limited to early childhood and markers of early anxiety problems in these young children.

Socialization Theory

Socialization is the process by which individuals acquire the knowledge, skills, and character traits that enable them to participate as effective members of groups and

society (Brim, 1966). More specifically, it is what every parent, teacher, friend, religion, employer, and community does to an individual in the hopes of getting him/her to conform to given norms or rules.

Although parents are not the only agents contributing to the socialization of children, the family has continued to be seen as a major – perhaps *the* major – arena for socialization (Kuczynski, Marshall, & Schell, 1997; Maccoby, 1992). This reflects the pervasive assumption that even though socialization can occur at any point in the life cycle, childhood is a particularly malleable period, and it is the period of life when enduring social skills, personality attributes, and social orientations and values are established (Maccoby, 1992). Parental socialization is an adult-initiated process by which developing children acquire the habits and values congruent with adaptation to their culture through insight, training, and imitation (Baumrind, 1980). At birth, a child may be viewed as having a range of possible characteristics or abilities that become defined through interactions with the training contexts in which the child develops. Individuals become who they are through reciprocal interactions with their environment, and the crucial environmental context for young children is the family.

The family in which a boy or girl develops will limit or expand the individual potential that can become manifested as socially useful and personally satisfying attitudes and actions. Successful socialization practices should endow children with a competent degree of self-regulation that supports conforming to social norms. In addition, it has been suggested that for children to be successful adults, they must acquire habits, skills, values and motives that will enable them to a) avoid deviant behaviour; b) contribute,

through work, to the economic support of self and family; c) form and sustain close relationships with others; and d) be able to rear children in their turn (Maccoby, 1992).

Although over many centuries the writings of religious leaders and philosophers have alluded to theories and speculations concerning what kinds of child rearing will produce well-socialized adults, it is only in the last one hundred years or so that childhood socialization processes have become the focus of scientific study (Maccoby, 1992). In the most general sense, research in socialization is concerned with discovering how individuals learn to participate effectively in social interaction, and why some individuals have difficulties whereas others do not.

Socialization research has undergone sweeping changes in the last century, as outlined by Maccoby (1992). The first major change had to do with how inclusive the theories had been. There was an early period of grand, all-encompassing theories (mainly Behaviourism and Psychoanalytic theory), which gave way to more modest theories that were limited to specific behavioural domains or specific age periods. A second major change concerned the direction of effects. Whereas earlier conceptualizations outlined top-down processes, whereby parents were seen primarily as teachers and children as learners, more current conceptions of socialization involve mainly bidirectional, transactional, and interactive processes (Bell, 1968; Bronfenbrenner, 1977; Sameroff, 1975a; 1975b). A third change involved the development of more complex process models. Earlier work primarily consisted of direct connections between given parental behaviours and child outcomes, whereas more current research focuses on processes that mediate or moderate the ways in which a

parental practice affects a child (Kennedy et al., 2004; Morris, Silk, Steinberg, Sessa, Avenevoli, & Essex, 2002). These major changes are outlined in more detail below.

Models of Socialization Effects

Most conceptions of socialization in the context of the family have been unidirectional. Throughout most of the 20th century, the dominant view in psychology was that socialization was a process of instilling a set of desired behavioural habits in a child. Parents and other adults served as teachers, the children as learners. Children were assumed to enter a world that contained pre-existing meanings, rules and expectations held by their parents and other representatives of the culture. By interacting with their social environment, children were assumed to acquire this material so that ideas and knowledge initially outside the child were gradually internalized by the child. Although it is often acknowledged that children have some influence on their socialization experiences, the dominant metaphor for the process is a unidirectional one: from parent to child. "Socialization fundamentally involves the transmission of values, attitudes, roles, and other cultural products from the older generation to the younger generation and parents play a direct and primary role in this process" (Kuczynski et al., 1997, p. 23).

This conceptualization of socialization stemmed primarily from the grand theories that were dominant at the time: Behaviourism and Psychoanalytic theory. Both of these theories were believed to encompass most of the significant aspects of socialization in childhood. They differed, however, in that learning theorists believed that children were born blank slates, whereas psychoanalytical theorists believed that children were born with primitive impulses that needed to be brought under social control (Cairns, 1983; Gewirtz, 1969). Yet despite these differences, both theories held that parental control and

teaching were responsible for passing on the adult culture to the next generation. From the 1930s until the 1960s, large-scale efforts were made by scientists (such as Robert Sears) to merge these two theories and to predict children's personality attributes from parental socialization methods (Sears, Whiting, Nowlis, & Sears, 1953). These efforts, however, were largely unsuccessful. Within the field of developmental psychology, new developments were making it more and more clear that neither theory, as originally formulated, could successfully explain the process of socialization. Work in the areas of developmental psycholinguistics (e.g. Chomsky) and attachment theory (e.g. Bowlby and Ainsworth), for example, was revealing that innate mechanisms within children were also influencing parental responses (Bowlby, 1969; Chomsky, 1959). These findings were clearly pointing to processes that were not simply top-down in nature.

Despite its intuitive appeal, therefore, the inadequacies of the unidirectional conception of socialization became apparent to social scientists. For many years now, theorists and researchers have recognized that influences on development are more complex than simple parent-effect models of socialization. In the 1960s and 1970s, the work of several different theorists helped to change how developmental scientists viewed the role of children and parents in the socialization process. Researchers were pointing out that the causal arrow might point the other way, that children could be influencing parents in addition to parents influencing children (Bell, 1968; Bell & Harper, 1977; Parke, 1977). It became apparent to some at that time that a concurrent correlation between the attributes of two interacting people could not reveal anything about the direction of effects. In fact, Bell (1968) was the first to emphasize the key role that bidirectional effects play in the socialization process. In the decades that followed, many

different people agreed that bidirectional effects must exist in the socialization process. For example, Bronfenbrenner (1977) argued that the ecology in which we live requires reciprocal processes (i.e. effects of A on B and B on A), and that a true understanding of human development necessitates looking at multiperson systems of interaction.

Researchers adopted time sequences and change scores in order to try to identify direction of influence within a dyad. In the 1970s, sophisticated computer technologies became available that made possible the analysis of moment-to-moment sequences of parent-child interactions. Many microanalyses of parent-child interaction sequences provided strong evidence for the view that the child's behaviour, more than the parent's, may be driving moment-to-moment sequences as they unfold (such as with mutual smiling as shown by Thomas & Martin, 1976). Evidence for the power of children to affect the course of bouts of parent-child interaction continues to appear in the literature (e.g. Hastings & Rubin, 1999; Kennedy et al., 2004; Kuczynski & Kochanska, 1990; Rubin et al., 1999). Consequently, children are now seen not simply as passive recipients of parents' influences, but as active contributors to their own growth, their environments, and even their parents' development (Russell & Russell, 1992). Therefore, child effects need to be recognized and studied as well as parent effects. Figure 1 illustrates the various models of socialization effects that have been proposed.

Despite these advanced perspectives and serious criticisms, developmental scientists have only recently begun to conduct the kinds of longitudinal studies and sophisticated analyses that can provide evidence of bidirectional socialization. Some studies (e.g., Kerr & Stattin, 2003; Kim, Conger, Lorenz, & Elder, 2001; Lengua & Kovacs, 2005; Lytton, 1990) have shown that parents and children have reciprocal effects

One-Way Models

Parent Effects
Children as Passive
Top-down Models

Child Effects
Children as Active
Bottom-up Models

Two-Way Models

Bidirectional Effects
Interactive partners
Transactional models

Figure 1. Models of socialization effects

on each other's actions, that both partners are affecting and being affected by each other's behaviours, but these studies are scarce.

In terms of direction of effects, Sameroff (1975a; 1975b) distinguished three general explanatory models: (a) the *main effects model*, which, in its two versions, asserts the primacy either of constitutional or environmental factors; (b) the *interactional effects model*, according to which outcomes can be explained by the statistical interaction of constitutional and environmental factors; and (c) the *transactional effects model*, which seeks the explanation for child developmental outcomes in the recurrent reciprocal interchanges over time between the environment (parents and others) and the organism (the child). When the evidence for the main effect models were evaluated, linear chains of efficient causality were not found. In addition, while the interactional model was an advance over the main effects model in terms of predictive efficiency, it left much unexplained variance both practically and theoretically. One main difficulty with these models is that both view the nature and nurture elements as constant over time.

To give a complete role to the variety of effects found between and within constitutional and environmental variables, the transactional model was proposed to deal with the processes as well as the outcomes of development. The transactional model (Sameroff 1975a; 1975b) is the most influential developmental framework for understanding bidirectional causal processes in social development (Kuczynski & Parkin, 2007). The underlying assumptions of this model are that the contact between organism and environment is a transaction in which each is altered by the other. Therefore, instead of attributing causes to particular behaviours, traits, or variables, transactional models locate causality in recurrent reciprocal interchanges between parents and children. In

other words, the parent responds to their child's present behaviour which influences the form of the child's subsequent behaviour. Meanwhile, the child also responds to the parent's present behaviour which influences the form of the parent's subsequent behaviour. Over time, the parent and child are constantly transforming each other as they influence each other. Figure 2 illustrates this model.

More and more, it is being shown that cycles of successive and mutual influence exist between parent and child (for a recent review see Kuczynski & Parkin, 2007; Patterson & Fisher, 2002). In fact, the theorizing of the Patterson group (e.g. Patterson, 1982), who were the first to study these effects, evolved from a social learning, or top-down approach, to a social interactionist perspective. The work has shifted attention from individuals to dyads. A redefinition of the socialization process was necessary, from one in which influence flows from adults to children to a bidirectional perspective (Maccoby, 1992).

Bidirectional influence was originally conceptualized as each participant in the parent-child interaction shaping the other, by providing reinforcements or consequences for one another's behaviour (e.g. Sears, 1951). More recently, however, this idea has been replaced by one that emphasizes relationships (Youniss, 1983). From this perspective, children are thought to be socialized mainly through participating in interactions within close relationships. Youniss (1983), argues that socialization "should not be described as a process whereby control of children is shifted from adults to the children themselves, who become progressively more autonomous and self-regulating. Rather, at every stage of life, relationships involve co-regulation, and individuals are never free of the regulatory requirements of intimate others unless they become social

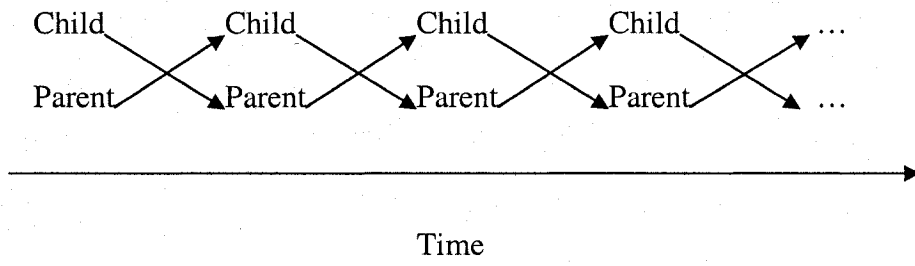


Figure 2. Transactional model

isolates” (p. 1014). This view implies that any enduring parental influence stems mainly from the nature of the relationships parents have co-constructed and continually reconstructed with their children. Some of these relationships can foster children’s positive development whereas others can inhibit it (Maccoby & Martin, 1983).

In summary, the study of children’s social and emotional development requires that attention be paid to dispositional or biological factors (e.g. temperament), familial interactions and relationships, social contexts (e.g. school), and culture (Burgess, Rubin, Cheah, & Nelson, 2001). One process thought to be crucial to the development of emotional and social competence is the influence of socialization agents from infancy through childhood (Saarni, 1999). In this way, emotional and social competence is thought to arise through experiences with the social environment with parents exerting a strong influence on the socialization of social and emotional skills (Calkins, 1994; Kopp, 1989; Saarni, 1999). One major means in which parents have a significant influence on their children’s social and emotional development is through the ways in which parents interact with their children (Rubin, Hymel, Mills, & Rose-Krasnor, 1991).

Parenting Theory

Much of the work on child rearing and its effects has sought to identify characteristics whereby parents differ stably from one another (Maccoby & Martin, 1983). These characteristics have then been related to relatively stable individual differences in children, either through simple correlational associations or more complex forms of multivariable and longitudinal analysis.

In the 1930s and early 1940s, Alfred Baldwin and his research group conducted a longitudinal study of children and their families for which they made repeated home

visits to observe parent-child interactions and assessed the development of children at several different ages (Baldwin, 1949). Their theory, like the two grand theories at the time (Behaviourism and Psychoanalytic theory), was a top-down theory. They were the first to emphasize and to demonstrate that parenting must undergo systematic change with the increasing cognitive capacities of children. They were strongly influenced by the work of Lewin and colleagues in the 1930s, in terms of what aspects of parenting were considered important (Lewin, Lippitt, & White, 1939). Lewin and colleagues described two parenting types: democratic and autocratic leadership. Democratic parents share responsibility and power with their children whereas autocratic parents are more overpowering and do not provide reasons to their children. It was shown that under democratic leadership, groups of school-age children became more fully involved in group projects, displayed less hostility, and were able to work in the absence of supervision more effectively than children under autocratic leadership. Baldwin and colleagues tested democratic and autocratic home environments and found meaningful connections between these atmospheres and the quality of children's functioning in nursery school, in ways similar to those of Lewin and colleagues (Baldwin, 1949). Specifically, Baldwin found that democracy encouraged free and active participation in nursery school activities, it made successful self-assertion more likely, and it promoted creative and constructive behaviour. Children of autocratic parents, on the other hand, were found to be low in social interaction with peers and tended to be dominated by their peers.

Becker (1964) and Schaefer (1959; 1965a; 1965b), however, theorized that parenting worked along dimensions. A dimensional approach classifies parents based on

the quantification of the same parenting attributes rather than assigning parents to categories. Schaefer (1959) analyzed the intercorrelations of variables from a number of studies, showing that they could be ordered in a circumplex pattern with respect to two orthogonal variables: warmth/hostility and control/autonomy. Through analyses of maternal behaviour, he argued that this latter factor included intrusiveness, parental direction, excessive contact, and control through guilt. Schaefer (1965b) then derived two similar dimensions: acceptance versus rejection and psychological autonomy versus psychological control. Psychological control was defined as negative, love-oriented discipline that involved the manipulation of the love relationship between the parent and the child as a means of controlling the child's behaviour. He stated that psychological control includes covert, psychological methods of controlling the child's activities and behaviours that prevent the child from developing as an individual apart from the parent.

Although Becker's (1964) model was similar to that of Schaefer (1959), he further divided Schaefer's psychological autonomy versus psychological control dimension into a behavioural dimension of restrictiveness versus permissiveness and an emotional dimension of anxious-emotional versus calm-detachment. Restrictiveness was defined as strict enforcement of demands made by the parent on various areas of the child's life. He defined anxious-emotional as highly emotional displays with protectiveness and anxious over-concern about children's well-being. He proposed a model whereby overprotectiveness would be a combination of restrictiveness, warmth and emotional involvement.

Contrary to conceptualizations of Becker and Schaefer, variations in parenting have also been conceptualized as representing distinct patterns of behaviour within a set

typology. Various researchers have contrasted parenting *style* with specific parenting *practices* or *behaviours* (e.g. Maccoby, 1992). Parenting style is defined as a global set of parental attitudes, goals, and patterns of parenting practices, and is conceptualized as a moderator rather than a direct predictor of children's psychosocial outcomes. It is a general pattern of caregiving that provides a context for specific episodes of parental childrearing behaviours, but it does not refer to a specific act or set of acts of parenting (Darling & Steinberg, 1993). In contrast, parenting practices or behaviours are conceptualised as specific kinds of parental interactions with children in specific situations that are hypothesized to directly affect children's emotional and behavioural regulation (Wood, McLeod, Sigman, Hwang, & Chu, 2003).

Through observational data and interviews with preschoolers and their parents, Baumrind (1967, 1996) found that three parenting styles were reliable predictors of children's types of interactions at school. In addition, Maccoby and Martin (1983) argued that Baumrind's types of parenting differed on dimensions of parental responsiveness and demandingness. *Permissive* parents were characterized as very responsive, but low on demandingness, and their children were often found to be aggressive (Baumrind, 1967; 1971). *Authoritarian* parents are characterized as low on responsiveness and high on demandingness. Authoritarian parents tend to use negative and punitive attempts to control children, few displays of warmth and responsiveness, and restrictive limits that inhibit the development of children's autonomy and independence. They are also characterized as controlling, detached, and use coercive power without providing reasons to their children. Thus, authoritarian parents are believed to act in ways to shield the child from opportunities to engage in interactions

with others, resulting in increased risk for anxiety disorders. In fact, children of authoritarian parents have been found to be dependent, fearful, disaffiliated, and anxious (Baumrind & Black, 1967; Dumas, Lafreniere, & Serketich, 1995; Maccoby & Martin, 1983). Finally, *authoritative* parents were characterized as high on both responsiveness and demandingness. They tended to be controlling, loving, communicative, used consistent discipline, provided justifications, encouraged the child's independence, and supplemented directives with reasons. Children of authoritative parents were found to be competent, well socialized, and independent (Baumrind, 1967, 1996; Baumrind & Black, 1967).

Authoritarian parenting has been argued to be an aggregated set of parenting dimensions, and as such specificity is sacrificed for breadth (McShane & Hastings, under review). The use of an aggregate fails to reveal the relative contribution of each parenting dimension to *specific* aspects of child development (Darling & Steinberg, 1993). Recently, researchers have focused their attention on deconstructing the broad parenting typologies to understand the component processes and how they affect children and adolescents. Based on the early work by Schaefer (1965b), two dimensions of control within the authoritarian style of parenting have been suggested (Barber, 1996; Barber, Olsen, & Shagle, 1994; Steinberg, 1990). As previously outlined, Schaefer (1965) stated that *psychological control* includes covert, psychological methods of controlling the child's activities and behaviours that prevent the child from developing as an individual apart from the parent. It is useful to recognize that psychological control includes at least two types of parenting behaviours: protective over-control and critical over-control (Rapee, 1997). Protective over-control reflects intrusive actions that

emphasize the closeness of the parent-child bond, such as restrictions on the child's independent activities, unusually strong affection, and unnecessary micro-management. Critical over-control threatens the child's security with the parent-child relationship or the child's own self-confidence, through criticism, rejection, negative labeling, and emotional manipulation. *Behavioural control*, on the other hand, encompasses rules- and consequences-based management efforts.

A high level of behavioural control has been more consistently linked to low levels of externalizing problems (Aunola & Nurmi, 2005; Mills & Rubin, 1998). Of all these different parental characteristics, authoritarian style, and more specifically psychological control in the form of parental overprotection, has most often been found to be associated with young children's anxious behaviours, internalizing problems and social incompetence (e.g. Radke, 1946; Rapee, 1997; Rubin, Burgess, & Hastings, 2002).

Conversely, more appropriate, positive or effective parenting has been associated with fewer anxious difficulties in children. Parents who are more authoritative, supportive, or encouraging of autonomy have children who show fewer internalizing problems or less inhibition or social difficulty (Baumrind & Black, 1967; Chen, Hastings, Rubin, Chen, Cen, & Stewart, 1998; Kuczynski & Kochanska, 1995; Shipman, Schneider, & Sims, 2005). Positive aspects of parental socialization, such as sensitivity and engagement, have been found to moderate the stability of early inhibition and anxiety (Crockenberg & Leerkes, 2006; Early, Rimm-Kaufman, & Cox, 2002), in opposite patterns to that previously noted for psychological control.

Development of Internalizing Problems in Children

Internalizing problems signify a core disturbance in self-destructive emotions and moods (e.g., sorrow, guilt, fear, and worry). Internalizing problems are pervasive in childhood; 5.7% - 17.7% of children suffering from anxiety disorders (Costello & Angold, 1995), and these statistics do not include the multitude of children who suffer from sub-clinical levels of internalizing problems. Children with internalizing problems are prone to inappropriate or excessive and prolonged experiences of sadness, fear, anxiety, and worry (Zahn-Waxler, Klimes-Dougan, & Slattery, 2000), and often suffer from a myriad of physical (e.g. headaches and stomach-aches), social (e.g. social avoidance and inadequate social skills), and academic difficulties (Siqueland, Kendall, & Steinberg, 1996). Problems at school often arise from refusal to attend school, problems in academic work (Siqueland et al., 1996), and social difficulties. Internalizing problems in childhood have been found to show significant stability over time (Barrios & Hartmann, 1988; Bruch & Cheek, 1995; Majcher & Pollack, 1996; Rubin, Burgess, & Hastings, 2002). However, the study of internalizing problems in children is still relatively new, as it has not been until quite recently that these disorders were thought to be present in children (for a review, see Zahn-Waxler, Klimes-Dougan, & Slattery, 2000). In addition, in the literature on anxious symptoms in young children, there appears to be little consistency on the labelling used including: anxiety, shyness, fearfulness, behavioural inhibition, reticence, social anxiety, etc. Internalizing problems, however, seems to be the umbrella label encompassing most of these terms and concepts (Achenbach, & Rescorla, 2000).

Although the problem of anxiety difficulties in children is widespread and affects children throughout childhood and adolescence, the etiology and sequelae of childhood

anxiety remains complex and elusive. In fact, not all behaviorally inhibited children remain inhibited over the early childhood years (Broberg, 1993; Reznick, 1986; Scarpa, Raine, Venables, & Mednick, 1995), and of those children who do remain inhibited (i.e., stably inhibited), not all develop anxiety disorders (Biederman, Rosenbaum, & Hirshfeld, 1990), implicating other factors as important in children's subsequent social and emotional adjustment. Because children's behaviours are thought to be, in part, a result of the immediate and ongoing social environments around them, attention has focused on familial factors (Barrios & Hartmann, 1988). Key factors external to the child, such as parental socialization, may play a role in the stability of internalizing problems (Baumrind, 1967; Dumas, LaFreniere, & Serketich, 1995; Rubin, Hastings, Stewart, Henderson, & Chen, 1997; Rubin et al., 2002; Siqueland et al., 1996). For example, Rapee (2001) argues that parents of children with anxious tendencies may be more likely to become overinvolved with their child in an effort to reduce and prevent the child's distress. This maladaptive pattern of parental overinvolvement, however, is said to reinforce the child's vulnerability to anxiety by increasing the child's perception of threat, reducing the child's perceived control over threat, and ultimately increasing the child's avoidance of threat.

In other words, certain parental practices may increase or decrease children's wariness or fearfulness (Calkins, 1994; Rubin, Stewart, & Coplan, 1995). In fact, as outlined earlier, numerous investigations have identified specific parenting variables, such as parenting styles and practices, which are associated with children's internalizing problems (Dumas et al., 1995; Rubin et al., 2002; Rubin et al., 1997; Siqueland et al.,

1996). In addition, researchers have also examined child factors that influence parenting beliefs, styles, and behaviours (Kuczynski, Marshall, & Schell, 1997).

It bears noting, however, that little is known about the extent to which children's interactions and relationships with parents serve as causal or moderating agents in the development of early anxiety, and their collective correlates and consequences (Burgess et al., 2001). The current study proposed and tested a bi-directional developmental model of socialization between parents and preschool children. The model presented in Figure 3 attempts to incorporate current assumptions about parents and children as interdependent, active agents in a process of mutual influence over time. The components of the model reflect assumptions about bi-directional processes that operate within the parent-child relationship and are based on the current literature, as reviewed below.

Overview of Correlational Research on Parenting and Children's Early Anxiety

As mentioned earlier, most of the research in this area has utilized correlational, non-longitudinal designs that cannot reveal directions of effect. However, these studies have revealed potentially important relations between parenting and children's early anxiety that warrant further examination.

For example, some research has found that anxious children are most likely to have authoritarian mothers and fathers (Baumrind, 1966; 1967; 1971). As previously reviewed, authoritarian parents are characterized as using negative and punitive attempts to control children, displaying little warmth and responsiveness, and using restrictive limits that inhibit the development of children's autonomy and independence. Restrictive control is defined as "extensive proscriptions and prescriptions, which cover many areas

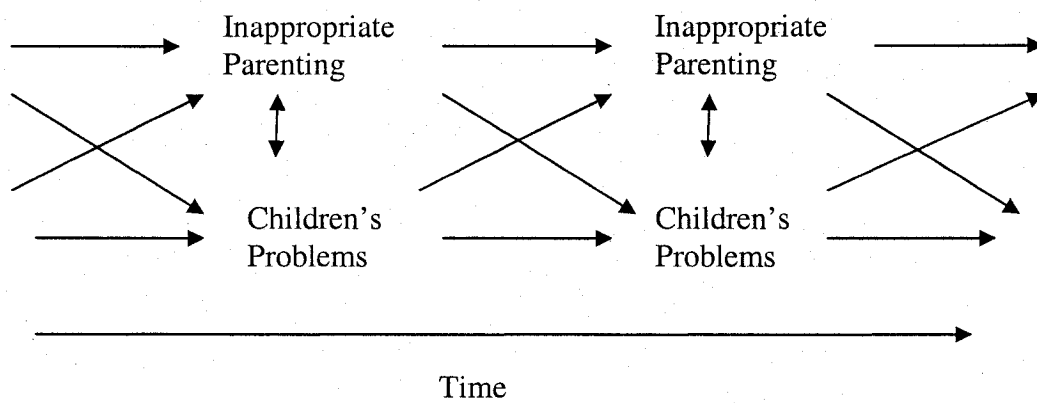


Figure 3. Proposed bidirectional model

of the child's life and need systems and limit his autonomy to try out his skills in these areas" (p. 98; Baumrind, 1971). Thus, authoritarian parents were believed to act in ways to shield the child from opportunities to engage in interactions with others, resulting in increased risk for anxiety disorders.

This association between anxiety problems and authoritarian parenting, however, has also showed inconsistent results (Baumrind, 1991; Lamborn, Mounts, Steinberg, & Dornbusch, 1991; Rodriguez, 2003; Steinberg, Lamborn, Darling, Mounts, & Dornbusch, 1994). It would appear that overall, authoritarian parenting has a globally negative effect on children's well-being, but it is not yet clear that authoritarian parenting has any specific effect on internalizing or more specific anxiety problems versus other developmental outcomes, and if so, how such effects are conveyed. It may be that more specific parenting practices, as opposed to more global styles, are important in predicting children's development of anxious characteristics. In particular, parents who are over-involved, over-controlling, and over-protective are thought to prevent their children from facing and overcoming challenging situations, which prevents the children from developing a sense of independence and autonomy (Barber, 1996). Their expression of psychological autonomy is inadequate or even unacceptable and the children withdraw into themselves when they encounter stresses and pressures in social interactions (Barber, Olsen, & Shagle, 1994). These factors, coupled with parents' use of coerciveness and negativity, have been found to predict children's internalizing problems.

For example, Rubin and colleagues (1997) observed toddlers interacting with unfamiliar peers and adults in a variety of novel situations in the laboratory. Results revealed that if mothers perceived their toddlers being more socially wary, and directed

highly affectionate and intrusively controlling behaviours toward their children during a free-play situation, the toddlers were more likely to demonstrate observed inhibited behaviours in the company of a same-age peer. Toddlers who had mothers that perceived them to be socially wary but who refrained from oversolicitous behaviour, however, did not exhibit inhibited behaviour with a same-age peer. Similarly, Rubin, Cheah, and Fox (2001) reported that mothers of preschoolers who frequently displayed reticent behaviour among unfamiliar peers were more likely than mothers whose children rarely displayed social reticence to use oversolicitous and highly controlling behaviours during a mother-child free-play session. These findings strengthen the idea that children who tend to display withdrawn behaviours in play with peers tend to have mothers who provide directives and control in situations that do not warrant it, perhaps as an attempt to protect the child from stress or harm when neither is objectively present.

Other studies have found specific links between both forms of psychological control, overprotective and critical over-control, and children's anxiety problems (Barber & Harmon, 2002; Bennet & Stirling, 1998; Chen et al., 1998; Hudson & Rapee, 2001; Mills & Rubin, 1998; Olsen, Yang, Hart, Robinson, Wu, Nelson, et al., 2002; Rapee, 1997; Siqueland et al., 1996). Specifically, in a review of the importance of childrearing factors in the development of anxiety, Rapee (1997) outlined consistent evidence that suggests that control (defined as protecting the child from possible harm) by parents is positively related to anxiety. Parents of children with anxiety disorders have been found to be more overprotective and less granting of psychological autonomy than controls (Bennet & Stirling, 1998; Siqueland et al., 1996; Hudson & Rapee, 2001). Children with sub- or non-clinical anxiety problems, school refusal, or withdrawal, have also been

shown to have parents who exhibit more overprotection and emotional overinvolvement (Chen et al., 1998; Hirshfeld et al., 1997; Hersov, 1960; Mills & Rubin, 1998; Stubbe, Zahner, Goldstein, & Leckman, 1993). Some evidence also exists for the relationship between more critical over-control and children's anxiety problems (Hirshfeld, Biederman, Brody, Faraone, & Rosenbaum, 1997; Mills & Rubin, 1998; Rubin, Mills, & Rose-Krasnor, 1989).

Although these studies have revealed significant associations between children's early anxiety and specific parenting practices, strong critics of socialization theory have argued that so-called parent effects are little more than misinterpretations of correlational data that cannot reveal directions of influence. In other words, it is unclear whether children's anxious characteristics fuel more controlling, overprotective parenting, or whether a more controlling, overprotective parenting style fuels more anxious characteristics in children.

Given these limitations with correlational, single time-point studies, some investigations have examined relations between specific parenting variables and children's internalizing problems using more appropriate designs to test for directions of effect such as longitudinal studies. Some of these studies have revealed evidence for parent effects, reviewed first, and others have revealed evidence for child effects, reviewed subsequently.

Parent Effects

To examine whether inhibition and/or parenting styles would predict children's subsequent social and behavioural problems, Rubin and colleagues (2002) recently conducted a prospective longitudinal study. Children's inhibition and maternal

intrusiveness and derisiveness were measured when the children were two years old.

The constructs of intrusive control and derisiveness comprise two aspects of psychological control. Subsequently, when the children were four years old, they were observed in a free-play task with peers in order to measure reticent or social play behaviours. It was found that, if mothers demonstrated relatively high frequencies of intrusive control and/or derisive comments, the association between their toddlers' peer inhibition and four-year social reticence was significant and positive. If mothers were neither intrusive nor derisive, however, then toddlers' peer inhibition and four-year reticence were not significantly associated. Thus, maternal behaviours moderated the relation between toddlers' peer inhibition and preschoolers' social reticence. Although this study provides evidence for a parent effect, one major limitation of this study is that it is impossible to examine child effects, as maternal behaviours were not reassessed when the children were four years old.

In a related study, Cheah, Rubin, and Fox (1999) explored the influence of parenting and children's reticence at preschool age on withdrawn behaviours in middle childhood. This study addressed the possibility that the appropriateness of parental control, whether positive or negative, may depend on the situation. Parenting behaviours were observed during both an unstructured activity (free play) and a structured situation that required parental control (a teaching task). Mothers' displays of highly controlling and oversolicitous behaviours during a free-play session with children at age four years uniquely predicted behavioural reticence at age seven years above and beyond the initial level of reticence at age four years. This same association was not found when mothers used these behaviours during the structured activity. Again, it appears as if mothers of

reticent children who are overcontrolling and overinvolved, and who use these behaviours specifically when they are most unnecessary, exacerbate child reticence. This study revealed that these types of parenting behaviours seem to make a contribution to withdrawn behaviour beyond the contribution of child reticence alone.

Park, Belsky, Putnam, and Crnic (1997) conducted naturalistic home observations of parents with their male infants and toddlers, and later assessed the level of the boys' inhibition at the age of three years. Contrary to the other studies reviewed, they found that the parents of inhibited boys were high on sensitivity and positive affect, but low on intrusiveness. In addition, parents were actually accepting of their child's inhibition or trouble coping with anxiety. Finally, they found that the stability of inhibition among males was accompanied by inappropriately affectionate parenting, i.e. cuddling and cradling when the situation did not warrant it.

It is difficult, however, to compare these Parke and colleagues' findings with those of the Rubin et al. (1997, 1999, 2002) studies. The common finding is that inhibited children do not benefit from a high amount of affection (possibly an element of protective over-control) under certain conditions, and it can be argued that this type of parenting may reinforce fearful, wary behaviour, especially if provided during situations when the demonstration of warmth is inappropriate or unwarranted. Park et al.'s (1997) contradictory finding that parents who were less intrusive had more reticent children, could be explained by three possible factors. First, Park et al. assessed parents' behaviours in a natural setting with familiar people (i.e. home environment), whereas Rubin et al. assessed parent-child interactions in an unfamiliar laboratory setting with unfamiliar people. Second, parenting behaviours were assessed prior to the observation

of child inhibition, as opposed to concurrently. This may suggest that parents of inhibited children are actually not overcontrolling in the earliest stages of development, and it is only when they recognize their child's wariness/fearfulness, such as becomes more obvious as the child approaches the preschool years, that they try to change it. Finally, Park and colleagues did not analyze whether parents behaved differently under free-play versus demand situations (contrary to the Cheah et al., 1999 study).

Many researchers have suggested that it is certain combinations of parenting style variables rather than their unique impact that contribute to children's adjustment (Baumrind, 1989, 1991; Darling & Steinberg, 1993; Steinberg, 2001). With cross-lagged longitudinal data, Aunola and Nurmi (2005) examined whether mothers' and fathers' parenting styles (affection, behavioural control and psychological control) predicted children's internalizing problems during the transition from kindergarten to primary school. In addition, the authors examined to what extent the impact of a particular parenting style variable on children's internalizing problems was moderated by the other two parenting style variables. Results revealed that maternal psychological control combined with high affection predicted increases in the levels of children's internalizing problems. Although this finding was contrary to the researchers' expectations, psychological control combined with affection could be indicative of a more overprotective parenting style (Rubin et al., 1997). Moderation effects were not found for internalizing problems and no significant effects emerged for fathers.

Evidence for parent effects also come from studies on parent training interventions for children's anxiety disorders. In two recent reviews of the literature on interventions for anxiety in children, Moore and Carr (2000) and Hirshfeld-Becker and

Biederman (2002) concluded that children fare better when interventions for anxiety include a parent training component. For example, in contrast to the results for individual CBT treatment (based on Kendall, Kane, Howard, & Siqueland's treatment manual the Coping Cat, 1990) for GAD, separation anxiety and social phobia, in which 57-64% of children showed clinically significant recovery (Kendall, 1994; Barrett, Dadds, & Rapee, 1996), an inclusion of family-based intervention showed an 84% clinically significant recovery rate in children (Sanders & Dadds, 1993). The family anxiety management treatment module that was included in the latter study consisted of training parents in contingency management, personal anxiety management, and problem-solving and communications skills. In addition, in a study testing a 6-month intervention in the home, involving specific parent-child interaction training with mothers and their anxious-withdrawn preschoolers, results showed significant changes in the treatment group (Lafreniere & Capuano, 1997). The treatment consisted of (a) increasing the mother's understanding of the developmental needs of the preschool aged child, (b) promoting parenting competence in terms of sensitivity to these needs, (c) alleviating parenting stress, and (d) providing social support. Mothers were found to moderate their level of control to a more appropriate, less intrusive level and children showed improvements in teacher-rated social competence.

Overall, these longitudinal and treatment studies provide evidence that parents who are more controlling, critical or intrusive with their children are more likely to have children who display more social reticence later on, compared to parents who do not use control, criticism or intrusion with their children. Importantly, these associations were found even after controlling for the stability of anxious social behaviour, increasing the

probability that they are indicative of true parent effects. Finally, even though authoritative parenting is thought of as promoting social competence, to date, no longitudinal study has shown that authoritative parenting is negatively related to internalizing problems in preschool children.

Child Effects

As outlined earlier, research suggests that authoritative parenting is associated with social competence in children, and authoritarian and overprotective parenting with social wariness (Dumas et al., 1995). There is also some limited evidence to suggest that early social fearfulness may elicit parenting responses of an overprotective, overcontrolling nature.

Rubin, Nelson, Hastings, and Asendorpf (1999) provided a good test of the relations between children's social fearfulness at two years and shyness at four years, and parents' choices of preferred rearing practices at these same two time points. Mothers' and fathers' perceptions of their toddlers' social wariness were found to predict parents' tendencies to limit their children's opportunities for acting independently two years later, over and above the stability in parents' approaches to child-rearing. Thus, parents who viewed their toddlers as shy and inhibited were less likely than those who did not perceive their children as shy, to endorse statements such as "I let my child make decisions for himself/herself", and "if my child gets into trouble, I expect her or him to handle the problem mostly by herself/himself." The findings therefore support the notion that raising shy, wary, or inhibited children increases both mothers' and fathers' parenting anxiety, or reluctance to let their children explore novel experiences (Rubin, Coplan, Fox, & Calkins, 1995). Independent observations of toddlers' inhibition also

predicted mothers' (but not fathers') greater limitations on children's independence two years later (Rubin et al., 1999), further supporting the argument that children's inhibition reinforces parents' imposition of constraints that prevent the necessary and normatively challenging experiences the children require to develop their self-regulatory abilities.

One major strength of this study was that it analyzed path coefficients. This strengthened the conclusion that it was the perception of earlier child shyness that predicted subsequent parenting practices, beyond the effect of contemporaneous correlations or stability in parenting practices. The nature of this type of analysis is such that the later assessment of one variable is regressed on both variables' earlier assessments in addition to accounting for the stability of both variables. As such, if the path of one variable at an earlier time-point predicting the other variable at a subsequent time-point is significant, then it can be inferred that there may be a significant and potentially causal effect of the former variable on the latter variable. Comparatively, as Rogosa (1980) has noted, the causal interpretation of cross-lagged correlations can be misleading as they depend on not only the direct influence of one variable on the other, but also on the indirect influence due to the variables' initial correlation and their stabilities. Although the majority of the research in this area has used simpler pair-wise correlations or linear regression in their analyses, Rubin and colleagues (1999) provided more robust support for the question of child effects.

In a related study, Hastings and Rubin (1999) examined apparent effects of children's shyness on mothers' child-rearing beliefs. They observed the shy behaviours of 2-year-old children during interactions with an unfamiliar peer, and collected mothers' reports of their protective and authoritarian childrearing attitudes toward their toddlers.

These variables were used to predict mothers' emotions, attributions, parenting goals, and socialization strategies in response to vignettes depicting withdrawn child behaviours 2 years later. Evidence for child effects was revealed. Mothers were more likely to suggest the use of physical affection and spending time together to comfort their socially withdrawn preschoolers when, 2 years earlier, they had described their toddlers as more socially fearful. This is evidence of a true child effect as both earlier protectiveness and earlier wariness were controlled for.

In a study that paralleled Rubin and colleagues' (1999) examination of the longitudinal relations between toddler shyness and parental support for autonomy, Kennedy, Rubin, Hastings, and Maisel (2004) examined the longitudinal relations between child vagal tone and parents' reported child-rearing behaviour. Children with low vagal tone, a cardiovascular marker of the parasympathetic nervous system function (Porges, 1991), have been found to be more inhibited in the presence of an adult stranger at age two years (Rubin et al., 1997), and more reticent among peers at age four years (Fox & Field, 1989). Kennedy and colleagues (2004) found that toddlers' cardiac vagal tone predicted parenting practices in the preschool years, controlling for the stability of both vagal tone and parenting using path coefficients. Specifically, low cardiac vagal tone, a physiological index of emotion dysregulation and a correlate of social wariness (Rubin et al., 1997), predicted maternal engagement in restrictive parenting practices. Conversely, higher cardiac vagal tone, an index of emotion regulation, predicted more supportive parenting by mothers. In addition, not only did cardiac vagal tone predict parental behaviour, it also served to moderate the stability of parenting styles at child ages 2 and 4 years. Thus, restrictive parenting was stable in early childhood, but only for

those children who were highly or modestly emotionally dysregulated. In sum, children with physiological markers of anxiety seem to elicit more restrictive and overcontrolling parenting later in development, pointing to child effects.

Consistent with earlier discussions, the findings described above suggest that children who are socially anxious and withdrawn seem to have mothers, and perhaps also fathers, who can become increasingly overinvolved and overcontrolling of them. Such child-rearing reactions, however, are only likely to exacerbate a child's sense of felt insecurity. Thus, it becomes apparent that parents of socially withdrawn children may well become overly sensitized to their own child's social and emotional characteristics, with such sensitivity leading to well-intended parental overcontrol and over-involvement.

Moderators of Parent and Child Effects

These few longitudinal studies suggest that children's early characteristics are associated predictively with subsequent parenting and that parenting is associated predictively with subsequent internalizing problems in children. Although studies have found evidence for both parent and child effects, no study to date has found both types of effects within the same sample of young children and parents. Thus, true bidirectional effects between young children's anxiety and parenting have yet to be supported. This lack of significant bidirectional effects could be due to possible moderating variables. Researchers have concentrated on documenting direct associations between parent and child characteristics. It is possible that meaningful relations between parenting and children's early anxiety are masked by potential moderating effects. Perhaps parental influences on young children or young children's influence on their parents are different depending on certain characteristics of either agent such as age, sex, or other qualities.

Age. The diagnosis and classification of anxiety disorders in children is a relatively new endeavour (Zahn-Waxler et al., 2000). The study of internalizing disorders in children and adolescents originally was based on application of adult models to earlier periods of development. However, with the advent of a developmental psychopathology perspective (Zahn-Waxler et al., 2000), there has been an increase in the use of longitudinal and cross-sectional research designs to provide information about adaptive and maladaptive functioning in childhood and adolescence. To date, however, there is very limited research examining how parenting differs as a function of the young child's age. The attitude reflected by this literature appears to be that risk factors are risk factors regardless of the child's age (Zahn-Waxler et al., 2000). In addition, the discussions of stability of childhood problems, such as internalizing problems, do not cover whether the stability of these problems changes with age.

It is possible that certain parent practices would have differing effects on children at different developmental stages, such as with infants and toddlers versus preschoolers. For example, providing appropriate protection is an essential component of effective parenting, especially for very young children (Goldberg, Grusec, & Jenkins, 1999). Parental protection contributes to infants' and toddlers' felt security and development of secure attachment relationships, such that protection may indirectly promote exploration and very young children's developing competence (Bretherton, Golby, & Cho, 1997). Older children, however, require more independence and autonomy, thus if parental protection were maintained at its earlier levels it could confer danger and dependence rather than safety and confidence (Grusec & Davidov, 2007). The potential benefits of parental protection may be developmentally limited, such that the links between parents'

over-protective parenting and children's internalizing problems might become more robust beyond the toddler years (Barber, 2002). In other words, protective parenting could predict to internalizing problems more strongly for preschoolers than toddlers. Although some of the studies reviewed controlled for age in their analyses (e.g., Rubin et al., 1999), none of them examined age as a possible moderating variable. More research examining age as a moderator in these relations of influence is clearly warranted.

Sex. Although young girls exhibit far fewer externalizing problems than boys, clear sex differences in internalizing problems are not evident until adolescence when being female becomes the strongest risk factor for internalizing problems (Zahn-Waxler et al., 2000). However, girls are more prone to early fearfulness and worry than boys (Silverman, LaGreca, & Wasserstein, 1995), even normatively, and they are somewhat more likely to be shy and inhibited. Differential treatment of boys and girls may create conditions that predispose females more often than males to anxiety. Girls are more likely than boys to be socialized in ways that interfere with self-actualization (i.e. to be dependent, compliant, and unassertive; Hops, 1995; Kavanagh & Hops, 1994). From a young age, girls are perceived as being more fragile and dependent and are therefore more protected and socialized to be dependent on interpersonal relationships (Gurian, 1987; Hill & Lynch, 1983). Parents more often discourage exploration of the physical environment in girls whereas they are more likely to foster autonomy in their boys (Zahn-Waxler et al., 2000). Parents also show more physical affection to daughters than sons, in ways that are likely to foster interpersonal closeness, and girls are also more likely to be reinforced for shyness and dependency which may increase females' anxiety and uncertainty (Leaper, 2002; Simpson & Stevenson-Hinde, 1985; Zahn-Waxler et al.,

2000). In sum, parents seem to be more accepting of anxious characteristics in girls and respond to them in a way that maintains these anxious difficulties, such as with more overprotection (Leaper, 2002; Simpson & Stevenson-Hinde, 1985; Zahn-Waxler et al., 2000).

Although these findings point to mean differences in the typical parental socialization experiences between boys and girls, it is also possible that the relations between children's internalizing problems and parenting could differ for boys and girls. Only one of the studies previously reviewed for child and parent effects examined whether such sex differences existed. Hastings and Rubin (1999) found that mothers of wary female toddlers were less likely to report concern for achieving empathic/relational goals for daughters, but this was not true for mothers of wary male toddlers. In addition, more protective mothers were found to respond to daughters' withdrawal with more support, whereas this was not the case for mothers of boys. Having found this, the implications are that child effects would be stronger for girls than for boys.

Other researchers (e.g. Rubin et al., 1999) have examined sex differences on ratings of shyness and parenting, but not whether sex was associated with the relations between shyness and parenting. As with children's age, it is possible that sex could moderate the relations between the two variables even if the average levels of the variables do not differ for boys and girls. Clearly more research examining sex as a moderator in these relations of influence is warranted.

Parent or Child Characteristics. Child and parent effects might also be moderated by the child or parent's initial levels on a given variable. In other words, it is possible that parenting could affect the development of internalizing problems over time

differently depending on whether children initially had more or fewer internalizing problems. Similarly, it is possible that children's internalizing problems could affect the development of parenting over time differently depending on parents' initial level of parenting.

There is some evidence to suggest that children's initial level of anxious characteristics moderates the stability of parenting over time. Kennedy and colleagues (2004), for example, examined the possible moderating factors of initial child vagal tone, and initial parent supportive, restrictive, and overprotective socialization, on the other agent's variable over time. Children's vagal tone was found to moderate the stability of restrictive parenting over time. In other words, although mothers who reported more restrictive parenting when their children were 2 years old also reported more restrictive parenting when their children were 4 years old, this effect was significant only for those toddlers who had been highly or modestly emotionally dysregulated.

Similarly, initial levels of parenting have been found to moderate the stability of children's anxious characteristics over time. Rubin and colleagues (2002) found that only children of highly critical or highly protective mothers showed stable social reticence from 2 to 4 years (Rubin et al., 2002). Therefore, in studies on bidirectional effects between children and parenting, it is important to examine both agents' characteristics at the initial time point as possible moderating variables in these relations over time.

Bidirectional Effects

In sum, there is evidence to suggest that parents are making contributions to their children's early anxiety and there is also some evidence to suggest that children are

making contributions to parenting. The studies reviewed provide support for the contention that, once an inhibited behavioural style is established, parents may sense the child's anxieties or insecurities, and – possibly unintentionally – limit the child's mastery of the environment through increasing authoritarian direction and over-protection. These parenting actions may be undertaken through a legitimate desire to prevent occurrences of child distress when confronted by socially challenging events. However, an unfortunate consequence of constraining children and providing unnecessary assistance is that their opportunities to develop self-regulatory abilities, to learn social skills, and build self-confidence are also limited, which in turn reinforces withdrawn behaviours.

This model presumes pathways of bidirectional influence between parents and children. Some researchers have appropriately tested for the presence of bidirectionality, with multiple measures of parent and child variables within a longitudinal design (e.g., Aunola & Nurmi, 2005; Kennedy et al., 2004; Rubin et al., 1999). None of them, however, found evidence for bidirectional socialization. Rather, they found evidence solely for either parent effects or child effects. Thus far, therefore, it would appear that even in studies with a longitudinal design, suitable measures, and appropriate tests of direction of effect, none have found evidence of bidirectional effects of influence involving preschool age children's internalizing problems or anxiety difficulties.

Research on bidirectionality with older children, such as in middle childhood or adolescence, has been more common (Eisenberg, Fabes, Shepard, Guthrie, Murphy, & Reiser, 1999; Kerr & Stattin, 2003; Lengua & Kovacs, 2005). For example, in a study examining the longitudinal associations between temperament (fearfulness, irritability, positive emotionality, self-regulation) in children aged 8 to 11 years and maternal

parenting (acceptance, involvement, inconsistent discipline), bidirectional relations were revealed (Lengua & Kovacs, 2005). Inconsistent discipline was found to predict an increase in irritability in children, and child irritability was found to predict inconsistent discipline by mothers, one year later, after controlling for prior levels of temperament and parenting. In addition, in Kerr and Stattin's (2003) review of the parental monitoring and the parenting styles literatures, they concluded that past studies have shown that parents' direct control of adolescents' activities and associations works protectively to keep youths away from bad friends and out of trouble. In their own studies, however, the authors found strong evidence that the direction of effects is the opposite, that parents' behaviours are reactions to the youth's problem behaviour rather than causes of it. Finally, in a study examining the relations between self-reported parental reactions to children's negative emotions and children's socially appropriate/problem behaviour and negative emotionality, evidence was consistent with the conclusion that relations between children's externalizing (and not internalizing) emotion and parental punitive reactions to children's negative emotions are bidirectional (Eisenberg et al., 1999). Thus, although some research has demonstrated bidirectional relations between parenting and children's externalizing problems, bidirectional evidence for internalizing problems is lacking.

Methodological Considerations and Limitations of Past Research

Design and analysis. The majority of studies on children's internalizing problems and parenting are static and correlational in design. They cannot demonstrate growth, change, or probable influence. In order to examine those types of questions, longitudinal designs and path analytic techniques would provide more robust tests. Two studies that

used path analyses (Kennedy et al., 2004; Rubin et al., 1999) provided evidence of child effects on parenting, over and above the stability of parenting.

Measurement. Past studies in this area have varied greatly in which aspects of children's anxious characteristics are examined. It is difficult to compare studies that utilize widely different definitions of inhibition and anxiety, especially given that sometimes these terms are used interchangeably. In addition, the measures of children's characteristics vary just as greatly, including self-report, parent-report, teacher-report, level of physiological arousal and observed behaviour. To date, longitudinal studies have either not examined young children's internalizing problems directly, or have failed to find evidence of significant socialization effects using internalizing problems (Rubin et al., 2002). In addition, most of these studies have focused on normative samples and not risk samples, where bidirectional influences might be expected to be stronger (Sameroff, Gutman, & Peck, 2003).

Similarly, research to date has not been consistent with regard to which aspects of parenting were focused on, or how they were measured. Researchers have focused on a wide array of behaviours and attitudes including such concepts as authoritarianism, child-centeredness, intrusiveness, possessiveness, strictness, derisiveness, criticism, and protectiveness, to name a few. This vast collection of terms and labels produces difficulty in comparing between studies or in drawing systematic conclusions about the childrearing factors involved in a given child characteristic. Some studies have examined aspects of control, intrusiveness, and protectiveness without necessarily trying to conceptualize them within more traditional parenting theories (e.g. Rubin et al., 1997). Finally, as with measures of children's characteristics, there has been great variability in

how these childrearing factors have been measured, including observations, self-report, child-report, and retrospective accounts.

Fathers. Within this small set of studies, even fewer have examined fathers' roles in socialization. The majority of the research that has contributed to our understanding of parenting and children's early anxiety has focused exclusively on the roles of mothers in children's development (e.g., Hastings & Rubin, 1999; Kennedy et al., 2004; Lengua & Kovacs, 2005; Rubin et al., 2002). Despite acknowledging the importance of examining paternal contributions to development, few researchers have done so (e.g., Park et al., 1997; Rubin et al., 1999). In the two studies reviewed where fathers were included, the parent and child effects that emerged held true for both mothers' and fathers' parenting. Park and colleagues (1997) found that boys' shyness was related to paternal as well as maternal decreased intrusiveness and increased sensitivity and affection. Rubin and colleagues (1999), on the other hand, found that children's rated shyness was likely to predict less maternal and paternal encouragement of independence in their children 2 years later.

Goals of the Current Project

The current project was designed to address all of these issues. Three parenting dimensions and an index of children's anxious characteristics were examined in relation to each other over time. More specifically, strict authoritarian control, protective control, and authoritative parenting were examined as aspects of parenting associated with young children's development. Children's internalizing problems were examined as possible determinants and outcomes of these aspects of parenting. By examining the relations between these aspects of parenting and children's internalizing problems, it was expected

that the current project would extend previous findings of parent and child effects (e.g. Park et al., 1997; Rubin 1999; 2002).

In this work, potential moderating variables of parent and child effects were also examined. For example, parents might react to the problems of sons and daughters differently, or younger compared to older preschoolers might respond to certain parenting styles differently. Therefore, the child variables of age and sex were examined as possible moderators in the tests of socialization (the diagonal paths in the models represented by Figure 1). In addition, children's internalizing problems could moderate the contribution of parenting to the stability or change of children's problems, or vice versa, as was demonstrated with inhibition, reticence, and vagal tone by Rubin and colleagues (2002; Kennedy et al., 2004). Therefore, both children's problems and parenting were examined as possible moderators in these relationships.

Hypotheses

Seven main hypotheses were proposed for the current study:

- 1) Replication of previous correlational research was expected, such that children with more internalizing problems would have parents who rated themselves as higher on authoritarian and protective parenting. In addition, children with fewer internalizing problems were expected to have parents who rated themselves as higher on authoritative parenting. Finally, all variables were expected to demonstrate stability over time.
- 2) Bidirectional influences were expected. Authoritarian and protective control were expected to predict increasing or more stable internalizing problems (IPs). In addition, children's early internalizing problems were expected to predict

increasing or more stable authoritarian and protective control in parents (see Figure 4). Conversely, authoritative parenting was expected to predict decreasing internalizing problems. In addition, children's internalizing problems were expected to predict decreasing authoritative parenting. These hypotheses were predicted for both mothers and fathers.

- 3) These hypothesized parent effects were expected to remain when extended over a longer time-course. It was expected that for mothers and fathers, initially high levels of authoritarian and protective parenting, would predict an increasing, or more stable, slope of children's internalizing problems over time. Initially high levels of authoritative parenting, on the other hand, would predict a decreasing, or less stable, slope of problems over time.
- 4) Several hypotheses were posited for tests of moderation effects.
 - a. *Age*: As an exploratory hypothesis, age was expected to moderate parent effects, such that initial protective parenting would predict to more internalizing problems in older but not younger children. Age was not expected to moderate child effects.
 - b. *Sex*: As another exploratory hypothesis, sex was expected to moderate child effects, such that earlier internalizing problems would predict to more protective parenting in girls only. Sex was not expected to moderate parent effects.
 - c. *Parenting*: Parental authoritarian and protective parenting were expected to moderate the stability of children's level of internalizing problems. Children's internalizing problems were expected to be more stable if their

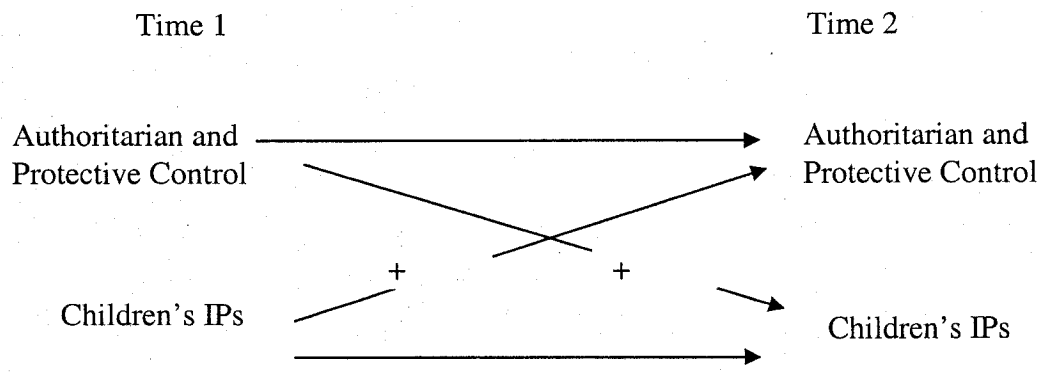


Figure 4. Proposed model

parents were initially more authoritarian or protective.

- d. *Internalizing problems*: Children's internalizing problems were expected to moderate the stability of parental authoritarian and protective parenting. Authoritarian and protective parenting were expected to be more stable if children initially had more internalizing problems.

Method

Participants

Participants were recruited through both open invitation and targeted advertisements in local French and English newspapers, and posters in daycares and preschools in the Montreal area. Targeted recruitment strategies were used to attract children who were more and less likely to have anxiety problems (e.g. "Is your child quiet and cautious?", "Is your child easy-going and upbeat?"). Parents who responded to the advertisements were called back and given further information about the study, and, if interested, were administered screening instruments over the telephone to determine if their children met criteria for the study. Families that expressed an interest in the study were first screened on the telephone. Children who were not fluent in either French or English, who would not be attending daycare or preschool during the entire academic year, or who suffered from any disability or handicap were excluded from the study. Of the families screened for this study ($n = 188$), 21 were excluded from the study for any of the above reasons, and 34 families dropped out of the study for their own reasons (e.g. moved away, child no longer in daycare, family no longer interested, etc.). Of the 188 families who responded to the advertisements, 133 families participated in the study.

Thirty families were recruited in the summer of 2001, 62 families were recruited in the summer of 2002, and 41 families were recruited in the summer of 2003.

Due to the principal aim of the current study being the examination of the relations between parenting and children's internalizing difficulties over time, only families who provided measures of their parenting and their children's characteristics at two time points were included in the current study. Of the total 133 participants, useable, longitudinal data for the measures of the current study was obtained for 87 mothers and 55 fathers. For two of these 55 fathers, data were not obtained for mothers. Thus, in total, data from 89 families were included in the present analyses. Attrition analyses were run on all Time 1 variables (age, sex, internalizing problems, and all measures of maternal and paternal parenting) to see if these 89 families differed significantly from the remaining 44 families for whom complete longitudinal data for bidirectional analyses was not available. From 10 tests, one significant difference emerged. Mothers included in the current analyses reported being less authoritarian at Time 1 ($M = 2.98, SD = .45$) than mothers who were not included in the current analyses ($M = 3.19, SD = .41$), $t(131) = 2.07, p < .05$.

The 38 male and 51 female children in this sample were already enrolled in daycare or preschool at the time of recruitment, or started daycare or preschool by September of the recruitment year. Mean age for the children of this sample was 3.42 years ($SD = .74$) with a range from 2.1 and 4.9 years at the time of first contact. In terms of child language, 61 of the children's first language was English, 23 children spoke French predominately, and five had a first language other than French or English but

were also able to speak either French or English. Seventy-one of the children were Caucasian.

Of the 88 mothers, the mean age was 35.51 years ($SD = 4.99$) with a range from 19 to 50, and average number of years of education was 15.35 ($SD = 2.16$), equivalent to a completed college (CEGEP) degree or some undergraduate education. Fifty-one of the mothers in this sample spoke English, 23 spoke French, and 15 spoke a language other than English or French as a first language. Seventy-three of the mothers were Caucasian, six were Asian/Indian, three were Middle-eastern/North African, three were Hispanic, and four were of an ethnic background other than the 4 listed above.

Of the 55 fathers, the mean age was 38.39 years ($SD = 5.30$) with a range of 25 to 52, and average number of years of education was 15.67 ($SD = 2.64$). Twenty-six of the fathers in this sample spoke English, 16 spoke French, and 13 spoke a language other than English or French as a first language. Fifty of the fathers were Caucasian, one was Black, three were Asian/Indian, and one was Middle Eastern/North African. Of the 89 families, nine were single-parent families and 80 were two-parent families. Total annual family income before taxes ranged from less than \$20, 000 to over \$200, 000 ($Mode = \$80,000 - \$90,000$).

Measures

Overview

The sample included children ranging from normative to clinical levels in their internalizing problems. All mothers reported twice, and 74 mothers reported three times, on children's internalizing problems using the Child Behavior Check List (CBCL; Achenbach & Rescorla, 2000). In addition, both mothers and fathers reported twice on

their parenting using the Child Rearing Practices Report, or Block Q-sort (CRPR; Block, 1981). From this Q-sort measure, scores were derived for Authoritarian Control, Protective Control, and Authoritative parenting.

Eighty-nine mothers completed the CBCL at Times 1 and 2, and 87 completed the Q-sort at Times 1 and 2. In addition, 74 of these 87 mothers provided a third measure of children's internalizing problems on the CBCL at Time 3. Of the 89 children for which we have the CBCL, 55 of their fathers completed the Q-sort at Times 1 and 2. Finally of the 74 children with three CBCL scores, 65 of their fathers also provided Q-sorts at Time 1. A summary of the timeline for the current study is presented in Table 1.

The Child Behaviour Checklist (CBCL; Achenbach & Rescorla, 2000; Appendix A).

In the current study, part or all of the CBCL was administered three times: (a) the initial screening; (b) a first follow-up 7-10 months later, and (c) a second follow-up 20-22 months after the initial screening. For the initial screening, a shortened version of the original CBCL was used. The shortened CBCL included 40 items from the original scale (which contains 100 items), with 13 positively worded items that were added as fillers. These 40 items represented the broad-band Internalizing Problems scale of the CBCL exclusively. The full CBCL was administered for the two follow-ups. Responses on the CBCL range from not true (0), somewhat or sometimes true (1), to very or often true (2). Age- and sex-normed T-scores for the broad-band internalizing problems score were computed from the raw scores. The CBCL has high test-retest reliability, ranging from .68 to .87 on the syndrome profiles and .90 on the internalizing dimension (Achenbach & Rescorla, 2000). In addition, it has moderate cross-informant agreement with reliability coefficients (Pearson correlations) of .59 on the internalizing dimension, and ranging

Table 1

Timeline Summary

T1 (Spring/Summer)	T2 (T1 + 7-12 mths)	T3 (T1 + 20-23 mths)
Child IPs (n=87)	Child IPs (n=87)	Child IPs (n=74)
Parenting Mothers n=87 Fathers n= 55	Parenting Mothers n=87 Fathers n=55	

from .48 to .66 on the syndrome profiles. The CBCL has also been demonstrated to have high content validity, which has been supported by the extensive process by which items were selected and refined. In addition, the CBCL has demonstrated high criterion validity, which is supported by significant discrimination between referred and nonreferred children. Finally, the CBCL has demonstrated strong construct validity, supported by concurrent and predictive associations with a variety of other measures. For example, a correlation of .62 was found between the Infant-Toddler Social and Emotional Assessment (ITSEA) Internalizing scale and the CBCL Internalizing scale ($N = 97, p < .01$) (Briggs-Gowan & Carter, 1998). Alpha coefficients for all measures at all time points are presented in Table 2.

The Child Rearing Practices Report (CRPR; Block, 1981; Appendix B).

Both parents completed the CRPR twice, approximately 12 months apart. The CRPR uses a 91 item Q-sort methodology, with 7 categories ranging from “most undescriptive” (1) to “most descriptive” (7) to measure parenting style, attitudes, beliefs and behaviours. This measure has been well validated, and the 8 month test-retest average correlation is $r = .71$ (Block, 1981). The CRPR can be used to measure several aspects of child-rearing including components of authoritarian and authoritative styles, and other approaches to parenting. Based on prior research, items from the CRPR were grouped together to form an authoritative style score, an authoritarian style score (Kochanska, Kuczynski, & Radke-Yarrow, 1989; Hastings & Rubin, 1999), and a protective over-control score (Chen et al., 1998; Hastings & Rubin, 1999). The authoritative factor included the following fifteen items: 1, 6, 11, 18, 22, 26, 34, 38, 40, 41, 42, 51, 52, 58, and 67. Although item 75 was originally placed in the authoritative

Table 2

Coefficient Alphas for all Measures

Variables	Time 1	Time 2	Time 3
CBCL Internalizing Problems	.84	.88	.81
Mother Authoritarian Control	.40	.40	---
Mother Protective Control	.42	.43	---
Mother Authoritative	.50	.60	---
Father Authoritarian Control	.47	.26	---
Father Protective Control	.30	.28	---
Father Authoritative	.64	.49	---

factor by Kochanska and colleagues (1989), Rubin and colleagues (1999) used the reversed 75 item for the protective factor. A preliminary examination of the factors and alphas in the current study also supported placing item 75 (reversed) in the protective factor, thus removing it from the original authoritative factor as proposed by Kochanska and colleagues (1989). The authoritarian factor included the following twelve items: 14, 15, 27, 29, 31, 43, 54, 55, 64, 70, 76, and 83. The protective over-control factor reflected parents' concerns and restriction of children's activity, and included the following six items: 4, 12, 28, 68, 75 reversed, and 80¹.

Procedure

Screening

The first part of the study consisted of a telephone screening. Screenings took place between April and July in each of three consecutive years. To assess children's internalizing problems, a portion of the CBCL was administered to the mothers. The mean internalizing problems T-score on the screening CBCL was 54.29 ($SD = 10.42$) with a range from 29 to 76.

Home visit

Parent Report. If the family met the criteria for the study and agreed to participate, a visit to their home was scheduled between June and August, one to four months after the telephone screening. Families were visited in their homes by two researchers; one designated the Parent Examiner (PE) and the other the Child Examiner (CE), for a visit that lasted approximately three hours. Parents provided written consent for themselves and their children (Appendix C); children also provided assent. In two parent families, each parent was asked to complete a series of tasks with their child, while

being videotaped, while the other parent was administered the CRPR. Parents then switched roles. The order of observing mothers or fathers first was counterbalanced across families. In single parent homes, the parent-child interactions were completed prior to the CRPR. Upon completion of the home visit, children and parents were remunerated for their participation. Each child was given one gift worth a value of \$10, mothers were paid \$50 and fathers were paid \$25. The different amounts reflected differences in what was required of each parent for the larger study.

The CRPR was completed with each parent individually, and the administration was directed by a trained research assistant. Parents were led through a series of steps (as devised by Block, 1981) to sort the 91 cards into 7 piles of 13 cards each (see Appendix D for the administration script). Parents began this process by sorting cards into 3 piles (generally true, not sure, generally not true), and then further divided these into 7 piles: most descriptive; quite descriptive; fairly descriptive; neither descriptive nor undescriptive; fairly undescriptive; quite undescriptive; and most undescriptive. Upon return from the home visit, the research assistant sorted through the cards and scored the Q-Sort (most undescriptive = 1; most descriptive = 7).

Parent-Child Interactions. The other part of the home visit consisted of each parent completing a series of tasks with their child including telling a story, playing with puppets, working on a puzzle, finishing story stems involving dolls, doing origami and then cleaning up all of the materials. Three of these tasks: puzzle, doll stories and clean-up, were the focus of the current study. Parent-child interactions were obtained for all 89 families, with complete videotaped data available for 82 mothers and 51 fathers.

The puzzle task, which lasted approximately 5 minutes, was the second of six parent-child interactions. Parents were instructed to give the child as much help as they believed he/she needed to complete the task (see Appendix E for script). For this task, four different puzzles were used, according to their level of difficulty relative to the age of the child. Children aged 2 to 3 years were given two puzzles (boat or train) designed for 4- to 5-year olds, and children aged 4 to 5 years were given two puzzles (dolphins or sun-moon-stars) designed for 6- to 7-year olds (each child completed a different puzzle with their mother and their father.) Puzzles were selected in order for the task to be a challenge for the child, such that children would need help from their parents.

The sensitivity of parents' assistance was assessed using a coding scheme adapted from Rubin and McKinnon (1991; see Appendix F). Videotaped parent-child puzzle-solving interactions were coded in 15-second segments. Children's needs for parental assistance were coded, as were parental responses to children's needs. There were four possible parental response codes: not responding/noticing, override/irrelevant, intrusive, and sensitive.

Parents were coded as not responding/noticing when they failed to detect their child's need, or ignored a perceived need. An override/irrelevant code was given when parental responses were unrelated to children's expressed needs. When parents' responses were dominating and wrested control of the task from the child, they were coded as intrusive. Finally, when parents' responses were appropriate and provided support for the child's efforts to solve the task, they were coded as sensitive. This latter code was the focus of current analyses.

Next, for the doll story task, parents and children were given dolls that represented themselves, matched for sex. Each doll-story involved a potentially challenging social situation in which it would be normal or expected for the child to interact with the peer(s). Parent-child dyads were first presented with a doll-story involving a group of mostly known peers and then with one involving a single, unknown peer. Thus, each dyad completed two doll stories. For the Child Examiner (CE) script and exact doll-story stems, see Appendix E. The CE began to narrate the story, establishing the context for the child to encounter the peer(s), and then instructed the dyad to finish the story. If three minutes passed and the child had not joined in play with the peer(s), the examiner asked the parent "how would you try to get your child to play with the other child/children?" If the parent did not say or do anything to get the child to interact with the peer(s), the examiner ended the story. Once the child interacted with the peer(s), or after the story had continued for 5 minutes, the examiner ended the story.

Videotapes of the interactions were coded using the doll-story coding scheme (Appendix G), a 21-item coding scheme designed to assess various types of parent strategies and qualities, which was adapted from Colwell, Mize, Pettit, and Laird (2002), Hastings and Rubin (1999), and Rubin and Mills (1990). Videotapes were coded until the child's first interaction with the peer(s). Coders first rated children's reluctance to engage with peers (not at all, somewhat, very) and, if children were rated as somewhat or very reluctant, parents were then rated on whether they were accepting or rejecting of child reluctance (not at all, somewhat, very). Coders then indicated the frequency of occurrence of the 18 different parental strategies: suggests behaviour, encourage child to come up with own ideas, familiarization, tells child to interact with peers, asks child why

won't join peers, parent and child interact with peers, parent makes peers initiate interaction, parent takes over the child, parent takes role of other adult, parent models social engagement, supports child interaction with other adult, supports parent becoming playmate for child, supports non-social behaviour, reinforces social behaviour, reasoning/explanation, introduces social dilemma, describes child as shy, and critiques child. A protective parenting dimension was created by combining parent and child interact with peers, parent takes role of other adult, supports child interaction with other adult, and supports parent becoming playmate for child. In addition, a not protective factor was created combining familiarize, ask why won't join peers, and makes peers initiate. The protective factor used for dolls stories was created by subtracting the not protective factor from the protective factor.

For the final task, the CE asked the parent to get their child to clean up the play area (see Appendix E for script). Following each of the preceding parent-child activities, the objects for the tasks had been pushed aside to make room for new ones. In the clean-up task, the parent was asked to instruct the child to clean-up all the toys by placing them in the appropriate boxes. Each parent was given six minutes to get their child to clean up the area before the CE intervened to help complete the task.

Each videotaped clean-up interaction was coded for parental behaviours. Coding of parental behaviours involved ten second time samples from the beginning of the clean-up procedures until 6 minutes had elapsed or the CE intervened to help, whichever came first. Twelve different parent behaviours were coded (see Appendix H). These codes were request child's help, demand child's help, bribe/bargain, assist with object, justify/provide reason, praise/reinforce, assist with box, put object away, accept child's

non-compliance, threaten/punish, criticize/disapprove, and physical force. If a behaviour was observed in a ten second time sample, it was marked as present; whereas if it was not observed, it was not marked. More than one behaviour could be marked as present for each segment. This coding scheme was developed from two previous coding schemes that were used to code maternal behaviour with pre-school aged children during procedures which included clean-up (Hastings, 1996; Rubin & McKinnon, 1991). An authoritarian parenting style was derived from these observations which included Threaten/Punish, Criticize/Disapprove, and Physical Force.

Follow-up 1

Between the following February and May, approximately seven to ten months after the home visit, families came into the laboratory and mothers completed the CBCL for a second time while the children participated in a protocol not relevant to the current study. The mean internalizing problems T-score on the second administration of the CBCL was 50.08 ($SD = 11.06$) with a range from 29 to 76.

Follow-up 2

In August of the year following the home visit (12-14 months later), each parent was mailed the CRPR and asked to return the completed card sort package to the laboratory, in pre-stamped envelopes. Finally, in March of the year following the laboratory visit (10-13 months later, and 20-23 months following initial recruitment), parents were mailed the CBCL to complete as a final follow-up assessment of child functioning, and asked to return the measure to the laboratory in pre-stamped envelopes. For this Time 3 measure, the mean internalizing problems T-score on the CBCL was 47.83 ($SD = 10.11$) with a range from 29 to 68.

Reliability of Coding

Inter-rater reliability was calculated for the parental behaviours in the puzzle, dolls, and clean-up task codes. Two independent coders scored a random 20% of the videotaped interactions in order to establish inter-rater reliability. For the sensitivity code from the puzzle task, the percent agreement between the coders was 76%. For the doll-story task, intraclass correlations were computed because of the low occurrence and left-skewed distributions of most of the parenting strategies. Parents tended to use several different strategies within their interaction with their child and as such, each strategy was used overall relatively infrequently. Reliabilities ranged from .71-1.00. For the clean-up task, kappa scores for the two raters ranged from 0.67 to 1.00 for all codes except Accept Child's Non-compliance, which was not used in the current analyses.

Validity of Parent Report

In order to test the external validity of the CRPR, the correspondence between parent reports of authoritative, authoritarian, and protective parenting and observed interactions was examined. Correlations are presented in Table 3. First, reported authoritative parenting style was expected to be positively related to sensitivity from the puzzle task. Second, reported authoritarian parenting style was expected to be positively related to the authoritarian score from the clean-up task. Finally, reported protective parenting was expected to be positively related to the protective score from the doll story task. Cross-validity was found for authoritative parenting for both mothers and fathers using puzzle sensitivity. In addition, cross-validity was found for maternal authoritarian parenting using clean-up authoritarian, but not for paternal authoritarian parenting. Finally, cross-validity was found for protective parenting for mothers using doll story

Table 3

Correlations between Parent Report Measures and Observational Codes

Parent-Report Variables on CRPR	Mothers			Fathers		
	Puzzle	Doll Story	Clean- up	Puzzle	Doll Story	Clean-up
Authoritative	.25*	-.13	.05	.30*	.12	-.11
Authoritarian	-.23*	.06	.23*	-.10	.15	-.13
Control						
Protective Control	-.13	.28*	-.07	-.27*	.14	.07

protective, but not for paternal protective parenting. Fathers' protective control score was negatively correlated with their sensitivity in the puzzle task, whereas mothers' authoritarian control was negatively correlated with sensitivity. In summary, the CRPR maternal parenting dimensions were uniquely associated with the targeted observational task, showing that there was specificity to each of the three parenting dimensions.

Results

Overview of Analyses

In order to examine the hypotheses for the current study, four different series of analyses were performed. First, descriptive analyses were conducted to examine children and parents' characteristics over time. In addition, preliminary analyses were done to examine if children's sex or age was associated with differences on any of the measures. Second, as an initial examination of the relation between children's internalizing problems and parenting over time, correlations were calculated between these two variables. These correlations, however, did not provide information as to whether the variables predicted each other's development over time. Therefore, in order to test the hypotheses on directions of effect, the third set of analyses, which involved path analyses, were conducted for both mothers and fathers. Although these analyses provided a good test of bidirectionality, it is possible that other factors could mask meaningful associations over time. Therefore, several variables were examined as possible moderators of the stability or change of children's internalizing problems and parenting over time.

Finally, hierarchical linear modeling analyses (Bryk & Raudenbush, 1992) were performed to examine the hypotheses that parenting at Time 1 would predict the development (i.e. increase, decrease or stability) of children's internalizing problems over three time points. For all analyses, the alpha was set at .05. Any effects at $p > .05$ were not interpreted.

Descriptive Statistics

Descriptive analyses for all child and parenting measures at all time points are presented in Table 4. For children's internalizing problems on the CBCL, 18 children were in the clinical range of problems ($t\text{-score} \geq 64$) at Time 1, 11 children at Time 2, and 4 at Time 3. In addition, 9 children at Time 1, 10 children at Time 2, and 6 at Time 3 were in the borderline clinical range for internalizing problems ($t\text{-score} 60\text{-}63$).

To determine if the level of children's internalizing problems changed over the three time points, a one-way ANOVA was computed; this was significant, $F(2, 132) = 16.79, p < .001$. An examination of descriptive statistics showed that in general, children's internalizing problems decreased over time, but the range of scores was still quite wide. Paired t-tests were computed to identify where the significant change occurred. The t-test comparing internalizing problems at Times 1 and 2 was significant, $t = 4.46, p < .001$ whereas the t-test comparing internalizing problems at Times 2 and 3 was not significant, $t = 1.15, ns$. This finding indicated, that the children's internalizing problems decreased significantly from Time 1 to Time 2. In addition, to determine if maternal and paternal parenting changed over the first two time points, two 2x3 ANOVAS were computed, one for maternal and one for paternal parenting. Analyses revealed significant main effects for parenting types for mothers, $F(2, 172) = 420.05,$

Table 4

Means, Standard Deviations and Ranges for all Measures

Parent Variables	Mothers		Fathers	
	Time 1	Time 2	Time 1	Time 2
Authoritative	5.53 (.41)	5.45 (.43)	5.52 (.48)	5.53 (.41)
	4.53 - 6.33	4.40 - 6.27	3.80 - 6.40	4.47 - 6.27
Authoritarian Control	2.99 (.45)	3.00 (.46)	3.16 (.52)	3.10 (.45)
	2.08 - 4.25	2.08 - 4.33	2.33 - 4.75	2.08 - 3.92
Protective Control	4.05 (.81)	3.99 (.84)	4.05 (.72)	3.91 (.79)
	2.50 - 6.00	2.33 - 6.17	2.67 - 5.83	2.33 - 5.33
Child Variables	Time 1	Time 2	Time 3	
Internalizing Problems	54.24 (10.32)	49.76 (11.18)	47.94 (10.15)	
	29 - 76	29 - 76	29 - 68	

Note. Means are presented first, standard deviations are presented in parentheses and ranges are presented below.

$p < .001$, and for fathers, $F(2, 108) = 287.45$, $p < .001$, indicating that parenting types were significantly different from each other. There were no significant differences in the main effect of time or of time by parenting interactions for mothers or fathers, all $F < 2.27$. An examination of descriptive statistics showed that overall parents' scores for the parenting measures remained similar across the different time points.

Age and Sex of Children

Preliminary analyses were conducted to examine if children's age or sex were associated with differences on any of the measures². No correlations between age and maternal parenting, between age and paternal parenting, or between age and children's internalizing problems were significant at any of the time points, all $|r| < .24$. A $2 \times 2 \times 2 \times 3$ mixed-design ANOVA was conducted to see if boys and girls differed significantly on any of parenting measures. Sex of child was entered as a between-subjects variable and sex of parent, time, and parenting measures were entered as within-subjects variables. Only the main effects of parenting types was significant, $F(2, 102) = 391.30$, $p < .001$. None of the other main effects or any of the interactions involving children's sex was significant, all $F < 3.26$, indicating that there were no significant differences in either maternal or paternal reported parenting for boys or girls. Finally, a 3×2 ANOVA was conducted to see if boys and girls differed significantly in their level of internalizing problems over time. The main effect of time was significant, $F(2, 130) = 17.32$, $p < .001$. However, the main effect of child sex and the time by child sex interaction was not significant, all $F < .80$, indicating that there were no significant differences in internalizing problems scores for boys or girls over time.

First-Order Correlations

As an initial examination of the relations between children's characteristics and parent's parenting, correlations between all child and parent variables at Times 1 and 2 were conducted (see Tables 5 and 6 for mothers and fathers, respectively). Results indicated significant stability of all parent and child variables. Thus, parents who were highly authoritative, authoritarian, or protective at Time 1 were also highly authoritative, authoritarian, or protective at Time 2. In addition, children who were high on internalizing problems at Time 1 were also high on internalizing problems at Time 2.

In addition, significant associations within the parent measures were found. Mothers who were high on authoritative parenting were found to be low on both authoritarian at Time 1, $r = -.31, p < .01$, and at Time 2, $r = -.24, p < .05$, and protective parenting at Time 1, $r = -.36, p < .001$, and at Time 2, $r = -.33, p < .01$. Similarly, fathers who were high on authoritative parenting were found to be low on authoritarian at Time 1, $r = -.47, p < .001$, and protective parenting at Time 2, $r = -.43, p < .001$. Only one of the within-time correlations between internalizing problems and parenting approached significance (internalizing problems at paternal protective parenting at Time 1, $r = .23, p < .10$). Taken together, there were no consistent associations between child and parent variables at either time point.

In terms of an initial examination of cross-time associations between parenting and children's characteristics, no significant correlations emerged. No significant associations were found between children's internalizing problems and parenting styles for either mothers or fathers.

Table 5

Correlations between all Time 1, Time 2, and Time 3 Measures for Mothers (n = 89)

Variables	Time 1				Time 2			
	1	2	3	4	1	2	3	4
Time 1								
1. CBCL IP	--	-.11	-.04	.11	.62***	-.16	-.08	.08
2. Auth'ive		--	-.31**	-.36***	-.06	.56***	-.27***	-.38***
3. Auth'ian			--	-.01	.05	-.27**	.62***	.14
4. Protect				--	.01	-.20 [†]	.01	.61***
Time 2								
1. CBCL IP	--	--	--	--	--	-.04	-.14	.04
2. Auth'ive	--	--	--	--		--	-.24*	-.33**
3. Auth'ian	--	--	--	--			--	.03
4. Protect	--	--	--	--				--

Note. IP = Internalizing Problems, Auth'ive = Authoritative, Auth'ian = Authoritarian

Control, Protect = Protective Control.

[†] $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 6

Correlations between all Time 1, Time 2, and Time 3 Measures for Fathers (n = 55)

Variables	Time 1				Time 2			
	1	2	3	4	1	2	3	4
Time 1								
1. CBCL IP	--	-.01	-.04	.23 [†]	.62***	-.06	-.06	.07
2. Auth'ive		--	-.47***	-.26 [†]	.01	.52***	-.16	-.33*
3. Auth'ian			--	.02	.08	-.26 [†]	.55***	.14
4. Protect				--	.11	-.21	-.09	.37**
Time 2								
1. CBCL IP	--	--	--	--	--	-.04	-.02	.12
2. Auth'ive	--	--	--	--		--	-.25 [†]	-.43***
3. Auth'ian	--	--	--	--			--	-.00
4. Protect	--	--	--	--				--

Note. IP = Internalizing Problems, Auth'ive = Authoritative, Auth'ian = Authoritarian Control, Protect = Protective Control.

[†] $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Path Analyses

Overview

Main effects models. Given the attrition rates, there was not sufficient power to test the hypotheses using Structural Equation Modeling. Therefore, to test directions of effect, hierarchical regression analyses were used in order to compute path coefficients, according to the technique described by Rogosa (1980) and as used by Rubin and colleagues (1999; Kennedy et al., 2004). This procedure is conducted by taking the later assessment of one variable and regressing it onto the earlier assessments of itself and another predictor, as well as the concurrent measure of the predictor, and using the resulting standardized betas as path coefficients. This procedure was first performed to look at evidence for bidirectional socialization between mothers and children from Time 1 to Time 2 for each of the three parenting styles and for children's internalizing problems. The same procedure was then conducted for fathers, for a total of 6 models. In order to obtain the path coefficients for each path of the model, three regression analyses had to be computed for each model. First, in order to test for a parent effect, the Time 2 internalizing problems score was entered as the dependent variable. For this regression analysis, Time 1 internalizing problems was entered in step 1, Time 1 parenting on step 2, and Time 2 parenting in step 3. Second, in order to test for a child effect, the Time 2 parenting score was entered as the dependent variable. For this regression analysis, Time 1 parenting was entered in step 1, Time 1 internalizing problems in step 2, and Time 2 internalizing problems in step 3. Finally, in order to obtain the path coefficient for Time 1 variables, the Time 1 internalizing problems score was entered as the dependent variable. For this regression, Time 2 internalizing problems

was entered in step 1, Time 2 parenting in step 2, and Time 1 parenting in step 3. In each case, the final beta of the predictor is equivalent to the path coefficient for the model. Beta's reported herein are those at the final step and not at the point of entry, as they must take into account all variables entered into the regression model.

The regression tables for all path analyses can be found in Appendix I. In total, 18 regression analyses were conducted (3 analyses per model X 6 models). Results revealed one significant main effect, a parent effect.

Tests of moderation effects. Although preliminary analyses revealed that, in general, children's age and sex were not directly associated with the child or parenting measures, they could act as moderators in the relations between the agents. Therefore, the child variables of age and sex were examined as possible moderators in the tests of socialization. In addition, it is possible that parenting could affect the development of internalizing problems differently depending on whether children initially had more or fewer internalizing problems. Similarly, it is possible that children's internalizing problems could affect the development of parenting differently depending on whether parents initially rated themselves a high or low on the various parenting types. Therefore, children's internalizing problems at Time 1 as well as parenting styles at Time 1 were also examined as possible moderators in the tests of socialization. In other words, moderation analyses were computed for (a) child age, (b) child sex, and (c) initial levels of children's internalizing problems, in the tests of parent effects, and for (a) child age, (b) child sex, and (c) parenting styles, in the tests of child effects (see Kennedy et al., 2004 as an example). As recommended by Aiken and West (1991), all predictor

variables were centered prior to computing interaction terms, and centered variables were entered into the regression analyses.

First, to run these analyses with either age, sex, or internalizing problems at Time 1 as possible moderating variables for parent effects, Time 1 internalizing problems was entered first in the regressions, the initial level of parenting was entered on the second step, children's age or sex was entered on the third step for the moderation analyses by age or sex, the interaction between age, sex, or internalizing problems and parenting at Time 1 was entered fourth, and the Time 2 parenting measure was entered fifth. Time 2 internalizing problems was entered as the dependent variable and separate regressions were computed for authoritative, authoritarian, and protective parenting.

Second, in the examination of age, sex, or parenting at Time 1 as possible moderating variables for child effects, Time 1 parenting was entered first in the regressions, the initial level of children's internalizing problems was entered on the second step, children's age or sex was entered on the third step for the moderation analyses by age or sex, the interaction of child age, sex, or parenting at Time 1 with children's internalizing problems was entered fourth, and the Time 2 internalizing problems was entered fifth. Time 2 authoritative, authoritarian, and protective parenting were entered as the dependent variables in separate regression analyses.

The regression tables for all moderation analyses can be found in Appendix I. Appendix I.1 contains the tests for moderation of parent effects and Appendix I.2 contains the tests for moderation of child effects. In total, 36 regressions were conducted: 18 for maternal parenting and 18 for paternal parenting (3 parenting dimensions X 3 moderating variables X 2 regressions for parent and child effects). In total, results

revealed five significant moderation effects at $p < .05$. Significant interactions were examined by regressing the significant predictor onto the Time 2 variable in question at low ($-1 SD$) and high ($+1 SD$) values of the moderating variable, to clarify how children's age, sex, or Time 1 internalizing problems or parenting moderated the link between Time 1 parenting or internalizing problems and Time 2 internalizing problems or parenting, respectively (Aiken, West, & Krull, 1996).

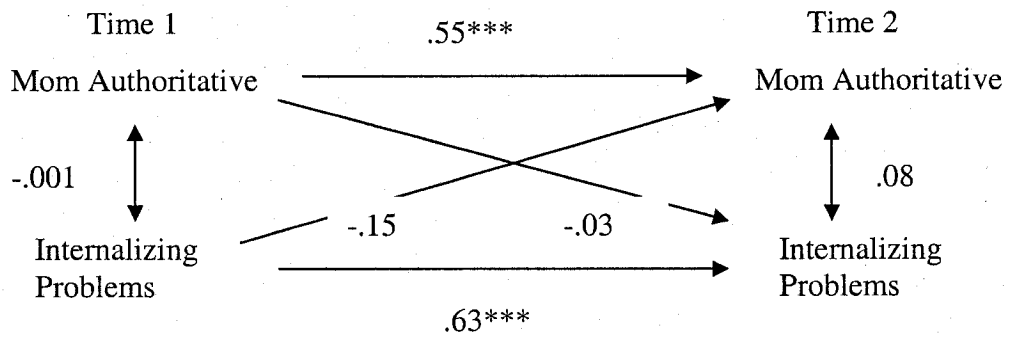
Mother-child relationship: Authoritative parenting

Parent effects. Results for the regression analysis relating mothers' authoritative parenting to children's internalizing problems on the CBCL are presented in Appendix I.1 and Figure 5a. In the model predicting Time 2 internalizing problems, the standardized beta for children's internalizing problems at Time 1 was significant, such that children demonstrated stability in their level of internalizing problems from Time 1 to Time 2, $t = 7.27, p < .001$. Maternal authoritative parenting did not predict to children's internalizing problems at Time 2.

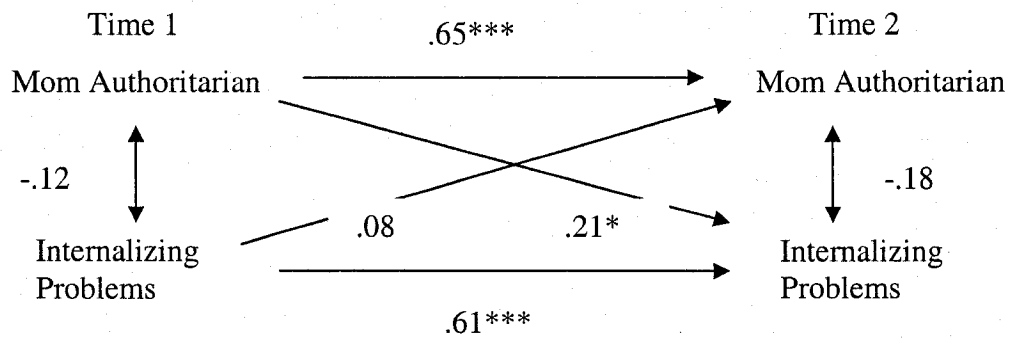
Age moderating parent effects. The interaction between age and authoritative parenting was not significant indicating that age did not moderate the relation between maternal authoritative parenting and children's internalizing problems.

Sex moderating parent effects. The interaction between sex and authoritative parenting was significant, $t = 2.38, p < .05$, indicating that children's sex moderated the relation between maternal authoritative parenting and children's internalizing problems. To examine this effect, regressions were run separately for boys and girls and the slopes were plotted to compare the relation between Time 1 authoritative parenting and Time 2 internalizing problems for boys and girls (see Figure 6). There was a non-significant

(a)



(b)



(c)

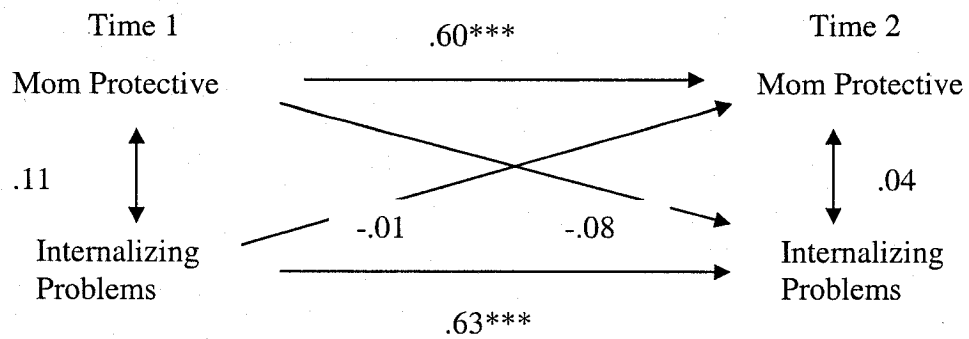


Figure 5a. Bidirectional model for maternal authoritative parenting and children's internalizing problems.

Figure 5b. Bidirectional model for maternal authoritarian parenting and children's internalizing problems.

Figure 5c. Bidirectional model for maternal protective parenting and children's internalizing problems.

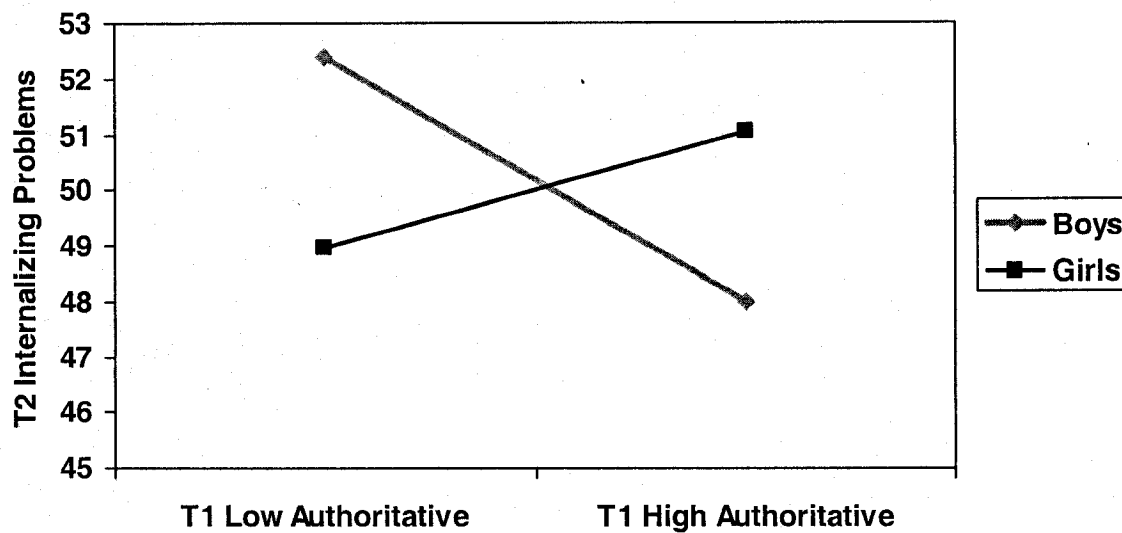


Figure 6. Maternal authoritative parenting as a function of child sex in the prediction of children's internalizing problems.

negative relation between maternal authoritative parenting at Time 1 and sons' internalizing problems at Time 2, $\beta = -.18$, $t = -1.14$, but an even weaker positive relation with daughters' internalizing problems at Time 2, $\beta = .07$, $t = .49$. Therefore, it was only for boys that mothers' authoritative parenting appeared to be somewhat protective against the development of internalizing problems.

Internalizing problems moderating parent effects. The interaction between internalizing problems and authoritative parenting was not significant indicating that children's internalizing problems scores at Time 1 did not moderate the relation between maternal authoritative parenting and children's internalizing problems.

Child effects. Results for the regression analysis relating children's internalizing problems on the CBCL to mothers' authoritative parenting are presented in Appendix I.2 and Figure 5a. In the model predicting Time 2 maternal authoritative parenting, the standardized beta for maternal authoritative parenting at Time 1 was significant, such that mothers demonstrated stability in their level of authoritative parenting from Time 1 to Time 2, $t = 6.02$, $p < .001$. Children's internalizing problems did not predict to mother's authoritative parenting at Time 2.

Age moderating child effects. The interaction between age and internalizing problems was not significant indicating that age did not moderate the relation between children's internalizing problems and maternal authoritative parenting.

Sex moderating child effects. The interaction between sex and internalizing problems was not significant indicating that children's sex did not moderate the relation between children's internalizing problems and maternal authoritative parenting.

Authoritative parenting moderating child effects. The interaction between authoritative parenting and internalizing problems was not significant indicating that mother's authoritative parenting at Time 1 did not moderate the relation between children's internalizing problems and maternal authoritative parenting at Time 2.

Mother-child relationship: Authoritarian parenting

Parent effects. Results for the regression analysis relating mothers' authoritarian parenting to children's internalizing problems on the CBCL are presented in Appendix I.1 and Figure 5b. In the model predicting Time 2 internalizing problems, the standardized beta for children's internalizing problems at Time 1 was significant, such that children demonstrated stability in their level of internalizing problems from Time 1 to Time 2, $t = 7.27, p < .001$. In addition, the standardized beta for maternal authoritarian parenting at Time 1 was significant, such that mothers who were more authoritarian at Time 1 had children who demonstrated more internalizing problems at Time 2, $t = 1.92, p = .05$. Greater maternal authoritarian parenting, therefore, predicted more internalizing problems in children at Time 2, thus providing evidence of a parent effect.

Age moderating parent effects. The interaction between age and authoritarian parenting was not significant indicating that age did not moderate the relation between maternal authoritarian parenting and children's internalizing problems.

Sex moderating parent effects. The interaction between sex and authoritarian parenting was not significant indicating that children's sex did not moderate the relation between maternal authoritarian parenting and children's internalizing problems.

Internalizing problems moderating parent effects. The interaction between internalizing problems and authoritarian parenting was not significant indicating that

children's internalizing problems scores at Time 1 did not moderate the relation between maternal authoritarian parenting and children's internalizing problems.

Child effects. Results for the regression analysis relating children's internalizing problems on the CBCL to mothers' authoritarian parenting are presented in Appendix I.2 and Figure 5b. In the model predicting Time 2 maternal authoritarian parenting, the standardized beta for maternal authoritarian parenting at Time 1 was significant, such that mothers demonstrated stability in their level of authoritarian parenting from Time 1 to Time 2, $t = 7.74, p < .001$. Children's internalizing problems did not predict to mother's authoritarian parenting at Time 2.

Age moderating child effects. The interaction between age and internalizing problems was not significant indicating that age did not moderate the relation between children's internalizing problems and maternal authoritarian parenting.

Sex moderating child effects. The interaction between sex and internalizing problems was not significant indicating that children's sex did not moderate the relation between children's internalizing problems and maternal authoritarian parenting.

Authoritarian parenting moderating child effects. The interaction between authoritarian parenting and internalizing problems was not significant indicating that mother's authoritarian parenting at Time 1 did not moderate the relation between children's internalizing problems and maternal authoritarian parenting at Time 2.

Mother-child relationship: Protective parenting

Parent effects. Results for the regression analysis relating mothers' protective parenting to children's internalizing problems on the CBCL are presented in Appendix I.1 and Figure 5c. In the model predicting Time 2 internalizing problems, the standardized beta

for children's internalizing problems at Time 1 was significant, such that children demonstrated stability in their level of internalizing problems from Time 1 to Time 2, $t = 7.25, p < .001$. Maternal protective parenting did not predict to children's internalizing problems at Time 2.

Age moderating parent effects. The interaction between age and protective parenting was not significant indicating that age did not moderate the relation between maternal protective parenting and children's internalizing problems.

Sex moderating parent effects. The interaction between sex and protective parenting was not significant indicating that children's sex did not moderate the relation between maternal protective parenting and children's internalizing problems.

Internalizing problems moderating parent effects. The interaction between internalizing problems and protective parenting was not significant indicating that children's internalizing problems scores at Time 1 did not moderate the relation between maternal protective parenting and children's internalizing problems.

Child effects. Results for the regression analysis relating children's internalizing problems on the CBCL to mothers' protective parenting are presented in Appendix I.2 and Figure 5c. In the model predicting Time 2 maternal protective parenting, the standardized beta for maternal protective parenting at Time 1 was significant, such that mothers demonstrated stability in their level of protective parenting from Time 1 to Time 2, $t = 6.78, p < .001$. Children's internalizing problems did not predict to mother's protective parenting at Time 2.

Age moderating child effects. The interaction between age and internalizing problems was significant, $t = 2.09, p < .05$, indicating that age moderated the relation

between children's internalizing problems and maternal protective parenting (see Figure 7). There was a trend for a negative association between internalizing problems and protective parenting, $\beta = -.19$, $t = -1.33$, $p = .10$, for younger children, and a non-significant positive association for older children, $\beta = .16$, $t = 1.16$, *ns*. Thus, younger children who had more internalizing problems at Time 1 appeared to have mothers who were somewhat less protective at Time 2.

Sex moderating child effects. The interaction between sex and internalizing problems was significant, $t = 1.98$, $p = .05$, indicating that children's sex moderated the relation between children's internalizing problems and maternal protective parenting. To examine this effect, regressions were run separately for boys and girls and the slopes were plotted to compare the relation between Time 1 internalizing problems and Time 2 protective parenting for boys and girls (see Figure 8). There was a trend for a negative relation between sons' internalizing problems at Time 1 and maternal protective parenting at Time 2, $\beta = -.28$, $t = -1.57$, $p = .10$, but a non-significant positive relation with daughters' internalizing problems at Time 2, $\beta = .17$, $t = 1.13$, *ns*. Therefore, boys with more internalizing problems appeared to have mothers who became less protective over time.

Protective parenting moderating child effects. The interaction between protective parenting and internalizing problems was not significant indicating that mother's protective parenting at Time 1 did not moderate the relation between children's internalizing problems and maternal protective parenting at Time 2.

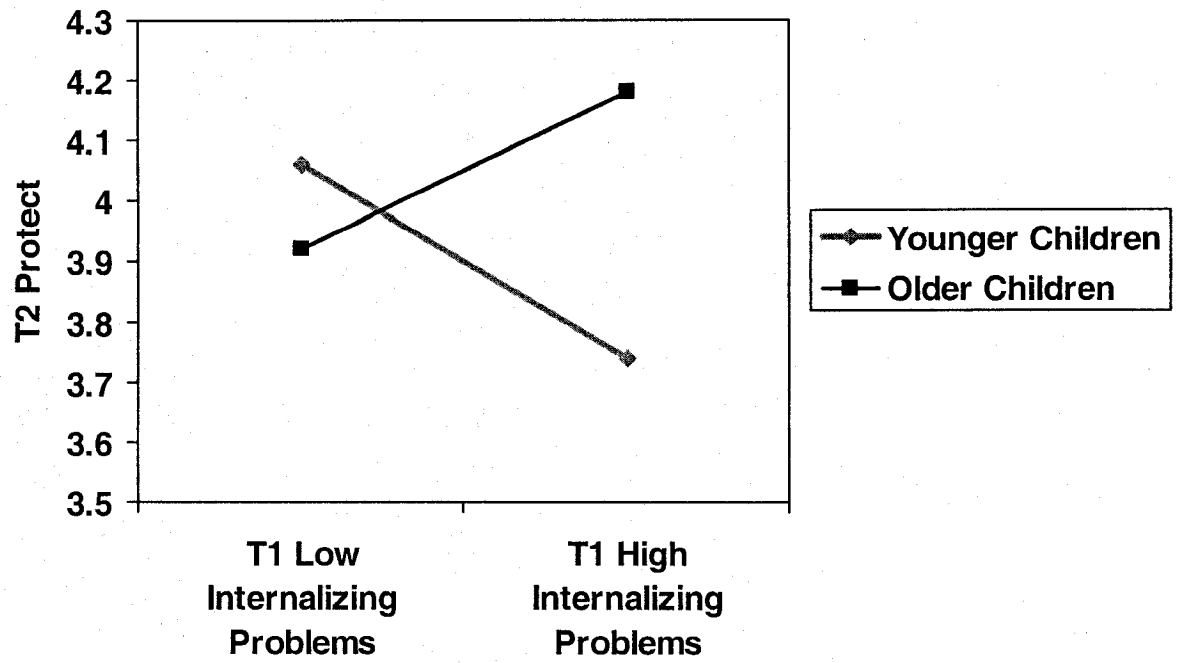


Figure 7. Internalizing problems as a function of child age in the prediction of maternal protective parenting.

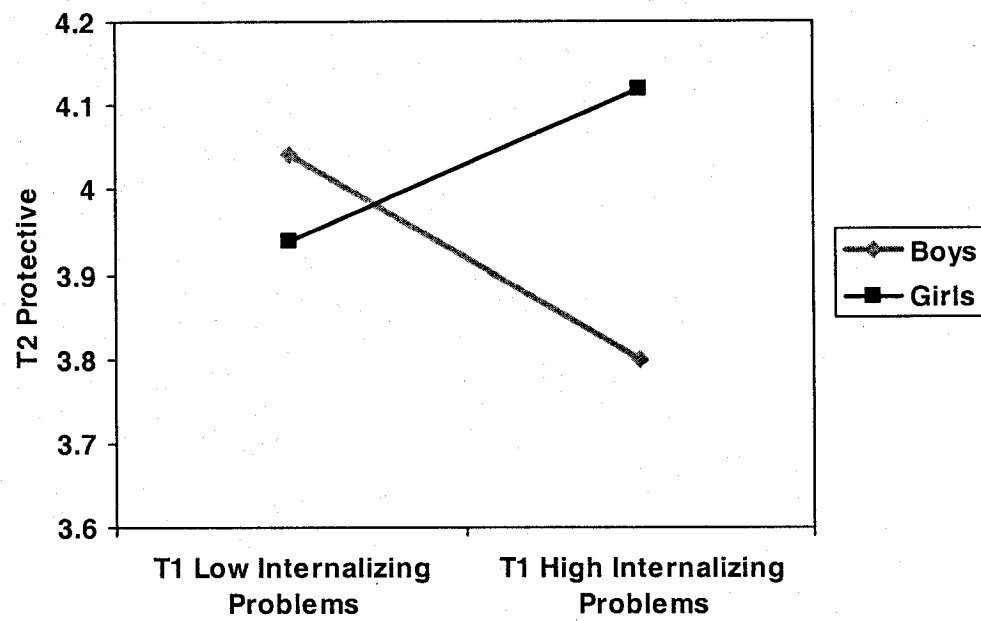


Figure 8. Internalizing problems as a function of child sex in the prediction of maternal protective parenting.

Father-child relationship: Authoritative parenting

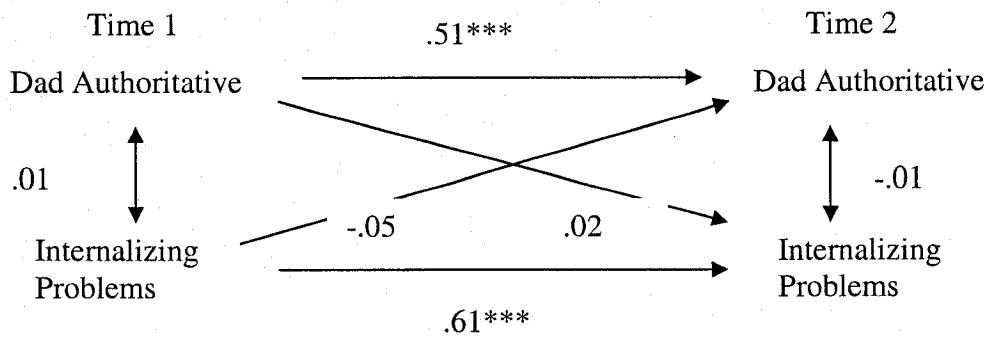
Parent effects. Results for the regression analysis relating fathers' authoritative parenting to children's internalizing problems on the CBCL are presented in Appendix I.1 and Figure 9a. In the model predicting Time 2 internalizing problems, the standardized beta for children's internalizing problems at Time 1 was significant, such that children demonstrated stability in their level of internalizing problems from Time 1 to Time 2, $t = 5.50, p < .001$. Paternal authoritative parenting did not predict to children's internalizing problems at Time 2.

Age moderating parent effects. The interaction between age and authoritative parenting was not significant indicating that age did not moderate the relation between paternal authoritative parenting and children's internalizing problems.

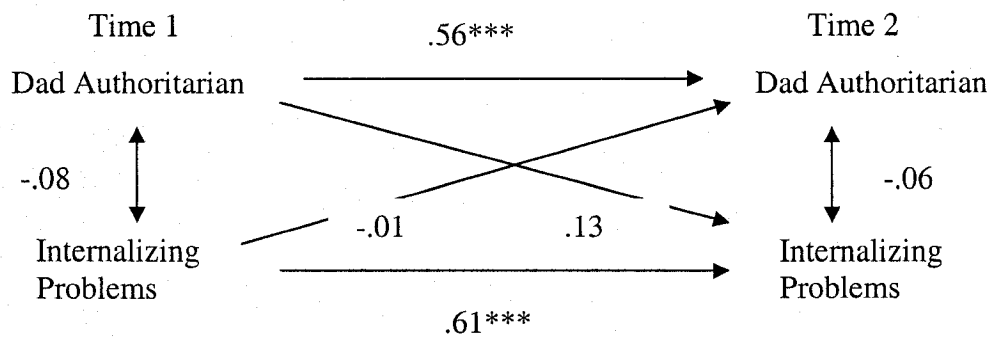
Sex moderating parent effects. The interaction between sex and authoritative parenting was not significant indicating that children's sex did not moderate the relation between paternal authoritative parenting and children's internalizing problems.

Internalizing problems moderating parent effects. The interaction between internalizing problems and authoritative parenting was significant, $t = 2.27, p < .05$, indicating that children's internalizing problems scores at Time 1 moderated the relation between paternal authoritative parenting and children's internalizing problems (see Figure 10). There was a trend for a negative association between authoritative parenting and internalizing problems at Time 2, $\beta = -.37, t = -1.76, p < .10$, for children with fewer internalizing problems at Time 1, and a non-significant positive association for children with more internalizing problems at Time 1, $\beta = .24, t = 1.51, ns$. Thus, if children initially had relatively lower levels of internalizing problems, fathers' more authoritative

(a)



(b)



(c)

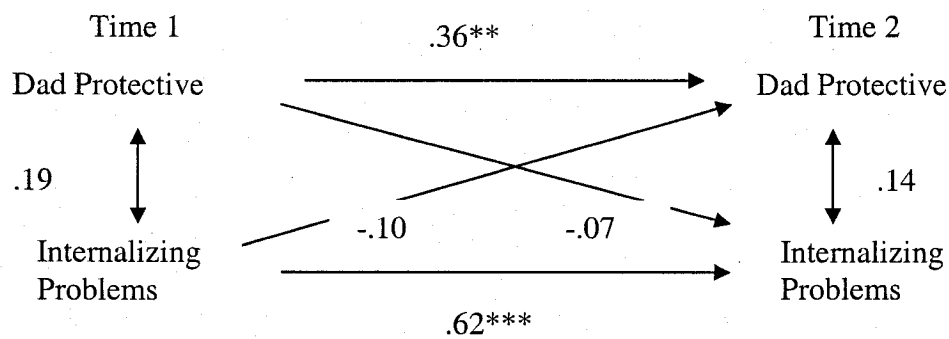


Figure 9a. Bidirectional model for paternal authoritative parenting and children's internalizing problems.

Figure 9b. Bidirectional model for paternal authoritarian parenting and children's internalizing problems.

Figure 9c. Bidirectional model for paternal protective parenting and children's internalizing problems.

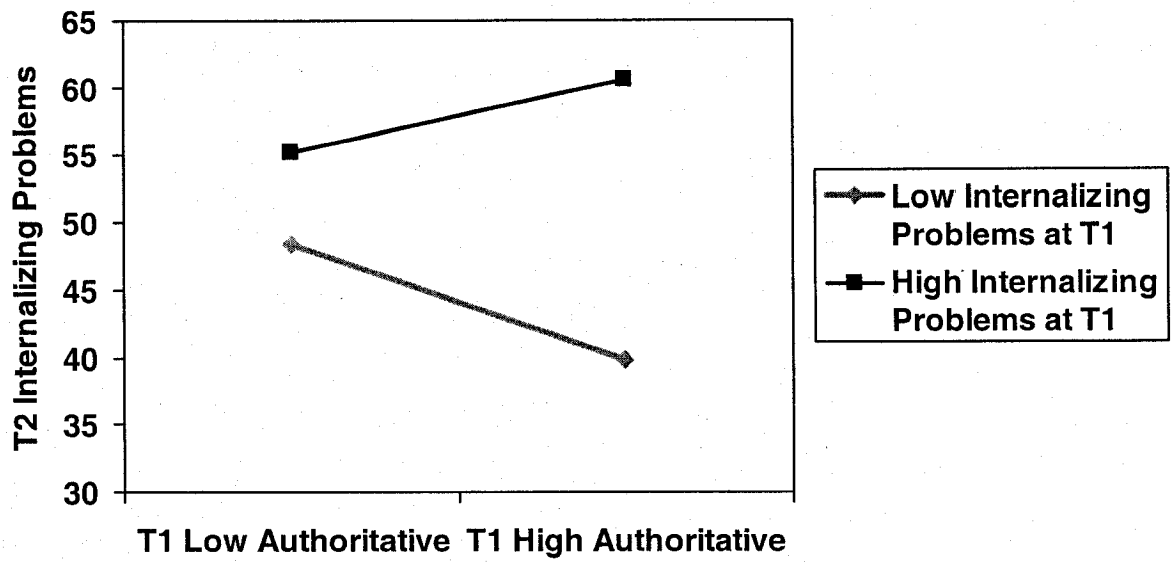


Figure 10. Paternal authoritative parenting as a function of internalizing problems in the prediction of children's internalizing problems.

parenting predicted children having even fewer internalizing problems at Time 2.

However, this protective effect of fathers' authoritative parenting was not evident for children who had higher levels of internalizing problems at Time 1.

Child effects. Results for the regression analysis relating children's internalizing problems on the CBCL to fathers' authoritative parenting are presented in Appendix I.2 and Figure 9a. In the model predicting Time 2 paternal authoritative parenting, the standardized beta for paternal authoritative parenting at Time 1 was significant, such that fathers demonstrated stability in their level of authoritative parenting from Time 1 to Time 2, $t = 4.24, p < .001$. Children's internalizing problems did not predict to father's authoritative parenting at Time 2.

Age moderating child effects. The interaction between age and internalizing problems was not significant indicating that age did not moderate the relation between children's internalizing problems and paternal authoritative parenting.

Sex moderating child effects. The interaction between sex and internalizing problems was not significant indicating that children's sex did not moderate the relation between children's internalizing problems and paternal authoritative parenting.

Authoritative parenting moderating child effects. The interaction between authoritative parenting and internalizing problems was not significant indicating that father's authoritative parenting at Time 1 did not moderate the relation between children's internalizing problems and paternal authoritative parenting at Time 2.

Father-child relationship: Authoritarian parenting

Parent effects. Results for the regression analysis relating fathers' authoritarian parenting

to children's internalizing problems on the CBCL are presented in Appendix I.1 and Figure 9b. In the model predicting Time 2 internalizing problems, the standardized beta for children's internalizing problems at Time 1 was significant, such that children demonstrated stability in their level of internalizing problems from Time 1 to Time 2, $t = 5.57, p < .001$. Paternal authoritarian parenting did not predict to children's internalizing problems at Time 2.

Age moderating parent effects. The interaction between age and authoritarian parenting was not significant indicating that age did not moderate the relation between paternal authoritarian parenting and children's internalizing problems.

Sex moderating parent effects. The interaction between sex and authoritarian parenting was not significant indicating that children's sex did not moderate the relation between paternal authoritarian parenting and children's internalizing problems.

Internalizing problems moderating parent effects. The interaction between internalizing problems and authoritarian parenting was not significant indicating that children's internalizing problems scores at Time 1 did not moderate the relation between paternal authoritarian parenting and children's internalizing problems at Time 2

Child effects. Results for the regression analysis relating children's internalizing problems on the CBCL to fathers' authoritarian parenting are presented in Appendix I.2 and Figure 9b. In the model predicting Time 2 paternal authoritarian parenting, the standardized beta for paternal authoritarian parenting at Time 1 was significant, such that fathers demonstrated stability in their level of authoritarian parenting from Time 1 to Time 2, $t = 4.75, p < .001$. Children's internalizing problems did not predict to father's authoritarian parenting at Time 2.

Age moderating child effects. The interaction between age and internalizing problems was not significant indicating that age did not moderate the relation between children's internalizing problems and paternal authoritarian parenting.

Sex moderating child effects. The interaction between sex and internalizing problems was not significant indicating that children's sex did not moderate the relation between children's internalizing problems and paternal authoritarian parenting.

Authoritarian parenting moderating child effects. The interaction between authoritarian parenting and internalizing problems was not significant indicating that father's authoritarian parenting at Time 1 did not moderate the relation between children's internalizing problems and paternal authoritarian parenting at Time 2.

Father-child relationship: Protective parenting

Parent effects. Results for the regression analysis relating fathers' protective parenting to children's internalizing problems on the CBCL are presented in Appendix I.1 and Figure 9c. In the model predicting Time 2 internalizing problems, the standardized beta for children's internalizing problems at Time 1 was significant, such that children demonstrated stability in their level of internalizing problems from Time 1 to Time 2, $t = 5.48, p < .001$. Paternal protective parenting did not predict to children's internalizing problems at Time 2.

Age moderating parent effects. The interaction between age and protective parenting was not significant indicating that age did not moderate the relation between paternal protective parenting and children's internalizing problems.

Sex moderating parent effects. The interaction between sex and protective parenting was not significant indicating that children's sex did not moderate the relation

between paternal protective parenting and children's internalizing problems.

Internalizing problems moderating parent effects. The interaction between internalizing problems and protective parenting was significant, $t = 2.04, p < .05$, indicating that children's internalizing problems scores at Time 1 moderated the relation between paternal protective parenting and children's internalizing problems (see Figure 11). For children with fewer internalizing problems at Time 1, there was a trend for a negative association between protective parenting and internalizing problems at Time 2, $\beta = -.24, t = -1.66, p = .10$, but there was a non-significant positive association for children with more internalizing problems at Time 1, $\beta = .20, t = 1.14, ns$. Thus, if children initially had low levels of internalizing problems, fathers' more protective parenting predicted children having even fewer internalizing problems at Time 2. However, this protective effect of fathers' protective parenting was not evident for children who had higher levels of internalizing problems at Time 1.

Child effects. Results for the regression analysis relating children's internalizing problems on the CBCL to fathers' protective parenting are presented in Appendix I.2 and Figure 9c. In the model predicting Time 2 paternal protective parenting, the standardized beta for paternal protective parenting at Time 1 was significant, such that fathers demonstrated stability in their level of protective parenting from Time 1 to Time 2, $t = 2.68, p = .01$. Children's internalizing problems did not predict to father's protective parenting at Time 2.

Age moderating child effects. The interaction between age and internalizing problems was not significant indicating that age did not moderate the relation between children's internalizing problems and paternal protective parenting.

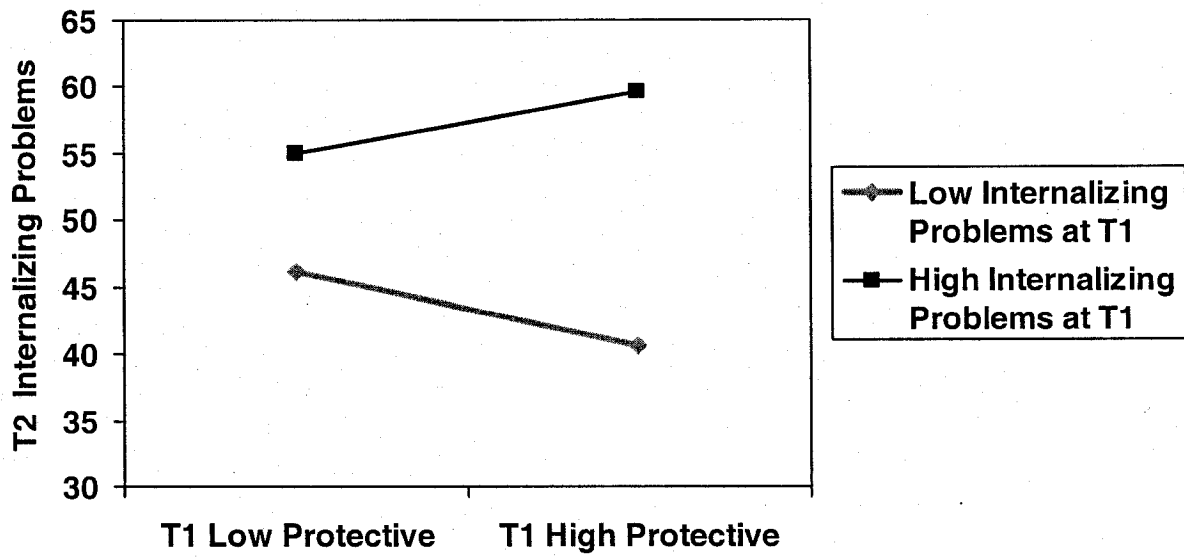


Figure 11. Paternal protective parenting as a function of internalizing problems in the prediction of children's internalizing problems.

Sex moderating child effects. The interaction between sex and internalizing problems was not significant indicating that children's sex did not moderate the relation between children's internalizing problems and paternal protective parenting.

Protective parenting moderating child effects. The interaction between protective parenting and internalizing problems was not significant indicating that father's protective parenting at Time 1 did not moderate the relation between children's internalizing problems and paternal protective parenting at Time 2.

Hierarchical Linear Modeling Analyses (HLM)

Because a third measure of children's internalizing problems was collected approximately one year after the second measure, it was possible to test whether parenting predicted the development of internalizing problems over a longer time-course. This analysis was conducted using Hierarchical Linear Modeling. HLM is a statistical technique that fits a regression equation at the individual level. Thus, it allows the parameters of the regression equation to vary by group membership. In addition, it uses group-level variables to explain variation in the individual-level parameters. Finally, it allows one to test for main effects and interactions within and between levels.

In the current study, there are three steps involved in each analysis predicting to children's internalizing problems over time. The first step consisted of testing the unconditional model by entering internalizing problems alone in the equation without any level 1 or level 2 predictors. The important information from this model consists of the chi-square value of the variance component of the coefficient, which indicates whether there is significant between-subject variation, and the TAU and sigma squared values with which the intraclass correlation can be calculated (TAU divided by sum of TAU and

sigma squared). The intraclass correlation indicates how much of the variance in the outcome variable (internalizing problems) can be ascribed to between-person versus within-person sources. Between-person variance explains how variable different children are from each other in internalizing problems whereas within-person variance explains how variable internalizing problems are, on average, across children.

In the second step, the level 1 predictor was examined, which was always Time (Times 1, 2, and 3 for which measures of children's internalizing problems was obtained). Time was always entered as a random variable at level 1 such that Time 1 was related to the intercept.

The output of the level-1 model indicated whether the variance component for the regression slopes of the level 1 predictor (Time) was significant, that is whether the slopes vary significantly among participants. This level-1 output also indicated whether the slope effects of the predictors were significant, and allowed the calculation of percent of within-person variance explained by the level 1 model.

In the third and subsequent steps, level 2 predictors were entered in the equation to predict the intercept and slopes of the outcome variables. As described below in more detail, level 2 predictors (authoritative, authoritarian control, and protective control) were entered all in one step. The level 2 output indicated the significant intercept and slope effects for the predictors, and allowed the calculation of the percent of between-person variance explained by the level 2 model in the intercept and the slope. Analyses were focused on whether the Time 1 parenting scores predicted the slope of children's change in internalizing problems over time. The three parenting scores were examined in the models simultaneously. Due to the fact that there were fewer fathers than mothers for

whom we had all data, separate models were run for mothers' and fathers' parenting scores, for a total of 2 models.

Maternal parenting in predicting change in internalizing problems

Unconditional model. To test the hypotheses that maternal parenting would predict to change in internalizing problems over time, a linear HLM analysis was performed with internalizing problems as the outcome variable. In the unconditional model (without predictors), the chi-square value of the variance component of the coefficient for the intercept indicated significant between-subject variation, $\chi^2 (73) = 297.22, p < .001$. The intra-class correlation indicated that 51% of the variance in internalizing problems was between-person and that 49% was within-person. In other words, of the total variance in internalizing problems, 51% can be attributed to differences among the children and 49% to the individual child.

Level 1 model. Time was entered alone as a random level-1 variable. In the level 1 model (with just time as a predictor), the chi-square value of the variance component of the coefficient for the intercept indicated non-significant between-subject variation, $\chi^2 (73) = 70.31, ns$. This indicates that the time effect did not leave any significant variability to be accounted for. Given that descriptive statistics showed that children's internalizing problems differed significantly from Time 1 to Time 2 and non-significantly from Time 2 to Time 3, this non-significant change would be contributing to a non-significant chi-square. The slope effect for Time, however, was significant, $t (73) = -5.53, p < .001$, indicating that internalizing problems did change linearly with time, in a decreasing manner. When compared to the unconditional model, Time accounted for 16% of the within child variance across the three time points.

Level 2 model. The variables of authoritarian control, protective control, and authoritative parenting were entered as predictors at level 2. For both the intercept and the time slope, the three main predictors were entered as a block. In the prediction of the intercept, none of the three parenting styles were significant predictors, indicating that maternal authoritative, authoritarian, or protective parenting were not significantly associated with level of internalizing problems at Time 1. When comparing the full model to the Level 1 model of Time, 58% of the variance was accounted for by the three predictors of maternal parenting. In other words, among the small variability in children's slopes of internalizing problems over the three time points, as indicated by the non-significant chi-square, about half was accounted for by the parenting types.

In the prediction of the Time slope, however, maternal authoritarian parenting was significant, $t(70) = 2.18, p < .05$, indicating that when accounting for protective and authoritative parenting, maternal authoritarian parenting was positively associated with changes in children's internalizing problems over time (see Table 7). This significant effect was examined by plotting the change in children's internalizing problems over time for relatively low (bottom quartile) versus high (top quartile) scores on the parenting measure of authoritarian control. Figure 12 illustrates that mothers who were highly authoritarian at Time 1 had children who showed a slower, or less steep, decrease in internalizing problems over time, compared to the children of less authoritarian mothers. Thus, early maternal authoritarianism predicted more persistence of internalizing problems, or less improvement over time.

In addition, in the prediction of the Time slope, maternal protective control was significant, $t(70) = -2.16, p < .05$, indicating that the slope for children of highly

Table 7

*Final Level-2 Results for the Prediction of the Intercept and the Time Slope for
Internalizing Problems and for Maternal Parenting*

Predictors	Coefficient	Std Error	t-ratio	df	p value
Intercept					
Intercept	53.97***	1.11	48.50	70	.00
Authoritarian	-.91	2.36	-.39	70	.70
Authoritative	-.45	2.66	-.17	70	.87
Protective	2.05	1.74	1.17	70	.25
Time slope					
Intercept	-3.04***	.51	-5.98	70	.00
Authoritarian	2.89*	1.32	2.18	70	.03
Authoritative	-.76	1.10	-.69	70	.49
Protective	-1.42*	.66	-2.16	70	.03

Final estimation of variance components

	Variance	Std Deviation	χ^2	df	p value
Intercept	61.81	7.86***	181.22	70	.00
Time slope	.11	.34	63.09	70	>.50
Level 1 effect	44.90				

†p<.10, *p<.05, **p<.01, ***p<.001.

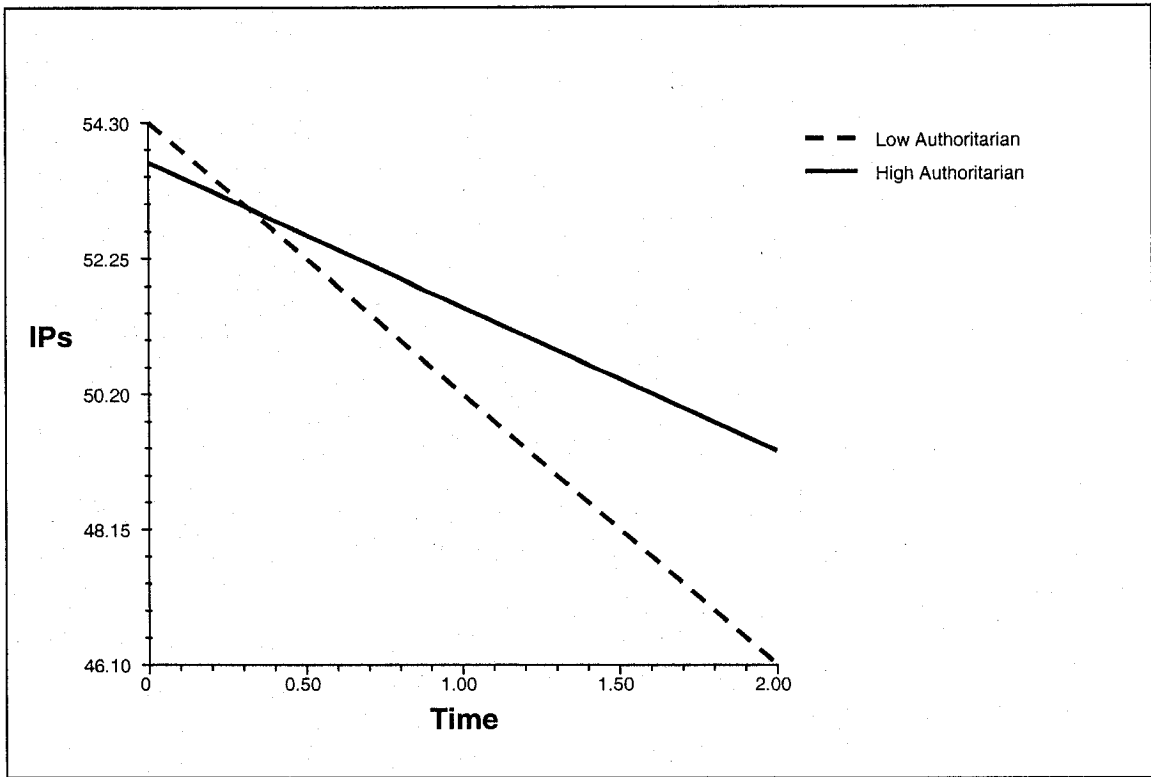


Figure 12. HLM analysis for Time 1 maternal authoritarian parenting predicting change in internalizing problems over time

protective mothers was steeper than the slope for children of less protective mothers. Mothers' protection at Time 1 predicted a faster or stronger decrease in children's internalizing problems over time (see Table 7). This significant effect was examined by plotting the effect in a similar fashion to the significant effect described above (see Figure 13).

Paternal parenting in predicting change in internalizing problems

Unconditional model. To test the hypotheses that paternal parenting would predict to change in internalizing problems over time, linear HLM analyses were performed with internalizing problems as the outcome variable. In the unconditional model (without predictors), the chi-square value of the variance component of the coefficient for the intercept indicated significant between-subject variation, $\chi^2(73) = 253.35, p < .001$. The intra-class correlation indicated that 50% of the variance in internalizing problems was between-person, and that 50% was within-person. In other words, of the total variance in internalizing problems, 50% could be attributed to differences among the children and 50% to the individual child.

Level 1 model. Time was entered alone as a random level-1 variable. The slope effect for Time was significant, $t(64) = -5.11, p < .001$, indicating that internalizing problems did change linearly with time, in a decreasing manner. When compared to the unconditional model, Time accounted for 17% of the within child variance across the three time points.

Level 2 model. The variables of authoritarian control, protective control, and authoritative parenting were entered as predictors at level 2. For both the intercept and the time slope, the three main predictors were entered as a block. In the prediction of the

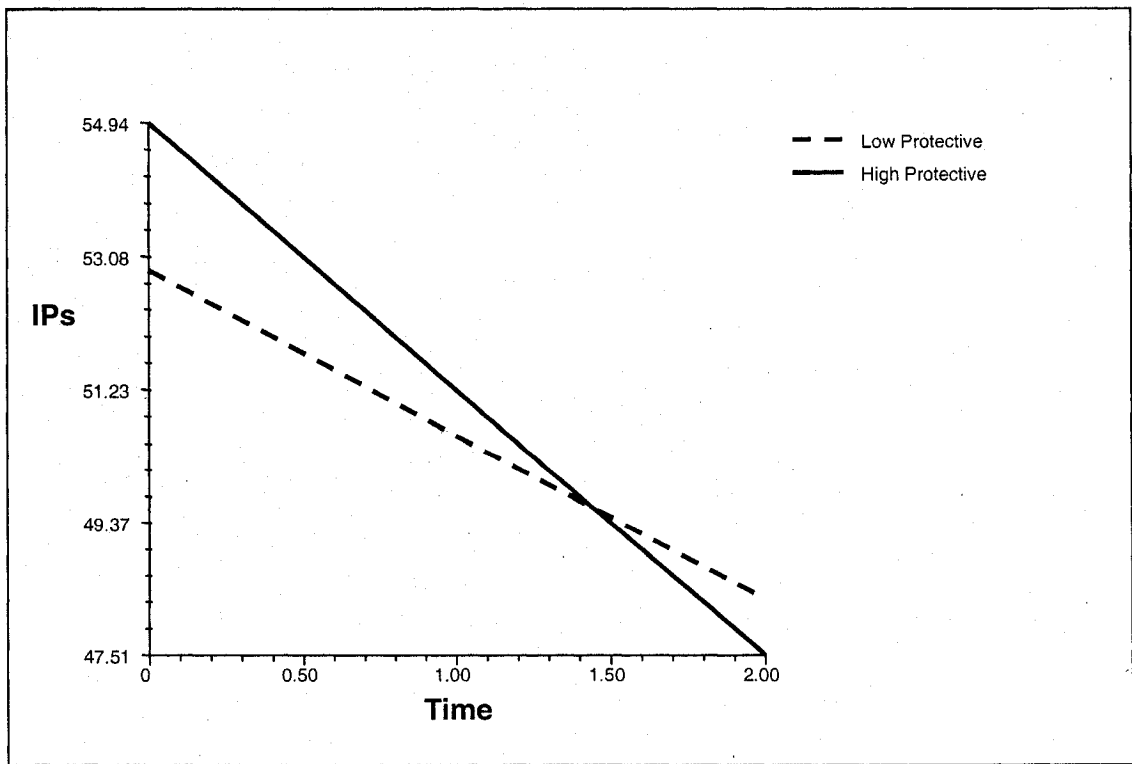


Figure 13. HLM analysis for Time 1 maternal protective parenting predicting change in internalizing problems over time

intercept, none of the three parenting styles were significant predictors, indicating that paternal authoritative, authoritarian, or protective parenting were not significantly associated with level of internalizing problems at Time 1.

In the prediction of the Time slope, paternal authoritative, authoritarian, and protective parenting were not significant, all $t < 1.32$, indicating that paternal parenting was not associated with changes in internalizing problems over time (see Table 8).

Discussion

The objective of the present study was to examine bidirectional relations in the development of children's internalizing problems and maternal and paternal parenting during the preschool years. In accordance with models of the socialization effects between children and parents proposed by Bell (1968), Bronfenbrenner (1977), and Sameroff (1975a; 1975b), and research by Rubin and colleagues (1999; Kennedy et al., 2004), child influences on parents and parental influences on children were examined. Authoritative and authoritarian control were examined as main parenting styles (Baumrind, 1967; 1971). In addition, overprotective parenting was examined as a more specific measure of psychological control (Becker, 1964; Rapee, 1997). Finally, the extent to which these transactional relations were moderated by children's characteristics such as age, sex, and level of internalizing problems or by parental characteristics, specifically parenting, was examined.

Several findings emerged from the current study. First, as expected, a direct parent effect emerged such that mothers who were more authoritarian earlier on had children who had more internalizing problems later. Contrary to hypotheses, however, no direct child effects emerged for the prediction of mothers' or fathers' parenting, and

Table 8

Final Level-2 Results for the Prediction of the Intercept and the Time Slope for Internalizing Problems and for Paternal Parenting

Predictors	Coefficient	Std Error	t-ratio	df	p value
Intercept					
Intercept	53.43***	1.19	44.58	61	.00
Authoritarian	-.20	3.02	-.07	61	.95
Authoritative	-1.67	2.71	-.62	61	.54
Protective	.96	1.76	.55	61	.59
Time slope					
Intercept	-3.11***	.60	-5.22	61	.00
Authoritarian	1.85	1.40	1.32	61	.19
Authoritative	1.28	1.50	.85	61	.40
Protective	-.77	.81	-.94	61	.35

Final estimation of variance components

	Variance	Std Deviation	χ^2	df	p value
Intercept	59.43	7.71***	149.39	61	.00
Time slope	.68	.83	61.39	61	.46
Level 1 effect	48.75				

† $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

earlier paternal parenting was not found to be directly associated with children's subsequent internalizing problems. Second, five moderation analyses emerged as significant, indicating that perhaps something more complex was occurring in the relations between parenting and children's internalizing problems. Mothers who were more authoritative to begin with had boys, but not girls, who exhibited fewer internalizing problems subsequently. In addition, boys with more internalizing problems to begin with had mothers who were less protective later on whereas this effect was not found for girls. Finally, younger preschoolers with high levels of internalizing problems at the first assessment had mothers who became less protective later on whereas this was not the case with older preschoolers. In the examination of fathers, more authoritative and more protective parenting with less anxious children predicted to even fewer internalizing problems subsequently, whereas these beneficial effects were not found for children who were high on internalizing problems originally. Finally, when a third measure of internalizing problems was included in the analyses, two additional parent effects emerged such that maternal authoritarian and protective parenting were found to predict changes in children's internalizing problems over the three time points. Specifically, maternal authoritarian parenting predicted a slower decline in children's internalizing problems over time. In contrast, maternal protective parenting predicted a steeper decline in children's internalizing problems over time. No significant relations between paternal parenting and children's change in internalizing problems over this extended time period were revealed.

Thus, analyses identified mother and father parental effects on children as well as child effects on maternal and paternal parenting. However, most of the significant effects

were not direct, but moderated by other characteristics, suggesting that reciprocal influences between parents and children may be even more complex than previously thought.

Maternal Effects

A maternal parent effect emerged such that mothers' initial level of authoritarian control significantly predicted increases in subsequent internalizing problems, after controlling for the stability of both authoritarian parenting and internalizing problems. Interestingly, this maternal parent effect also remained significant when looking at internalizing problems over a longer period of time. This fits with the original top-down models of effects, with parenting having unidirectional influences on children's emotional and social development (e.g. Sears et al., 1953). This parent effect is also consistent with previous research on maternal control and derisiveness predicting more social reticence in children (Cheah et al., 1999; Rubin et al., 2002). These results give further support to a large and ever-growing body of evidence that authoritarian parenting predicts a range of undesirable developmental trajectories in children (Baumrind & Black, 1967; Dumas et al., 1995; Maccoby & Martin, 1983).

Authoritarian parenting, as measured in the current study, was characterized by strict, controlling, and punitive strategies, and stands in contrast to the more typical and adaptive mother-child relationship characteristics of nurturance, warmth, and affection (Grusec & Davidov, 2007), which support the development of later social and emotional competence (Baumrind, 1967; 1996). Perhaps this is even more true in young children who need to feel they have a secure and safe base from which they can explore their environments and become more independent, self-confident, and self-reliant (Bretherton

et al. 1997; Goldberg et al., 1999). Thus, perhaps children of mothers who are more harsh, strict and demanding manifest more anxiety-based problems because they are not getting the supportive, warm encouragement they need in order to develop the self-confidence to explore the world (Baumrind, 1967; 1996).

This is the first study to demonstrate a direct parent effect of authoritarian parenting on preschool-age children's development of internalizing problems, controlling for the stability of both parenting and internalizing problems. This association, however, has been demonstrated with school-aged children and adolescents within longitudinal studies (e.g. Galambos, Barker, & Almeida, 2003) and with preschool children using measures of derisive or controlling parenting and other measures of anxiety such as reticence (e.g. Cheah et al., 1999; Rubin et al., 2002). Although research on internalizing problems in preschool children is still relatively new, there are reasons to believe that it is critically important. Children with internalizing problems are at greater risk for later socio-emotional difficulties (Parker & Asher, 1987) including school difficulties, such as refusal to attend and problems with academic work, as well as social difficulties (Siqueland et al., 1996). In addition, internalizing problems are a risk factor for future anxiety disorders (Barrios & Hartmann, 1988; Majcher & Pollack, 1996). Thus, early detection of these difficulties is very important.

Parenting is also something that is critical to examine in this young age group. By the time a child reaches preschool, parents have most likely been the most active and prominent socialization agent (Maccoby, 1992). Parental influences on children's development cannot be underestimated (Kuczynski, Marshall, & Schell, 1997). Given that parents spend the most amount of time with their young children and that children

are very susceptible to their parents' influences, it is no surprise that parenting has been a major source of study in socialization research (see Grusec & Davidov, 2007, for a review). That is not to say that parents are solely responsible for their young children's emotional development, but their attitudes and behaviours do play a large part. It is known by now that children's development of internalizing problems, including anxiety, are caused by the interaction of multiple factors including genetics and brain physiology, temperament, environmental factors including traumatic events, and parenting style (Chansky, 2004). Some of these factors, such as genetics or the occurrence of traumatic events, cannot be foreseeable whereas factors such as parenting style is under our control and is malleable. In fact, research on prevention and treatments for children with anxiety disorders has shown that these children fare better when the interventions include a parent training component (e.g. Hirshfeld-Becker & Biederman, 2002; Moore & Carr, 2000).

That being said, it is possible that other factors are responsible for this significant parent effect of maternal authoritarianism. For example, by the time children reach the preschool years, they have had several years of interacting with their parents. It is possible that other child characteristics, such as the child's temperament, have already helped to shape parental behaviour (Ellett, Schuff, & Davis, 2005). Rapee (2001) argues that parents of infants with a difficult temperament may be more likely to become overinvolved with their child in an effort to reduce and prevent the child's distress. This maladaptive pattern of parental overinvolvement, however, is said to reinforce the child's vulnerability to anxiety by increasing the child's perception of threat, reducing the child's perceived control over threat, and ultimately increasing the child's avoidance of threat.

Thus, by the time the child reaches two to five years of age, they have already been involved in reciprocal, transactional relations with parents that may subsequently influence future parenting behaviours. It is difficult to say, therefore, that the parent effect revealed in this study is not due, in part, to consequences of earlier interactions with their child. More longitudinal data would be needed to examine this possibility.

In the current study, when internalizing problems were examined over a longer period of time, a maternal parent effect of protective parenting was also revealed. Children who had mothers who were highly protective at the initial assessment showed faster or stronger decreases in their internalizing problems over time. Thus, it was only in looking across a longer developmental period that this apparently beneficial or adaptive influence of maternal protection emerged. In line with the previous argument that perhaps parent effects are not pure parent effects, this finding points to the importance of conducting longitudinal studies that include multiple assessments over more extended periods of time, as the impact of socialization influences on developmental trajectories might become greater as more time passes (Kuczynski & Parkin, 2007).

This result also runs counter to a small number of longitudinal studies with young children that suggest maternal protectiveness predicts more stable anxiety-related characteristics over time (Radke, 1946; Rapee, 1997; Rubin et al, 2002). There are a few important differences in the current analyses to consider. The HLM analysis used in the current study examined the relation between protective parenting and internalizing problems within the context of the authoritative and authoritarian parenting scores. Most other studies have not accounted for authoritarian parenting in their analyses, such that

adverse developmental effects of authoritarianism may have been misattributed to protectiveness. In other words, the shared variance of parenting scores could have been confounded, creating the appearance of an effect between protective parenting and children's anxiety which was not valid. Protective parenting is an aspect of psychological control which has been portrayed as one part of authoritarianism. Therefore, these two parenting dimensions are conceptually similar and although they were not found to be correlated in the current study, others have found that they are (e.g. Barber, 1996; Rapee, 1997). Thus, when authoritarian parenting is controlled for, characteristics not covered by protective parenting are eliminated from the equation. These would include features such as criticism, unresponsiveness, and rejection. The part of protective parenting that remains that is different and unique, however, are characteristics such as warmth, shielding, high amounts of affection, and micro-management, which are essentially considered "good" parenting strategies, especially with younger children (Bretherton et al. 1997; Goldberg et al., 1999).

One reason why this unexpected result for protective parenting may have emerged is that young children are far from able to care for themselves and so parents have evolved to provide protection and nurturance for their offspring (Grusec & Davidov, 2007). Children whose mothers are sensitively responsive to their distress cues become securely attached and able to be easily soothed when they are upset. Those whose mothers are rejecting or inconsistent become insecurely attached, either appearing to minimize their signalling of distress or being difficult to soothe (Ainsworth, Blehar, Waters, & Wall, 1978). Thus, it may be more developmentally appropriate for parents to be more protective of their young children, as it could help promote a secure attachment

to the parent, a sense of competence and keep the child less anxious in their environment as they continue to grow and develop (Grusec & Davidov, 2007).

Finally, unlike most of the previous studies (e.g. Rapee, 1997; Rubin et al., 1997; 2001), children's internalizing problems were the focus of the current study. In fact, Rubin and colleagues (2002) found that maternal protectiveness of toddlers did not predict to more internalizing problems two years later, although it did predict stability of reticent social behaviour. Whereas inhibition, reticence, and wariness may be conceptualized as normative aspects of behaviour that all young children manifest to greater or lesser degrees, internalizing problems are more clearly indicative of atypical and clinically-relevant adjustment (Zahn-Waxler et al., 2000). In fact, the current sample was not a typical community sample of preschoolers. Over a third of the current sample was in the borderline-clinical to clinical range of internalizing problems, as rated by the children's mothers. Perhaps children with more extreme anxiety problems really do need a more protected environment in order to progress and improve (Rapee, 2001). As outlined earlier, all young children need some protection by their mothers in order to develop a secure attachment style and become more independent. This may be even more true for children who demonstrate clinical levels of anxiety at a young age. Given that the study of anxiety problems within preschool-aged populations is still in its infancy, more research is warranted to examine whether the same processes that have been demonstrated with older children apply to younger populations. Specifically, it would be worth examining whether overprotection is really such a bad thing for younger children with clinical levels of anxiety. Future research would benefit from examining these differences in non-clinical samples of young children versus more clinical samples.

Interestingly, however, internalizing problems were not found to moderate the relation between maternal protective parenting and later internalizing problems. Thus, in the current study, this hypothesis that maternal protection would be more beneficial for children with more elevated anxiety symptoms than for children with fewer displays of anxiety, was not supported. One explanation for this may be because the parent effect of protection predicting fewer problems was only revealed in the HLM analysis, where moderation effects were not examined. Perhaps this moderation effect would have been revealed if there had been a third measure of parenting and thus path analyses could have been performed for three time points. Once again, future research would benefit from examining transactional relations over longer periods of time, allowing for multiple assessments of moderation effects.

A moderation effect for maternal parenting was revealed, however, such that maternal authoritative parenting was found to predict to children's internalizing problems differently for boys and girls. Mothers who were more authoritative originally had sons who had fewer internalizing problems subsequently, whereas this beneficial factor of authoritative parenting was not evident for girls. To interpret this finding, a review of the gender socialization model of psychopathology proposed by Zahn-Waxler (1993; 2000), is helpful. The model suggests an approach to understanding adaptive and maladaptive social patterns in males and females that may lead to different developmental trajectories and influence the forms of psychopathology that develop. For example, it is paradoxical that some of the same qualities that are valued and linked to the special achievements of males (such as boldness and a penchant for action) may also contribute to an orientation that gets them into trouble with the law, society, and authority figures in general, even in

childhood. It should be no surprise, therefore, that the symptoms of the three disruptive behaviour disorders (conduct disorder, oppositional defiant disorder, and attention deficit hyperactivity disorder) covary to a high degree and that boys are overrepresented in all three disorders (Zahn-Waxler, 1993). Conversely, females tend to be more emotional, dependent, passive, nurturing, and seeking of validation from others, and are overrepresented in internalizing disorders such as depression and anxiety (Zahn-Waxler, 1993).

Environment and culture play complex roles in the development, reinforcement, and exaggeration of sex stereotypic patterns. Much research has focussed on the socialization practices that may contribute to sex differences. These include: imitation and identification with same-sex models, different play and learning environments provided for boys and girls, difference in discipline and variations in parental/societal expectations for the different roles boys and girls are expected to assume later in life (Zahn-Waxler, 1993). Leaper and Friedman (2007) have recently completed a detailed review of the socialization of gender. The parent-daughter relationship, in contrast to the parent-son relationship, has been shown to be characterized by greater warmth and physical closeness, greater confidence in the trustworthiness and truthfulness of their daughters, and greater reluctance to punish daughters (Block, 1983). Additionally, mothers of daughters tend to be more restrictive of their daughters, allow fewer independent excursions from home, and engage in closer supervision of their activities (Block, 1983). Mothers of girls have also been observed to provide help in problem-solving situations more than mothers of boys, even when their help is not required (Rothbart & Rothbart, 1976). Boys, on the other hand, are given more freedom to

explore than girls and are encouraged to be more independent and autonomous (Block, 1983; Zahn-Waxler et al., 2000). Finally, mothers are more likely to react negatively when their sons ask for help (Fagot, 1978) and both mothers and fathers are more likely to press achievement and competition on their sons (Block, 1983).

In light of these differences, the current finding that mothers' authoritative parenting was beneficial to sons and not daughters is comprehensible. Mothers who utilize authoritative strategies such as by using gentle control with their sons could reinforce whichever positive behaviours their young boys manifest, for instance more assertion and independence, hence fewer internalizing problems (Hastings, Rubin, & DeRose, 2005; Hastings, Utendale, & Sullivan, 2007; Leaper, 2002). Many of the socialization practices directed more often toward girls, on the other hand, contain messages that reflect pressures to be prosocial, suppress anger, and curtail antisocial behaviour. Suppression of anger, assertion, and other forms of self-expression may heighten internalized distress (Zahn-Waxler et al., 2000).

Paternal Effects

Contrary to hypotheses, no direct parent effect emerged for fathers. However, initial internalizing problems were found to moderate the relation between paternal parenting and children's internalizing problems. As such, it appeared that the relations between paternal parenting and children's internalizing problems were dependent on the child's initial level of internalizing problems. Thus, fathers may be influencing their children's development in less direct ways than mothers.

Specifically, internalizing problems were found to moderate the relation between both paternal authoritative and protective parenting and children's subsequent

internalizing problems. It appears that for fathers, the impact of both socialization methods on the child depends on which child is the target of that socialization effect. If fathers are either authoritative or protective of a child with few internalizing problems, then they continue to show fewer internalizing problems one year later. For children who initially exhibited high levels of internalizing problems, however, these parenting styles did not significantly predict to children's later levels of internalizing problems.

At first glance, these results seem contradictory. It would appear as though children who were high in internalizing problems continue to exhibit these difficulties regardless of the parenting style used by fathers. The beneficial effect of authoritative parenting was predicted and consistent with authoritative parenting being associated with all kinds of good outcomes for children (Baumrind, 1967; 1996; Baumrind & Black, 1967). Interestingly, however, the beneficial influence of protective parenting was also demonstrated in mothers.

For both mothers and fathers, protective parenting predicted fewer internalizing problems later. For fathers, however, this was only true for children who had fewer internalizing problems to begin with. One explanation given for the maternal protectiveness effect was that perhaps protection is a positive thing for young children with clinical level of problems. Although these results appear contradictory, it could be argued that protective parenting is not experienced the same way for both parents. It is possible that mothers and fathers are not reporting on the same behaviours or perhaps even conveying the same messages to their children. In fact, it was demonstrated that paternal-rated protectiveness was not significantly correlated with observed protective parenting in fathers. Given that there is little research on protective parenting in fathers,

it is possible that this form of parenting is not experienced the same way in fathers as it is in mothers. In fact, maternal parenting is generally characterized as being more warm, nurturing, and sheltering (Grusec & Davidov, 2007), which are essentially characteristics of protection. These issues of parent report will be revisited shortly.

Child Effects

Mothers. Contrary to hypotheses, children's internalizing problems were not found to predict to parenting over time. This is contrary to some studies that revealed child effects within an appropriately designed study to test for such effects, i.e. with a longitudinal design which controls for the stability of variables over time (Hastings & Rubin, 1999; Kennedy et al., 2004; Rubin et al., 1999). Once again, these studies examined other markers of children's anxiety, such as vagal tone, reticence, and shyness. It is difficult to ascertain whether parents are less likely to adjust their parenting to their children's level of internalizing problems or whether perhaps the difference with previous studies lies in a measurement issue. Specifically, previous studies that revealed child effects examined observed shyness (e.g. Hastings & Rubin, 1999) whereas the current study examined parental ratings of children's anxious difficulties. The limitations of using parent reports will be reviewed in the limitations section.

It is also important to recognize that there is only limited support for child effects in young samples of children. Proof of child effects has been more common with older populations, such as in middle childhood and adolescence (Kerr & Stattin, 2003; Lengua & Kovacs, 2005). Perhaps parental influences on children's internalizing problems are more common when the children are younger and as the children age, they begin to have

more influence on parents. Thus, more research on child effects is needed in younger samples to examine the relations between internalizing problems and parenting.

Finally, it is possible that child effects have been exaggerated. Perhaps the way a parent parents is not as much of a function of the individual child, but more an effect of the parents' own characteristics. Some research shows an intergenerational transmission of caregiving and attachment patterns (Solomon & George, 2006), providing evidence that parenting is influenced by one's own upbringing. In addition, parenting is highly influenced by parents' own mental health issues such as depression and anxiety disorders (Johnson, Cohen, Kasen, & Brooke, 2006). In fact, due to the familial basis of anxiety (Last, Hersen, Kazdin, Orvaschel, & Perrin, 1991), parents of anxious children are also likely to be anxious and may be more likely to overprotect his or her children due to an increased perception of danger and an increased sensitivity to the child's distress (Hudson & Rapee, 2002). Finally, there is much research to suggest that parental cognitions also play a part in parenting behaviours (Smetana, 1994). For example, Hastings and Grusec (1998) looked at parents and non-parents and found no significant differences in their beliefs and thoughts about hypothetical situations involving difficult interactions between a parent and a small child. This points to the fact that parenting goals, one class of cognitions, are not influenced by children's characteristics, as even non-parents hold the same views regarding parenting. Future research should focus on these parental characteristics and examine the role they play in parenting and whether they are more likely to play a role in children's outcomes than characteristics of the children themselves.

Although no child effects were evident in the current study, evidence was found, however, for children's characteristics to moderate the relation between their internalizing problems and mothers' subsequent parenting. First of all, the relation between children's initial level of internalizing problems and mothers' subsequent protectiveness was found to be moderated by children's age. Mothers appeared to react differently to the internalizing problems of younger versus older preschoolers such that mothers of younger children with initially high levels of internalizing problems seemed to become less protective over time whereas this effect was not present for mothers of older children.

Anxiety and shyness are considered normal parts of human development, arising in relation to novel stimuli, strangers, heights, and separation during infancy and toddlerhood, and largely disappearing during the pre-school years (King, Hamilton, & Ollendick, 1988; Muris, Meesters, Merckelbach, Sermon, & Zwakhalen, 1998). In a study examining separation anxiety disorder (SAD) in young children at age 3 and then again at age 6, it was found that SAD is not a highly stable disorder, as most children gravitate towards more subclinical and nonclinical status (Kearney, Sims, Pursell, & Tillotson, 2003). In fact, many toddler- and preschool-aged children tend to be anxious with people and situations that are unknown to them, and a familiarization period is critical for these children to become more socially comfortable (McDonnell & Beck, 1986). Once accustomed to a new situation, such as through more years interacting with other children and adults, these children feel more comfortable and demonstrate more positive and outgoing behaviour. Thus, by this logic, given that older children would have more experience interacting with others than younger children, they should

generally have more skills and be more accustomed and perhaps less anxious in social situations. Younger children, on the other hand, would have less experience interacting with other children and adults and thus, it may be more normative for them to display anxious behaviours or uncertainty in social situations. Thus, mothers may be less likely to feel the need to protect or shield younger children if they consider their behaviour to be normative for their age.

As a result, it is possible that the adverse effects of children's early anxiety become more pronounced or directly associated with future parental psychological control beyond the toddler years (Barber, 2002). In fact, Park and colleagues' (1997) findings suggest that parents of inhibited infants are actually not overcontrolling in the earliest stages of development, and it is only when they recognize their child's wariness or fearfulness as extreme, as the child approaches the preschool years, that they try to change it. Contrarily, Rubin and colleagues (1999) found that toddler inhibition was related to more psychological control in parents. An important difference that may help explain this discrepancy is that Rubin and colleagues (1999) measured inhibited temperament in their toddlers. Inhibition has been shown to precede internalizing problems (Rubin et al., 1989). In fact, it has been demonstrated that at a preschool age, internalizing problems can be reliably assessed and differentiated (Mesman, Bongers, & Koot, 2001). Thus, perhaps the current study would have replicated the Rubin study if inhibited temperament had been included as a measure.

Another possibility for the age moderation finding is that it could be a matter of age of onset of internalizing problems and duration of mothers' exposure to their children's internalizing problems. Although the association between internalizing

problems and protective parenting was not significant for older children, it was in the opposite direction from that of younger children. Based on the documented stability of internalizing problems (Barrios & Hartmann, 1988; Bruch & Cheek, 1995; Majcher & Pollack, 1996; Rubin, Burgess, & Hastings, 2002), it can be expected that mothers of children who were older at the time of first assessment had been witness to their children's internalizing problems for longer. Therefore, there would have also been more time for internalizing problems to influence parenting. A more prolonged experience with an anxious child might begin to elicit greater maternal protectiveness, as the mothers would begin to shelter their vulnerable children from stresses (Barber, 2002). In fact, much of the evidence of the consistent negative effect of parental psychological control comes from work with adolescents (Barber, 1996; Barber, 2002). However, in an effort to extend the general work on psychological control beyond the predominant focus on adolescents, some studies have now demonstrated that psychological control is conditioned on the degree of earlier child adjustment difficulties including early child temperament (Morris et al., 2002; Pettit & Laird, 2002). Thus, although the current study did not measure early temperament or collect information as to age of onset of internalizing problems, these would be important factors to consider in future research in order to better determine how parental psychological control and children's internalizing problems influence each other over longer periods of development.

Another significant moderation effect that emerged was that children's internalizing problems were found to predict to maternal protective parenting differently for boys and girls. Boys who had more internalizing problems initially had mothers who were *less* protective subsequently, whereas this effect was not present for mothers of

girls. This result also fits with the gender model of psychopathology described earlier (Zahn-Waxler, 1993). Once again, mothers tend to encourage sons to be independent and self-reliant (Block, 1983; Fagot, 1978), thus they are likely to be less accepting of anxious characteristics in boys (Zahn-Waxler, 1993). This seems to be an even stronger case when their sons are displaying internalizing problems. Thus, mothers responded to their sons in a way that improved their anxious difficulties by becoming less protective and shielding.

As outlined earlier, protective parenting by both mothers and fathers predicted fewer internalizing problems later, providing evidence for parent effects. From a child effects perspective, the current study also found evidence that high levels of internalizing problems predicted less protective parenting by mothers. However, this was only found in younger preschoolers and in boys. Taken together, the current study demonstrated that there appears to be an inverse relation between internalizing problems and protective parenting, to the contrary of hypotheses, and that these variables do seem to influence each other in bi-directional ways. More research on protective parenting in this young sample and with fathers is greatly needed in order to examine whether protective parenting may be a more beneficial parenting style with younger children and whether, as described earlier, it is experienced differently by mothers and fathers.

Fathers. Contrary to hypotheses, no child effects for any of the parenting dimensions were evident for fathers. This could be due to several reasons. First, most research on socialization focuses on mothers and their impact on children's development. Once again, it is highly possible that parenting is experienced differently for fathers than for mothers. The lower correspondence between reported and observed parenting by

fathers suggests that identical assessments of paternal and maternal socialization may not be appropriate. As such, it is possible that what was thought of as the same parenting constructs for mothers and fathers were not reported as similar by each set of parents. Given that socialization theory is predominantly based on research with mothers, it may not be surprising that the measures utilized in this study appeared more effective for mothers; how fathers perceive their parenting may relate to other aspects of their behaviour than is the case for mothers. For example, it has been suggested that fathers' playful, companionable, and patient interaction styles are particularly important for children's adjustment (Hart, Newell, & Olsen, 2003). Thus, because socialization theory is predominately and historically based on mothers' roles, more descriptive data on fathers' roles is needed, as has been shown with play, and more research is also needed on how to best measure fathers' parenting.

Another possible explanation for fathers' marginal role is that because mother-child interactions are characterized more than father-child interactions by warmth, responsiveness, and intimate exchanges (Collins & Russell, 1991; Forehand & Nousiainen, 1993), children may be more open to maternal than paternal influences (Darling & Steinberg, 1993). In general, studies of adolescents' socialization have shown that fathers value promoting autonomy more than mothers (Kenny & Gallagher, 2002) whereas mothers have also been shown to make a greater effort to maintain dependency in their children (for a review, see Collins & Russell, 1991). It may be that the impact of authoritarian control in this kind of dependent relationship is greater than in the more autonomous father-child relationship.

Methodological Issues

Given all of these results and interpretations, there are a number of issues that arose in the current study regarding methodologies and socialization issues. First of all, some researchers argue that parent-report is not an accurate assessment of parenting (e.g. Sessa, Avenevoli, Steinberg, & Morris, 2001). Therefore, the three parenting dimensions examined in the current study, as rated by parents, were validated with observed measures of parent-child interactions. Validity was found for maternal authoritative, authoritarian and protective parenting and for paternal authoritative parenting. Mothers and fathers who described their parenting as more authoritative were found to display more sensitive and warm approaches to caregiving with their children whereas authoritarian parenting was found to be more negative and domineering. Finally, protective parenting was characterized as taking over and not allowing the child to problem solve on his/her own. Despite arguments by Sessa and others (2001), the current study demonstrated validity of parental self-report. Among a great number of instruments designed to assess parental attitudes toward child rearing, one that is widely used in socialization research is the CRPR developed by Block (1981). The CRPR was originally developed in order to provide a self-descriptive instrument tapping both common and uncommon dimensions in the socialization realm using a method that would minimise the response sets that have plagued many self-descriptive measures (Block, 1981). It was derived from empirical observations of mothers interacting with their children in different structured experimental situations. Some studies have shown that the child-rearing attitudes endorsed by mothers on the CRPR are related to their actual child-management strategies as assessed naturalistically (Dekovic, Janssens, & Gerris, 1991; Kochanska, Kuczynski, & Radke-Yarrow, 1989).

On the other hand, father-rated authoritarian and protective parenting were not found to be significantly associated with observed measures of parenting. This may be due to the fact that these two parenting dimensions in fathers were found to have the lowest internal reliabilities in this study. Also, for many years research data on families came almost exclusively from mothers (Parke, 1995). Though there is now an appreciation for the value of multiple informants when studying the family, doubts remain about the validity of data obtained from fathers, as evidenced by comments in the literature that call into question the accuracy of data obtained from fathers (e.g., Hofferth, Pleck, Stueve, Bianchi, & Sayer, 2002; Roggman, Fitzgerald, Bradley, & Raikes, 2002; Seltzer, 1991). An example of scholarly doubts about fathers' ability to accurately describe their own behavior is found in a statement made by Roggman et al. (2002): "Fathers do not always provide accurate or complete information about their own behavior, but that information can be usefully supplemented by others who observe them" (p. 23). More methodological research on the accuracy of paternal reports of their parenting is needed. It might also be the case that other features of paternal socialization, such as play, are more important for children, or that fathers and children connect in other spheres of behaviour than children's internalizing problems.

Limitations

Some limitations to the current study should be noted. First, due to attrition, the sample size decreased over time, and was the minimum number required to run the analyses used. In addition, path analyses can only test plausibility of specific causal relationships over time, and as such cannot prove causality. It will be important for future studies to replicate and extend these results with alternative research

methodologies. Although statistically significant, the findings were modest in magnitude and their practical significance should not be exaggerated. The low coefficient alphas for the parenting styles may have contributed to the weak findings that were revealed in the path analyses. However, prior reports have also shown low reliability for CRPR scores, despite their predictive validity (e.g., Hastings & Rubin, 1999; Hastings, Rubin, & DeRose, 2005; Hastings, Zahn-Waxler et al., 2000; Kennedy et al., 2004; Rubin et al., 1999). In fact, some have even demonstrated that parental self-report using the CRPR corresponds with observed parental behaviour in interaction with the child (Dekovic et al., 1991). That being said, replication of the current study with larger sample sizes and independent sources of information is definitely necessary. Second, many researchers have suggested that it is certain combinations of parenting style variables rather than their unique impacts that contribute to children's adjustment (Baumrind, 1989, 1991; Darling & Steinberg, 1993; Steinberg, 2001). However, given the attrition rates, it was not possible to control for other parenting styles in the path analyses due to power issues.

Another limitation is that the current sample was primarily white and middle-class. There is some evidence to suggest that parenting styles can have different consequences depending on ethnicity (Darling & Steinberg, 1993). For example, Baumrind (1972) reported that authoritarian parenting, which is associated with fearful, timid behaviour and behavioural compliance among European-American children, is associated with assertiveness among African-American girls. Furthermore, authoritative parenting has been shown to be least effective in influencing the academic achievement of Asian- and African-American youths (e.g. Steinberg, Mounts, Lamborn, & Dornbusch, 1991). Given these differential influences, utilizing more ethnically-diverse samples in

this type of research would be beneficial.

It is important to bear in mind the fact that mothers provided the information both on children's internalizing problems and on their own parenting styles. It can be argued, therefore, that the findings on the transactions between the two variables represent little more than shared method variance. Because of this shared method variance, some caution is warranted in interpreting the relations between the variables for mothers. However, given that the contemporaneous correlations at Time 1 and Time 2 were not significant, it does not appear that mothers were giving redundant information in the parenting Q-Sort and the CBCL. It is also hard to see why this shared method variance would produce more parent effects than child effects in the longitudinal analyses. Still, it will be important to replicate these analyses with independent measures of parent and child characteristics. In addition, it can be argued that parent report is not all that accurate. In fact, Siqueland and colleagues (1996) only found significant effects between psychological control and children's anxiety when observers rated the parenting and not when the parent or the child reported on the parenting styles.

In addition, some research has found that parents and other informants differ on their reports of children's level of problems (Gray, Clancy, & King, 1981). It is very likely that two different reporters, such as parents and researchers, use very different frames of reference for evaluating children's levels of difficulties. Future research would benefit from using multiple informants on children's anxiety in order to obtain as accurate a depiction of anxiety as possible.

Finally, it should also be noted that there are many other ways in which children influence their parents which were not measured in this study, such as through their

attachment or temperament. It can safely be argued that, even upon examining child effects, we are not truly measuring a purely child characteristic. Children are influenced and shaped by their parents even before birth (Chamberlain, 2003). In addition, there are many other ways in which parents influence their children which were not measured in this study, such as through parents' own developmental histories, mental health issues (such as their own levels of anxiety), attributions or cognitions and modeling. All of these factors impact the individual characteristics of each agent, but also how these characteristics impact the dyad. Not surprisingly, this adds another complication to conducting research on bidirectional socialization and as these other factors were not accounted for in the current analyses, results should be interpreted with caution.

Implications

The current study was guided by two main issues. First, when parents use certain types of parenting, what happens to the children and how do these effects vary depending on the child's characteristics? Second, when children are displaying internalizing problems how do parents react in terms of their parenting and why do parents develop these forms of parenting in the first place? The findings from the current study suggest that perhaps one of the most important things that guides parents' parenting are characteristics of the children themselves such as their developmental level, their sex, and their level of vulnerabilities in this case, internalizing problems.

Findings imply that current models of socialization need to be re-evaluated and redefined to be applied to younger children as well as to children with more clinical levels of difficulties. Results from the current study did not always support previous research, and it was thought that this may be due to the fact that this study examined

internalizing problems and not non-clinical levels of difficulties and also because a younger sample of children was used. Much of the original socialization theories were based on research with older children which were then applied downward to younger children. In addition, it was not thought until recently that children as young as two to five years of age could even experience clinical levels of anxiety. In fact, a recent article in the Ottawa Citizen newspaper entitled "Tots on the couch" describes how "children as young as a few months of age are being taken for psychotherapy" (Craig & Sherwell, 2006, p. A5). With the advent of a developmental psychopathology perspective, it is important to recognize that socialization effects can be experienced differently by children at diverse stages of development and with different levels of difficulties. To be able to know how best to help children who are experiencing anxiety and their families, these theories need to be tested and subsequently adjusted for different populations of children.

One suggestion of such a model would be to develop a more family systems framework for evaluating bi-directional effects within socialization. The current study examined mothers and fathers and their parenting as well as their children with various levels of internalizing problems. It is important to recognize that the study focussed on two parents of the same child. As such, the additional benefits and/or detriments of maternal and paternal parenting combined need to be considered. It is possible that the next step in socialization research is to examine the development of a family system over time instead of individual dyads over time. Minuchin (1974) for example, has theorized on the importance of focusing on the structure of the family, including its various substructures. In this regard, these structures are defined by transactions among

interrelated systems, not dyads, within the family. With the sophisticated statistical techniques now available, future research would benefit from examining these more complex systemic questions.

Another important implication of the current findings is the significance of early detection of problems and early intervention. This is a very timely finding given recent government initiatives targeted at prevention and early intervention with young children and their families (e.g. The Better Beginnings, Better Futures Project: Peters, Petrunka, & Arnold, 2003). Given the transactional nature of parent-child relationships, early intervention is imperative; before children and their parents get involved in maladaptive cycles of influence. Results from the current study demonstrated that, at least given the measures used, parenting does matter, and that parents mattered slightly more than children themselves in terms of direction of effect. However, the current findings also point to the fact that children's internalizing problems are not all the parents' fault, but rather children have a role to play as well. Thus, clinical implications include the importance of including both children and parents in treatment.

The current study also points to the importance of fathers in children's early emotional development and, though perhaps in less direct ways than mothers, fathers are influencing children's internalizing problems and are paying attention to their children's needs. Given the more active roles that fathers have taken with regards to parenting in today's age, and the fact that developmental researchers are acknowledging the importance of fathers, there are no reasons why fathers should not be included in socialization research.

Summary

The current study tested a bidirectional socialization model on a sample of families with a preschool-aged child using a short-term longitudinal design, with repeated assessments of parenting (authoritarian control, protective control and authoritative parenting) and children's internalizing problems. Path analyses and hierarchical linear modeling were used to examine directions of effect.

Taken together, results identified mother and father parental effects on children as well as child effects on maternal and paternal parenting. However, most of the significant effects were not direct, but moderated by other child characteristics, such as sex of child, suggesting that reciprocal influences between parents and children may be even more complex than previously thought. The only direct effect of parenting was that mothers' earlier authoritarian control predicted higher levels of later internalizing problems. Conversely, mothers' earlier authoritative parenting predicted fewer subsequent internalizing problems for boys only, and only boys' initial internalizing problems predicted lower maternal protectiveness later. Similarly, younger preschoolers with more internalizing problems initially also had mothers who were less protective later, but this was not seen for older preschoolers. Effects of fathers' parenting were moderated by the severity of children's initial internalizing problems, such that fathers' initial authoritative and protective parenting predicted lower levels of later internalizing problems only for children who initially had fewer internalizing problems.

Findings imply that current models of socialization need to be re-evaluated and redefined to be applied to younger children as well as to children with more clinical levels of difficulties. Clinical implications include the importance of including parents and children in treatment and of intervening early in the child's development. Finally,

the importance of including fathers in socialization research and treatment cannot be underestimated. Overall, this research clearly points to the importance of examining questions of socialization with properly-designed, longitudinal studies and sophisticated, robust tests of change and influence. Overall, findings indicate how continuing to build on the sophistication of our science might reveal things that overturn current perspectives. Socialization is likely to be even more complex and multi-faceted than we think.

Footnotes

1. Attempts were made to improve the coefficient alphas for the CRPR parenting style scores. Specifically, attempting to add additional conceptually-related items, or removing items with less strong item-whole correlations, failed to improve internal reliabilities to any extent (all alphas < .52). Therefore, the decision was made to keep the same items for parenting style dimensions that have been used and validated in previous literature (e.g., Chen et al., 1998; Kochanska et al., 1989; Hastings & Rubin, 1999).
2. In order to examine whether boys and girls differed in age, a t-test was computed. Results revealed that boys and girls did not differ significantly in age, $F(87) = .36, t = .77, ns$.

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Appendix A
The Child Behavior Checklist

Interviewer: _____ Date: _____
 Time: _____ SID: _____

CHILD BEHAVIOR CHECKLIST: SCREENING

	Not True	Somewhat or sometimes true	Very true or often true.
1. Aches or pains (without medical cause; do not include stomach or headaches)	0	1	2
2. Acts too young for age	0	1	2
4. Avoids looking others in the eye	0	1	2
A. Smiles and laughs often	0	1	2
7. Can't stand having things out of place	0	1	2
10. Clings to adults or too dependent	0	1	2
21. Disturbed by any change in routine	0	1	2
B. Plays active games (running, skipping)	0	1	2
22. Doesn't want to sleep alone	0	1	2
23. Doesn't answer when people talk to him/her	0	1	2
24. Doesn't eat well (describe): _____	0	1	2
C. Helps you with chores or tasks	0	1	2
33. Feelings are easily hurt	0	1	2
37. Gets too upset when separated from parents	0	1	2
38. Has trouble getting to sleep	0	1	2
D. Plays quiet games (dolls, board games)	0	1	2
39. Headaches (without medical cause)	0	1	2
43. Looks unhappy without good reason	0	1	2
45. Nausea, feels sick (without medical cause)	0	1	2
E. Gets along well with other children	0	1	2
46. Nervous movements or twitching (Describe): _____	0	1	2
47. Nervous, high strung, or tense	0	1	2
48. Nightmares	0	1	2
F. Interested in reading/looking at books	0	1	2
51. Shows panic for no good reason	0	1	2
62. Refuses to play active games	0	1	2
64. Resists going to bed at night	0	1	2
G. Gets excited about going places with you	0	1	2
67. Seems unresponsive to affection	0	1	2
68. Self-conscious or easily embarrassed	0	1	2
70. Shows little affection towards people	0	1	2
H. Wants to play with other children	0	1	2

SID: _____

	Not True	Somewhat or sometimes true	Very true or often true.
71. Shows little interest in things around him/her	0	1	2
74. Sleeps less than most children during day and/or night (describe): _____	0	1	2
78. Stomachaches or cramps (without medical cause)	0	1	2
I. Carefree and easy-going	0	1	2
79. Rapid shifts between sadness and excitement	0	1	2
82. Sudden changes in mood or feelings	0	1	2
83. Sulks a lot	0	1	2
J. Affectionate with you	0	1	2
84. Talks or cries out in sleep	0	1	2
86. Too concerned with neatness or cleanliness	0	1	2
87. Too fearful or anxious	0	1	2
K. Plays make-believe or pretends	0	1	2
90. Unhappy, sad, or depressed	0	1	2
92. Upset by new people or situations (describe): _____	0	1	2
93. Vomiting, throwing up (without medical cause)	0	1	2
L. Likes to spend time playing outside	0	1	2
94. Wakes up often at night	0	1	2
97. Whining	0	1	2
98. Withdrawn, doesn't get involved with others	0	1	2
99. Worries	0	1	2
M. Draws, paints, or colours	0	1	2

Appendix B

The Child Rearing Practices Report

Child Rearing Practices Report

	Item
1	I respect my child's opinions and encourage him/her to express them
2	I encourage my child always to do his/her best
3	I put the wishes of my mate before the wishes of my child
4	I help my child when he/she is being teased by friends
5	I often feel angry with my child
6	If my child gets into trouble, I expect him/her to handle the problem mostly by him/her self
7	I punish my child by putting him/her off somewhere by him/her self for a while
8	I watch closely what my child eats and when he/she eats
9	I don't think young children of different sexes should be allowed to see each other naked
10	I wish my spouse were more interested in our children
11	I feel a child should be given comfort and understanding when he/she is scared or upset
12	I try to keep my child away from children of families who have different ideas or values from our own
13	I try to stop my child from playing rough games or doing things where he/she might get hurt
14	I believe physical punishment to be the best way of disciplining
15	I believe that a child should be seen and not heard
16	I sometimes forget the promises I have made to my child
17	I think it is good practice for a child to perform in front of others
18	I express affection by hugging kissing and holding my child
19	I find some of my greatest satisfactions in my child
20	I prefer that my child not try things if there is a chance he/she will fail
21	I encourage my child to wonder and think about life
22	I usually take into account my child's preferences in making plans for the family
23	I wish my child did not have to grow up so fast
24	I feel a child should have time to think, daydream and even loaf sometimes
25	I find it difficult to punish my child
26	I let my child make many decisions for him/her self
27	I do not allow my child to say bad things about his/her teachers
28	I worry about the bad and sad things that can happen to a child as he/she grows up
29	I teach my child that in one way or another punishment will find him/her when he/she is bad
30	I do not blame my child for whatever happens if others ask for trouble
31	I do not allow my child to get angry with me
32	I feel my child is a bit of a disappointment to me
33	I expect a great deal from my child
34	I am easy going and relaxed with my child
35	I give up some of my own interests because of my child
36	I tend to spoil my child
37	I have never caught my child stealing
38	I talk over and reason with my child when he/she misbehaves
39	I trust my child to behave as he/she should even when I am not with him/her
40	I joke and play with my child
41	I give my child a good many duties and family responsibilities

42	My child and I have warm, intimate times together
43	I have strict well-established rules for my child
44	I think one has to let a child take many chances as he/she grows up and tries new things
45	I encourage my child to be curious, to explore and question things
46	I sometimes talk about supernatural forces and being in explaining things to my child
47	I expect my child to be grateful and appreciate all the advantages he/she has
48	I sometimes feel that I am too involved with my child
49	I believe in toilet training a child as soon as possible
50	I threaten punishment more often than I actually give it
51	I believe in praising a child when he/she is good and think it gets better results than punishing him/her when he/she is bad
52	I make sure my child know that I appreciate what he/she tries or accomplishes
53	I encourage my child to talk about his/her troubles
54	I believe children should not have secrets from their parents
55	I teach my child to keep control of his/her feelings at all times
56	I try to keep my child from fighting
57	I dread answering my child's questions about sex
58	When I am angry with my child I let him/her know it
59	I think a child should be encouraged to do things better than others
60	I punish my child by taking away a privilege he/she otherwise would have had
61	I give my child extra privileges when he/she behaves well
62	I enjoy having the house full of children
63	I believe that too much affection and tenderness can harm or weaken a child
64	I believe that scolding and criticism makes my child improve
65	I believe my child should be aware of how much I sacrifice for him/her
66	I sometimes tease and make fun of my child
67	I teach my child that he/she is responsible for what happens to him/her
68	I worry about the health of my child
69	There is a good deal of conflict between me and my child
70	I do not allow my child to question my decisions
71	I feel that it is good for a child to play competitive games
72	I like to have some time for myself away from my child
73	I let my child know how ashamed and disappointed I am when he/she misbehaves
74	I want my child to make a good impression on others
75	I want my child to be independent of me
76	I make sure I know where my child is and what he/she is doing
77	I find it interesting and educational to be with my child for long periods
78	I think a child should be weaned from the breast or bottle as soon as possible
79	I instruct my child not to get dirty while he/she is playing
80	I don't go out if I have to leave my child with a stranger
81	I think jealousy and quarrelling between brothers and sisters should be punished
82	I think children must learn early not to cry
83	I control my child by warning him/her about the bad things that can happen
84	I think it is best if the mother rather than the father is the one with the most authority over the children

85	I don't want my child to be looked upon as different from others
86	I don't think children should be given sexual information before they can understand everything
87	I believe it is very important for a child to play outside and get plenty of fresh air
88	I get pleasure from seeing my child eating well and enjoying his/her food
89	I don't allow my child to tease or play tricks on others
90	I think it is wrong to insist that young boys and girls have different kinds of toys and play different sorts of games t
91	I believe it is unwise to let children play a lot by themselves without supervision from grown ups

Appendix C
Parent and Child Consent Forms

CONSENT FORM TO PARTICIPATE IN RESEARCH (primary caregiver)

I agree to participate in a program of research being conducted by Dr. Paul D. Hastings of the Department of Psychology of Concordia University. The purpose of the research is to examine how children with different personality characteristics develop social skills and adjust to daycare and preschool. Part of the research involves looking at the socialization experiences that children receive at home, and part of the research involves examining children's physiological activity patterns. The research program will examine whether these factors predict children's social behaviour.

For this research, I will answer a variety of questions about my child, myself, and my relationship with my child. I will sit quietly with my child for a few minutes while my child's heart rate is recorded in our home, and then I will do a series of activities with my child. I will escort my child to the Department of Psychology of Concordia University for a one-hour visit sometime this winter. Some of the questions that I answer will be asked in an interview over the telephone, some will be asked in my home, and some will be in questionnaires that I will complete on my own time and then will mail to the researchers. I will answer the rest of the questions while my child is in the laboratory playroom at Concordia University.

The telephone interview and questionnaires about my child will assess the extent to which my child engages in a variety of behaviours or exhibits a variety of characteristics. Some of these could be seen as positive or desirable, and others could be seen as negative or undesirable. I will be completing the questionnaires about my child during the visit to the laboratory playroom.

The other questionnaires will be about myself and the ways in which I am raising my child. I will complete one questionnaire about childrearing during the visit to my home. I will complete four more questionnaires on my own time and mail them to the researchers in a stamped, pre-addressed envelope that they will leave with me. After one year has passed, I will complete these five questionnaires again. Copies of the questionnaires will be mailed to me, and I will complete them on my own time and mail them to the researchers in a stamped, pre-addressed envelope.

During the hour in our home, my child and I first will sit quietly and look at a children's book or watch a children's video for a few minutes. Then we will play some games. After that, my child and I will complete a set of activities. These activities include talking about pictures from a storybook, playing with puppets, completing a puzzle, using dolls to tell some stories about my child and other children, learning how to fold paper into origami shapes, and tidying up the play materials. These activities will be videotaped.

I will receive two honorariums as thanks for my willingness to participate in this research. The first honorarium will be \$40, which I will receive as a cheque when I bring

my child to Concordia University. The second honorarium will be for \$10, which I will receive as a cheque when I complete the final set of questionnaires one year from now.

I understand that I am free to withdraw my consent and discontinue my participation in this research at any time, without any negative consequences. If I withdraw from the study before all activities have been completed, I will receive an honorarium equivalent to the proportion of the activities that I completed. I also understand that I can refuse to do any specific part of the procedures or refuse to answer any specific questions without withdrawing from the study and without any negative consequences.

I understand that my participation in this study will be revealed to my child's daycare supervisor or preschool teacher. However, in all other respects, my participation in this research will be confidential. That means that the researcher will not reveal my identity in any written or oral reports about this study. I will be assigned a coded number, and that number will be used on all materials collected in this study. My name will not appear on any of these materials. All materials collected in this study will be stored in secure facilities at Concordia University. In addition, I understand that information I provide in the telephone interview and on the questionnaires will not be shared with my child's daycare supervisor or preschool teacher, unless I make a written request that such information be shared.

I understand that this study is being coordinated and conducted by researchers at Concordia University. My child's daycare is not responsible for any aspect of the study. If I have any questions or concerns, I should address them to the researchers at the ABCD Lab.

If I have any questions about my rights as a research participant, I am free to contact Concordia University's Office of Research Services, at 514-848-4887. Ms. Andrea Rodney will serve as my liaison for this project.

I HAVE CAREFULLY STUDIED THE ABOVE AND UNDERSTAND THIS AGREEMENT. I FREELY CONSENT AND VOLUNTARILY AGREE TO PARTICIPATE IN THIS STUDY.

MY CHILD'S NAME (please print) _____

MY NAME (please print) _____

SIGNATURE _____ DATE _____

WITNESSED BY _____ DATE _____

Sometimes researchers find it useful to show parts of videotaped research activities during presentation to academic audiences, for example, at conferences or in lectures. By signing in the space marked ACCEPT, I am giving permission for Dr. Paul D. Hastings to use the videotapes of me and my child for such purposes. I understand that under no circumstances would these videotapes be shown on any public media, or used for other, non-academic purposes. If I do not want the videotapes of me and my child to be used for the purpose of academic instruction, I will put my initials in the space marked DECLINE.

ACCEPT (signature) _____ DECLINE (initials) _____

CONSENT FORM TO PARTICIPATE IN RESEARCH (secondary caregiver)

I agree to participate in a program of research being conducted by Dr. Paul D. Hastings of the Department of Psychology of Concordia University. The purpose of the research is to examine how children with different personality characteristics develop social skills and adjust to daycare and preschool. Part of the research involves looking at the socialization experiences that children receive at home, and part of the research involves examining children's physiological activity patterns. The research program will examine whether these factors predict children's social behaviour.

For this research, I will answer a variety of questions about my child, myself, and my relationship with my child. I will sit quietly with my child for a few minutes while my child's heart rate is recorded in our home, and then I will do a series of activities with my child. Some of the questions that I answer may be asked in an interview over the telephone, some will be asked in my home, and some will be in questionnaires that I will complete on my own time and then will mail to the researchers.

The telephone interview and questionnaires about my child will assess the extent to which my child engages in a variety of behaviours or exhibits a variety of characteristics. Some of these could be seen as positive or desirable, and others could be seen as negative or undesirable.

The other questionnaires will be about myself and the ways in which I am raising my child. I will complete one questionnaire about childrearing during the visit to my home. I will complete seven more questionnaires on my own time and mail them to the researchers in a stamped, pre-addressed envelope that they will leave with me. After one year has passed, I will complete these eight questionnaires again. Copies of the questionnaires will be mailed to me, and I will complete them on my own time and mail them to the researchers in a stamped, pre-addressed envelope.

During the hour in our home, my child and I first will sit quietly and look at a children's book or watch a children's video for a few minutes. Then we will play some games. After that, my child and I will complete a set of activities. These activities include talking about pictures from a storybook, playing with puppets, completing a puzzle, using dolls to tell some stories about my child and other children, learning how to fold paper into origami shapes, and tidying up the play materials. These activities will be videotaped.

I will receive two honorariums as thanks for my willingness to participate in this research. The first honorarium will be \$20, which I will receive as a cheque when I complete the first set of questionnaires. The second honorarium will be for \$15, which I will receive as a cheque when I complete the final set of questionnaires one year from now.

I understand that I am free to withdraw my consent and discontinue my participation in this research at any time, without any negative consequences. If I withdraw from the study before all activities have been completed, I will receive an honorarium equivalent to the proportion of the activities that I completed. I also understand that I can refuse to do any specific part of the procedures or refuse to answer any specific questions without withdrawing from the study and without any negative consequences.

I understand that my participation in this study will be revealed to my child's daycare supervisor or preschool teacher. However, in all other respects, my participation in this research will be confidential. That means that the researcher will not reveal my identity in any written or oral reports about this study. I will be assigned a coded number, and that number will be used on all materials collected in this study. My name will not appear on any of these materials. All materials collected in this study will be stored in secure facilities at Concordia University. In addition, I understand that information I provide in the telephone interview and on the questionnaires will not be shared with my child's daycare supervisor or preschool teacher, unless I make a written request that such information be shared.

I understand that this study is being coordinated and conducted by researchers at Concordia University. My child's daycare is not responsible for any aspect of the study. If I have any questions or concerns, I should address them to the researchers at the ABCD Lab.

If I have any questions about my rights as a research participant, I am free to contact Concordia University's Office of Research Services, at 514-848-4887. Ms. Andrea Rodney will serve as my liaison for this project.

I HAVE CAREFULLY STUDIED THE ABOVE AND UNDERSTAND THIS AGREEMENT. I FREELY CONSENT AND VOLUNTARILY AGREE TO PARTICIPATE IN THIS STUDY.

MY CHILD'S NAME (please print) _____

MY NAME (please print) _____

SIGNATURE _____ DATE _____

WITNESSED BY _____ DATE _____

Sometimes researchers find it useful to show parts of videotaped research activities during presentation to academic audiences, for example, at conferences or in lectures. By signing in the space marked ACCEPT, I am giving permission for Dr. Paul D. Hastings to use the videotapes of me and my child for such purposes. I understand that under no

circumstances would these videotapes be shown on any public media, or used for other, non-academic purposes. If I do not want the videotapes of me and my child to be used for the purpose of academic instruction, I will put my initials in the space marked DECLINE.

ACCEPT (signature) _____ DECLINE (initials) _____

CONSENT FORM FOR CHILD'S PARTICIPATION IN RESEARCH

I agree to allow my child to participate in a program of research being conducted by Dr. Paul D. Hastings of the Department of Psychology of Concordia University. The purpose of the research is to examine how children with different personality characteristics develop social skills and adjust to daycare and preschool. Part of the research involves looking at the socialization experiences that children receive at home, and part of the research involves examining children's physiological activity patterns. The research program will examine whether these factors predict children's social behaviour.

For this research, my child will wear a monitor to record his or her heart rate. My child will wear the monitor on four separate occasions. My child will wear the monitor (1) for about an hour in our home today, (2) for about an hour in his or her daycare or preschool in the autumn, (3) for about an hour in a laboratory playroom in the Department of Psychology of Concordia University this winter, and (4) for about an hour in his or her daycare, preschool or kindergarten in the autumn of next year. The heart rate monitor is completely safe and records heart rate from the surface of the skin. The monitor will be held in place on my child's chest using an elasticized band, and it will transmit signals to a small receiver unit. The receiver unit will be placed in a belt-pouch that my child will wear around the waist.

My child also will be asked to provide twelve saliva samples. These saliva samples will be collected by having my child chew on a cotton pad sprinkled with sugar-free flavour crystals for one minute. Two saliva sample will be collected in our home today. I will get a saliva sample on the morning of the first daycare or preschool visit this autumn. Three samples will be collected during each of the visits to my child's daycare or preschool. Finally, three samples will be collected in the laboratory playroom. The cotton pads will be stored in plastic containers and taken to a laboratory to have the saliva extracted. The saliva will be examined to determine the levels of a hormone called cortisol. This hormone occurs naturally in everyone. It is produced in the adrenal glands, and it is involved in responses to challenges and stress.

During the hour in our home, my child and I first will sit quietly and look at a children's book or watch a children's video for a few minutes. Then we will play some games. After that, my child and I will complete a set of activities. These activities include talking about pictures from a storybook, playing with puppets, completing a puzzle, using dolls to tell some stories about my child and other children, learning how to fold paper into origami shapes, and tidying up the play materials. My child will do some similar activities with my spouse. The activities involving my child and me, and my child and my spouse, will be videotaped.

During the one-hour visits to my child's daycare, preschool, or kindergarten, my child will be engaging in his or her normal activities. These visits will not be videotaped. There will be a researcher present in my child's daycare, preschool, or kindergarten for

each of the visits. The researcher will observe and make notes about my child's play behaviours for the periods of time that my child is wearing the heart rate monitor.

During the hour in the laboratory playroom, my child will be observed completing some activities with two other children. These children will also be participants in this research study. They will be the same age as my child, but my child will not have met these children previously. For example, these children will not be from the same daycare or preschool as my child. The children will be asked to do several activities while they are in the laboratory playroom. First, the children will be allowed to play with a variety of toys. Second, they will be asked to put the toys away. Third, each child will be asked to sing a song or tell a story about himself or herself. Fourth, the children will work together on a puzzle. Fifth, the children will be given another toy, for them to play with together. Finally, the children will be given a snack. The activities in the playroom will be videotaped. I will bring my child to Concordia University and I will stay there while my child is in the playroom, but I will not be in the playroom with my child. However, if my child becomes upset and wants to see me, I will be brought into the playroom or my child will be brought to me.

One or more of my child's daycare supervisors, preschool teachers, or kindergarten teachers also will be participating in this research. They will be completing questionnaires that will be used to learn about my child's behaviours and emotions while engaged in the normal activities of daycare or preschool, and about my child's general adjustment to being in daycare or preschool.

As thanks for his or her participation in these activities, my child will receive four small gifts (e.g., a toy, doll, or book) worth a total of approximately \$25. One gift will be given to my child in our home, one will be given in each of the two visits to my child's daycare or preschool, and one will be given in the visit to the laboratory playroom.

I understand that I am free to withdraw my consent and discontinue my child's participation in this research at anytime, without any negative consequences. My child also will be asked to give his or her verbal assent to participate in the research, and if my child does not provide assent, then he or she will not be required to participate in the research. I also understand that I can refuse to allow my child, or my child can refuse, to do any specific part of the procedures without withdrawing from the study and without any negative consequences.

I understand that my child's participation in this study will be revealed to his or her daycare supervisors or preschool teachers. I also understand that my child's daycare supervisors or preschool teachers will be providing the researcher with information about my child's behaviour at daycare or preschool. However, in all other respects, my child's participation in this research will be confidential. That means that the researcher will not reveal the identity of my child in any written or oral reports about this study. My child will be assigned a coded number, and that number will be used on all materials collected in this study. My child's name will not appear on any of these materials. All of the

physiological information, questionnaire data, and videotapes collected in this study will be stored in secure facilities at Concordia University.

In addition, I understand that information collected about my child's physiological functions will not be shared with my child's daycare supervisors or preschool teachers, and the videotape of the activities in the laboratory playroom will not be shown to them, unless I make a written request that such information be shared. Information that my child's daycare supervisors or preschool teachers provide about my child to the researcher will not be shared with me, unless a supervisor or teacher provides written permission for this information to be shared.

I understand that this study is being coordinated and conducted by researchers at Concordia University. My child's daycare is not responsible for any aspect of the study. If I have any questions or concerns, I should address them to the researchers at the ABCD Lab.

If I have any questions about my child's rights as a research participant, I am free to contact Concordia University's Office of Research Services, at 514-848-4887. Ms. Andrea Rodney will serve as my family's liaison for this project.

I HAVE CAREFULLY STUDIED THE ABOVE AND UNDERSTAND THIS AGREEMENT. I FREELY CONSENT AND VOLUNTARILY AGREE TO ALLOW MY CHILD'S PARTICIPATION IN THIS STUDY.

MY CHILD'S NAME (please print) _____

MY NAME (please print) _____

SIGNATURE _____ DATE _____

WITNESSED BY _____ DATE _____

Appendix D

Parent Examiner Script for the CRPR

Child-Rearing Q-Sort(s)

If this is a two-parent home, Parent 2 will complete the Q-Sort first, while Parent 1 and child do the Family Interactions. Parent Examiner will take Parent 2 to another room (if possible) to complete the Q-Sort. (If a separate room is not available, try to be as far from possible from the interaction area.) In a single-parent home, Parent Examiner will only lead Parent 1 through the Q-Sort, after the Family Interactions (Child Examiner will play with child during this period).

In either case, parent needs to be working at a table or clear space. Seat parent at the table. Shuffle the stack of 91 cards once or twice, and then place the cards in front of the parent. Lay out the seven envelopes in a row, from “most un-descriptive” on the left, to “most descriptive” on the right. The envelope should not be near the edge of the table, because the parent needs some space to sort the cards. Proceed with explanation:

To help us understand children and what kinds of experiences prepare them for daycare or preschool, we want to learn about what is important to you as a parent, and what kinds of methods you use in raising {CHILD’S NAME}. In this procedure, you are going to tell us about your opinions by sorting through a special set of cards that contain statements about bringing up children.

(If the family has more than one child, say:) Sometimes parents find that they don’t always think the same way or do the same things with their different children. So, please remember, as you do this procedure, think specifically about how you raise {CHILD’S NAME}.

There are 91 cards in the set. Each card has a sentence about child-rearing typed on it. Some describe opinions or beliefs, some cards describe feelings that a parent might have, and others describe things you might do or say with your child. Some of the sentences will be accurate descriptions of you and your relationship with {CHILD’S NAME}, but other sentences will not be as accurate. By sorting these cards into seven equal piles, you will be able to show how descriptive or un-descriptive each of these sentences is for you.

As you can see, there are 7 envelopes in front of you, and each envelope has a label. Envelope 1 will hold the pile of 13 cards that you consider to be *most un-descriptive* of you – these would be the sentences that you would never use to describe yourself. In Envelope 2, you will put the cards that are *quite un-descriptive* of you, but might describe the way you think, feel or act on rare occasions. Envelope 3 will contain the 13 cards that are *fairly un-descriptive* of you. You will put the cards that are most neutral into Envelope 4 – these cards will be *neither descriptive nor un-descriptive* for you. Envelope 5 will hold the cards with sentences that are *fairly descriptive* of you. Envelope 6 will hold the cards that are *quite descriptive* of you, these are sentences that apply most of the time, but not always. Finally, you will put the 13 cards that are *most descriptive* of you into Envelope 7.

So your task is to sort these 91 cards into 7 piles that fit into each of these categories. Each pile has to have exactly 13 cards in it. Okay? ... Some parents do find that it's hard to put the same number of cards in each pile – it can be tough to choose exactly 13 cards for each category. But I do have to ask you to follow those instructions exactly, even if you feel like they limit your choices.

To begin, please shuffle the cards a bit, just so that the sentences are not in any particular order.

Now, to make the task a bit easier, start by just making three piles. As you go through the cards and read each statement, think about whether the card does describe you, does not describe you, or if you're not sure whether it does or does not describe you. Put any cards that *are descriptive* of you in a pile on your right. Put any cards that *are not descriptive* of you in a pile on your left. Put any cards that you are *not certain* about into the middle pile. It doesn't matter how many cards go into each of these three piles; they don't have to be equal. Also, you don't have to take a lot of time to make these three piles, since you're going to go back through the cards to make the final sort into seven piles. So please try to work as quickly as you can.

(If the family has more than one child, say: Please remember to think specifically about how you raise {CHILD'S NAME}.)

(If the parent is not close to finished after 15 minutes, say: Please try to finish this part quickly, to make sure that you'll have enough time for the next part.)

When the parent has finished making three piles:

Now, from the pile on the right – the cards that are generally descriptive of you – please pick out the 13 cards that are *most descriptive* of your child-rearing thoughts, feelings, and behaviours with {CHILD'S NAME}. Put those 13 cards on top of Envelope #7.

(If parent puts them in the envelope, say: Don't put them in the envelope yet, in case you want to shift some cards later.)

*(If parent runs out of cards from the 'generally descriptive' pile, say: Okay, to make up the rest of the 13 *most descriptive* cards, you can through the middle pile and choose the cards that are most descriptive of you.)*

Now, from the cards that remain in the right (*or* middle) pile, pick the 13 cards that are *quite descriptive* of you. Put those 13 cards on top of Envelope #6.

(If parent puts them in the envelope, say: Don't put them in the envelope yet, in case you want to shift some cards later.)

(If parent runs out of cards from the 'generally descriptive' pile, say: Okay, to make up the rest of the 13 *quite descriptive* cards, you can through the middle pile and choose the cards that are the most descriptive of you from that set.)

Great. Now we're going to shift to the pile on the left, and the other end of the scale. These are the cards that are generally un-descriptive of your child-rearing with {CHILD'S NAME}. Go through that whole pile and choose the 13 cards that are *most un-descriptive* of you. Put those cards on top of Envelope #1.

(If parent puts them in the envelope, say: Don't put them in the envelope yet, in case you want to shift some cards later.)

(If parent runs out of cards from the 'generally un-descriptive' pile, say: Okay, to make up the rest of the 13 *most un-descriptive* cards, you can through the middle pile and choose the cards that are the least descriptive of you from that set.)

Okay. Now, from the cards that remain in the left (or middle) pile, pick the 13 cards that are *quite un-descriptive* of you. Put those 13 cards on top of Envelope #2.

(If parent puts them in the envelope, say: Don't put them in the envelope yet, in case you want to shift some cards later.)

(If parent runs out of cards from the 'generally un-descriptive' pile, say: Okay, to make up the rest of the 13 *quite un-descriptive* cards, you can through the middle pile and choose the cards that are the least descriptive of you from that set.)

Now you have 39 cards left, and three piles to make. Scoop all the cards together into one pile. Go through the cards, one by one, and sort them into 3 piles. You should put 13 cards into a pile representing sentences that are *fairly descriptive* of you. There will be 13 cards that are *neither descriptive nor un-descriptive* of you. And there will be 13 cards that are *fairly un-descriptive* of you. Those three piles go on top of Envelopes 5, 4, and 3.

Great. There's just one step left. Please pick up each pile, one at a time, and look through the pile. Make sure there are 13 cards in each pile, and that you are satisfied with the way you've divided the cards. If there are any changes that you want to make, like switching cards between '*quite descriptive*' and '*most descriptive*,' now is the time to make those changes. ... If you're finished and don't want to make any other changes, you can put each pile into its envelope now. ... Thanks!

Once all piles are in their proper envelopes and envelopes are closed, Parent Examiner should gather the envelopes and put them into the larger envelope labeled **Parent 2** (or **Parent 1**, if appropriate).

In two-parent homes, when Child Examiner has finished Family Interactions, then the parents will switch roles. Parent 2 will go with Child Examiner to do Family Interactions. Parent Examiner will repeat all Q-Sort steps with Parent 1, using a second set of cards and envelopes.

Appendix E

Child Examiner Script for the Parent-Child Interactions

Family Interaction, Parent 1

Both the Child and Parent Examiners will be needed to set up the Interaction equipment. [If this is a two-parent family, after setting up the equipment, Parent 2 will complete the Q-Sort with the Parent Examiner, in another room.]

Oh boy, that was fun! Wow, thanks for playing with me! I had a lot of fun. You're really good at those games! You know what? Now we've got some fun things for you and your {mom/dad} to do together. I think you're going to like this part. And we're going to film it with our camera! So we just need a couple of minutes to get the camera set up, and then we can begin.

Parent and Child Examiner set up the camera in the area indicated by the parent during the Explanations. *Make sure the labeled videotape is in the camera. Make sure the external microphone is connected to the camera and placed near the interaction area.* The camera must have a clear view of the area in which the parent and child will be interacting.

Child Examiner leads Parent 1 and child to interaction area. The parent and child should be seated beside each other, so that the camera can record both of their faces, upper bodies (at least), and the interaction area. Child Examiner should sit closer to camera, so they will be looking toward camera whenever they speak to Child Examiner. Child Examiner should have the bag of materials beside him/her. In single-parent homes, Parent Examiner will sit further away, with Interaction Checklist. In two-parent homes, Parent Examiner will work on Q-Sort with Parent 2 in another room, and Child Examiner will complete the Interaction Checklist.

When everything is ready, Child Examiner starts the camera, and checks to make sure the focus and filming area look good.

A. Solving a Puzzle (5 min)

Take the Puzzle box out of the bag, and explain to child:

Now I'm going to give you a puzzle to work on. I think you'll like the picture it makes when you're finished. But it's not easy! [*To parent:*] Just give {CHILD'S NAME} as much help as you think (he/she) needs to finish it.

Dump the pieces from the box in front of the parent and child. Place the box in front of you, beside the book folder. Say: "Okay, you can start."

If they are not finished after four minutes, gently interrupt and say: "It's a pretty tough puzzle, isn't it? It's almost time to move to the next activity, though, so if you could please try to finish the puzzle now, that would be very helpful. Thanks."

When they are finished: Great! Look what a good job you did! Okay, you finished the puzzle, so now we can go on to the next activity. But first, let's

take the puzzle apart so it's ready for the next family, and move the pieces out of the way so we can use this space again. You and I can do this together.

Help the child to dismantle the puzzle. Put some of the pieces off to either side of the interaction area.

B. The Story Dolls (10 min)

Take the box of dolls and story props out of the bag, and say:

Now I have something that is a little different for the two of you to do together. In this box, I have several little dolls, and some doll-furniture and toys and things. Some of the dolls are children, and some of the dolls are adults. What we're going to do is use the dolls to tell some stories. All the stories are going to be about the two of you. I'll start each story, and then the two of you can use the dolls to finish telling the story that I begin. Okay? It's like make-believe, or pretend.

If the child objects, or does not want to play with dolls (as a few boys might), say: "These are more like action figures! We're going to use them to tell stories and do things."

From the box, select an adult doll and a child doll that resemble the parent and child (sexs, races). Put the child doll in front of the child and say: "{CHILD'S NAME}, this will be you." Put the adult doll in front of the parent and say: "[PARENT'S NAME], this will be you."

Okay, for the first story... [*Proceed in the predetermined order.*]

When administering the stories, you will also be the narrator. For example, if a child moves her doll forward without saying or doing anything else, you say "Okay, you go into the room..." If a child says something quietly or mumbles and you think it might not be recorded well, repeat statements so that they are clear for the videotape, e.g., "You say to Becky 'Ask her if you can play too.'"; etc.

At the end of a story – when it is clear that the parent and child are finished, or they are happily engaged in play – say: "And is that the end of this story?" If a parent and child continue a story for *three minutes* after you have finished introducing the scenario, gently interrupt with the question: "Okay, and how does this story end?"

Then summarize the story, briefly repeating each step back, e.g., "Okay, you got to preschool late and the other children were already playing. You walked into the room and stopped, and then your mother said that you should ask if you could play. So you did, and they said yes, and you played with them. Right?"

M1. Late for School: Take the gray cloth out of the box and put it on the floor, to represent a room. Take the square table out of the box and put it in the middle of the

room. Take four child dolls (2 boys, 2 girls) and one female adult doll out of the box. Put the child dolls together, on the side of the table farthest from the parent and child. Take a ball and a skipping rope from the box and put them with the child dolls. Put the adult doll at one edge of the cloth, and between the child dolls and the table. Take a toy car and doll from the box and put them on the table.

Take the parent doll and child doll in each hand. As you begin the story, move the parent and child dolls toward the edge of the cloth on the side of the table closest to the parent and child (opposite the four child dolls).

One day, the two of you are getting ready for (preschool/daycare), but some things happen that make you late. You rush to get to (preschool/daycare). When you get there, you step in and see that the other children are already there and are playing together. [*Move the dolls a bit for a few seconds, laughing and saying things like "My turn!" and "Here you go!" and "Whee!" and gently kicking or passing the ball back and forth.*] *Move back to your position. Look at child and say: "Now you finish the story. What happens next?"*

Prompts:

To help get the story started: If the child does not say or do anything for 10 seconds, and the parent does not begin the story, point to the child doll and look at the child and say: "This is you. You just got to (preschool/daycare). What do you do now?" If the child and parent still do not do anything for another 10 seconds, point to the parent doll and ask the parent: "Do you say or do anything?" If that still does not work, ask the parent: "What would the two of you usually do when you arrive?" If that still does not get them started, point to the female adult doll in the room and say: "This is your teacher. She says 'Hello, {CHILD'S NAME}. Aren't you going to come in and play today?'" Finally, ask the parent: "How would you try to get your child to go in and start the day at (preschool/daycare)?" If that is not effective, end the story.

To continue a paused story: If the child goes into the room or begins the story, but then stops, and the parent does not continue, ask the child: "Does anything else happen?" If that does not continue the story, say "You can move the other dolls and make those children say things, if you want to." If that does not work, ask the parent: "What would you say or do at this point?"

If story seems to be ending but child hasn't joined in play with peers: Ask the parent: "How would you try to get {CHILD'S NAME} to play with the other children?" If the parent does not say or do anything to get the child to play with the peers, end the story.

When the story has ended, summarize: "OK, so what happened in this story is that..." and ask "Is that how the story ends?" ... "OK, that was fine. Thanks for doing that one!" *If this is the last story, move all the dolls and pieces into the pile beside Parent 1. Leave the doll box beside the puzzle box and book folder. If there are more stories to go, just put the dolls and props that you won't need into a pile beside Parent 1; place the parent doll and child doll near the parent and child; return other materials to the box.*

M2. Birthday Party Story. Take the blue cloth out of the box and put it on the floor, to represent a room. Take the two chairs out of the box and put them against one side of the room. Take three child dolls (2 same-sex as child, 1 opposite-sex) and one female adult doll out of the box. Put the child dolls together, near the end of the room closer to you. Take either the ball and car (boys) or skipping rope and doll (girls) from the box and put them with the child dolls. Put the adult doll at one edge of the cloth, opposite from the chairs. Take two presents from the box and put them near the chairs. Put the third present with the child doll and parent doll. *(NB: If we know the family are Jehovah Witnesses, do NOT put out the presents, and do not say 'birthday.' The child has simply been invited to a party. Everything else is the same.)*

Take the parent doll and child doll in either hand. Have the child doll "hold" the present. As you begin the story, move the parent and child dolls toward the edge of the cloth on the side closest to the parent and child (furthest from the three child dolls).

In this story, {CHILD'S NAME}, you've been invited to a birthday party! A (boy/girl) you know from down the street invited you. Your (mom/dad) brings you to the party. When you get there, you see the child who invited you to the party [*point to one doll, "Jimmy" or "Teri"*], but you do not know the other children at the party. The children are playing and having fun. [*Move the dolls a bit, laughing and saying things like "Wheel!" and "Here, you try it!" and "This is a fun party!" and gently passing the toys back and forth.*]

Move back to your position. Look at child and say: "Now you finish the story. What happens next?"

Prompts:

To help get the story started: If the child does not say or do anything for 10 seconds, and the parent does not begin the story, point to the child doll and look at the child and say: "This is you. You just got to (Jimmy's/Teri's) party. What do you do now?" If the child and parent still do not do anything for another 10 seconds, point to the parent doll and ask the parent: "Do you say or do anything?" If that still does not work, ask the parent: "What would you usually do when you arrive at someone's home?" If that still does not get them started, point to the female adult doll in the room and say: "This is (Jimmy's/Teri's) mother. She says 'Hello, {CHILD'S NAME}. Thanks for coming to the party. Aren't you going to come in?'" Finally, ask the parent: "How would you try to get your child to go in and play with the other children?" If that is not effective, end the story.

To continue a paused story: If the child goes into the room or begins the story, but then stops, and the parent does not continue, ask the child: "Does anything else happen?" If that does not continue the story, say "You can move the other dolls and make those children say things, if you want to." If that does not work, ask the parent: "What would you say or do at this point?"

If story seems to be ending but child hasn't joined in play with peers: Ask the parent: "How would you try to get {CHILD'S NAME} to play with the other

children?" If the parent does not say or do anything to get the child to play with the peers, end the story.

When the story has ended, summarize: "OK, so what happened in this story is that..." and ask "Is that how the story ends?" ... "OK, that was fine. Thanks for doing that one!" If this is the last story, move all the dolls and pieces into the pile beside Parent 1. Leave the doll box beside the puzzle box and book folder. If there are more stories to go, just put the dolls and props that you won't need into a pile beside Parent 1; place the parent doll and child doll near the parent and child; return other materials to the box.

O1. Meeting Someone New. Take the gray cloth out of the box and put it on the floor, to represent a room. Take the two chairs out of the box and put them near the side of the room closest to you. Take the table out of the box and put it in front of the chairs. Take one child doll ("peer," same sex as child) and one adult doll (same sex as parent) out of the box. Put these two dolls at one side of the room, just off the cloth (e.g., not "in the room"). Take the toy car (for boys) or doll (for girls) out of the box, and put it beside the peer doll.

Take the parent doll and child doll, and put them at the other side of the room. Start with them standing side-by-side. As you proceed through the story introduction, the peer and adult dolls will enter the room, and then the child doll will move behind the parent doll.

In this story, {CHILD'S NAME}, your (mom/dad) has invited another child over to your house to play with you. You've never played with this child before. The doorbell rings, *ding-dong!*, and your (mom/dad) says "Come in!" Another (boy/girl) walks in, beside (his/her) (mother/father). The other child's (mother/father) says "Hello, this is (Barry/Chrissy)." You see that (Barry/Chrissy) has a new toy (car/doll) that looks like a fun toy to play with. But you don't know (Barry/Chrissy). You move behind your (mom/dad) and look around (his/her) legs.

Move back to your position. Look at child and say: "Now you finish the story. What happens next?"

Prompts:

To help get the story started: If the child does not say or do anything for 10 seconds, and the parent does not begin the story, point to the child doll and look at the child and say: "This is you. You've never met (Barry/Chrissy) before, but you like (his/her) toy. What do you do now?" If the child and parent still do not do anything for another 10 seconds, point to the parent doll and ask the parent: "Do you say or do anything?" If that still does not work, ask the parent: "What would you usually do when your child acts this way?" If that still does not get them started, point to the other adult doll in the room and say: "This is (Barry's/Chrissy's) (mother/father). (She/He) says 'Hello, {CHILD'S NAME}. Thanks for inviting us to your home. Would you like to play with (Barry/Chrissy)?" Finally, ask the parent: "How would you try to get your child to play with this new friend?" If that does not work, end the story.

To continue a paused story: If the child moves toward the peer doll or begins the story, but then stops, and the parent does not continue, ask the child: "Does anything else happen?" If that does not continue the story, say "You can move the other doll and make (Barry/Chrissy) say things, if you want to." If that does not work, ask the parent: "What would you say or do at this point?"

If story seems to be ending but child hasn't joined in play with peers: Ask the parent: "How would you try to get {CHILD'S NAME} to play with the other child?" If the parent does not say or do anything to get the child to play with the peers, end the story.

When the story has ended, summarize: "OK, so what happened in this story is that..." and ask "Is that how the story ends?" ... "OK, that was fine. Thanks for doing that one!" *If this is the last story, move all the dolls and pieces into the pile beside Parent 1. Leave the doll box beside the puzzle box and book folder. If there are more stories to go, just put the dolls and props that you won't need into a pile beside Parent 1; place the parent doll and child doll near the parent and child; return other materials to the box.*

O2. A Child in the Park. Take the green cloth out of the box and put it on the floor, to represent grass in a park. Take one child doll ("peer," same sex as child) and one adult doll (same sex as parent) out of the box. Put these two dolls at one side of the cloth.

Take the parent doll and child doll, and put them at the other side of the cloth. Take the ball from the box, and put it in front of the child.

In this story, {CHILD'S NAME}, your (mom/dad) has taken you to the park to play. You're playing with this ball. (*Roll the ball back and forth between the child and parent dolls a couple of times.*) There is another (boy/girl) in the park with (his/her) (mother/father), and they are walking toward you. (*Move these dolls a little closer.*) The other child stops and points at your ball and says "I like that ball! I want to play with the ball!"

Move back to your position. Look at child and say: "Now you finish the story. What happens next?"

Prompts:

To help get the story started: If the child does not say or do anything for 10 seconds, and the parent does not begin the story, point to the child doll and look at the child and say: "This is you. You've never seen this (boy/girl) before, but (he/she) would like to play with your ball. What do you do now?" If the child and parent still do not do anything for another 10 seconds, point to the parent doll and ask the parent: "Do you say or do anything?" If that still does not work, ask the parent: "What would you usually do when your child meets someone new?" If that still does not get them started, point to the other adult doll in the room and say: "This is the other child's (mother/father). (She/He) says 'Hello. This is my (son/daughter), (Mark/Anne). (He/She) really likes your ball. Would you like to play with (Mark/Anne)?" Finally, ask the parent: "How would you try to get your child to play with this child?" If that does not work, end the story.

To continue a paused story: If the child moves toward the peer doll or begins the story, but then stops, and the parent does not continue, ask the child: “Does anything else happen?” If that does not continue the story, say “You can move the other doll and make (Mark/Anne) say things, if you want to.” If that does not work, ask the parent: “What would you say or do at this point?”

If story seems to be ending but child hasn't joined in play with peers: Ask the parent: “How would you try to get {CHILD'S NAME} to play with the other child?” If the parent does not say or do anything to get the child to play with the peers, end the story.

When the story has ended, summarize: “OK, so what happened in this story is that...” and ask “Is that how the story ends?” ... “OK, that was fine. Thanks for doing that one!” *If this is the last story, move all the dolls and pieces into the pile beside Parent 1. Leave the doll box beside the puzzle box and book folder. If there are more stories to go, just put the dolls and props that you won't need into a pile beside Parent 1; place the parent doll and child doll near the parent and child; return other materials to the box.*

C. Tidying Up (5 min)

You know what? We're all done! Great job! Thanks so much! That's all the activities that we have for the two of you to do today. (*Say to parent:*) Now, I'd like you to get {CHILD'S NAME} to tidy up this area. The materials from the four different activities should go into their proper containers, which are right here in front of me. When everything is back where it belongs, just put the four containers in front of you on the (floor/table). Okay?

Once everything has been cleaned by the parent and child, *or 4 minutes of videotaped clean-up behaviours have been collected*, say “Great! Thanks so much for tidying these things up for me!” and put materials back in the bag. Then say: “Now I just need to tell the monitor that we've finished these activities.”

Child Examiner removes the Mini-Logger from the pack, and pushes the Event Marker **four times slowly**. *If there is a second parent*, put the Mini-Logger back in the pack. If there is not a second parent, remove the watch, fanny pack, and Polar chest band from the child (obtaining help from the parent if necessary), and return equipment to the bag.

Appendix F

Coding Manual for Puzzle Task

Parental Sensitivity

The puzzle task will be coded using a time sampling technique, using 15 second time samples. There are 4 sensitivity codes. Each code is scored as present or absent in each segment. For most codes to be given, the child must express a need, i.e. when the child is having trouble fitting a piece, looks to the parent for assistance and/or explicitly asks for help, saying, "Where does this one go?." Or the child seems unable to complete an action or continue with the task; seems stuck (**is not the same** as the child thinking about where a piece goes). The only code that can be given without the child indicating a need is # 3: Insensitive, Control – reflecting a parent's unnecessary involvement. If the task ends in a segment that lasts for more than 7 seconds, then code that as the last segment. (Do not code a final period that is less than 7 seconds.) These are guidelines:

1. Not responding / Not noticing (Parent)

Parent does not respond to the child or does not notice child's actions, e.g. may be looking away. May be failure to assist child having difficulty, or failure to notice/respond to child's bids for praise or reinforcement. Child may become agitated and/or show annoyance, but negative child reaction is not necessary for code to be given.

2. Override/Irrelevant

Parent's response is not related to child's expressed need.

e.g. "Forget it." "Leave it." "Try that one instead." – disregards child's needs

e.g. Child says "where does this one go?" and parent responds "today is a nice day" or "Nancy is a nice experimenter"

3. Insensitive

Parent's response dominates; parent addresses child's need by fully doing the task.

e.g. "Here, I've got it." "I'll do it." "Watch me do it."

e.g. Parent grabs piece from the child, or attempts to grab piece from the child.

Parent points directly to where the piece should go "Put it right here," minimizing the child's input.

4. Sensitive

Parent's response is contingent upon, and matches, child's expressed need. Parent allows child input, and/or decision making, as to where pieces should go, which piece to use, etc. Parental action principally adds enough structure/support that child can complete action, therefore is an appropriate but minimally directive response.

e.g. "Try another hole" or "Maybe if you turn it, it will fit."

e.g. Short parental responses: "yeah" or "you can put it here." Reassures child, praises actions/efforts when child looks for acknowledgement.

Puzzle Task Coding Sheet

ID _____ CODER _____ DATE _____

CHILD EXAMINER _____ *DATE OF HOME VISIT* _____

PARENT: MOM DAD ORDER: FIRST SECOND

PUZZLE TIME BEGINS: PUZZLE TIME ENDS:

OF SEGMENTS:

Time	Child Need (Y or N)	Parent Code :			
		1	2	3	4
0 - 15					
15 - 30					
30 - 45					
45 - 1:00					
1:00 - 1:15					
1:15 - 1:30					
1:30 - 1:45					
1:45 - 2:00					
2:00 - 2:15					
2:15 - 2:30					
2:30 - 2:45					
2:45 - 3:00					
3:00 - 3:15					
3:15 - 3:30					

Time	Child Need (Y or N)	Parent Code :
		1 2 3 4
3:30 – 3:45		
3:45 – 4:00		
4:00 – 4:15		
4:15 – 4:30		
4:30 – 4:45		
4:45 – 5:00		
5:00 – 5:15		
5:15 – 5:30		
5:30 – 5:45		
5:45 – 6:00		
6:00 – 6:15		
6:15 – 6:30		
6:30 – 6:45		
6:45 – 7:00		
5:45 – 6:00		

Appendix G

Coding Manual for Doll Story Task

DOLL STORY CODING SCHEME

GENERAL INSTRUCTIONS

- Use VCR timer to record time
- For the same strategy using the *same* or *similar words* to be counted twice in a row, there must be a pause in between the statements. E.g. “go play. [pause]. Go ahead and play.”
- If the parent says he/she is going to do something and *shortly thereafter* does it, this counts as one code. E.g. “I’m going to talk to your teacher. [Walks over to teacher]. Hi Ms. How are you today?”
- If the parent asks a question in the *past tense*, such as “what did you do?” or “did you play ball with Chrissy?” do not code this.
- If the parent asks a question about what the *other characters* should do, do not code this.
- By definition, if you code a parent as *not at all* accepting of child’s reluctance, the parent would be coded as *very* rejecting of child’s reluctance. Similarly, a parent who gets *somewhat* accepting, would get *somewhat* rejecting. A parent who gets *very* for accepting, would get *not at all* rejecting.
- You MUST to go through the tape at least 3 times:
 - 1) Record **1, 2, and 3.**
 - 2) Record only **Parent Strategies** next.
 - 3) **Double Check** parenting strategies.

Doll Stories Coding Guidelines

- **Story begins:**

This is a time code. Story begins right after the child examiner says “what happens next?”

- **1st peer interaction:**

This is a time code. The child must interact with the peers him/herself. The child must either be holding the child doll to interact with the peers, or, if the parent is holding the child doll, the child must say something to suggest he/she is part of the interaction. If the parent is controlling the child, e.g. brings child doll to peers and says “let’s play” and acts it out, this *does not* count as a peer interaction unless the child says something to suggest he/she is involved in the interaction. For example, if the parent brings the child doll to the peer dolls and the child says “I’m playing ball with the kids” or “This is fun,” this counts as a peer interaction. If the child did not interact with peers at any point in the story, mark an “X” on the line next to 1st peer interaction.

- **Summary begins:**

This is a time code. This is when the child examiner begins to summarize the story. Indicate the time the child examiner interrupts the story to summarize it. The child examiner will say “ok, that’s great” or “so, what happened in the story is ...” If the child examiner does not summarize the story, mark an “X” on the line next to Summary begins.

- **Story ends:**

This is a time code. If the child examiner summarized the story, the story ends once the summary is completed and the child examiner says “alright, thanks for that one.” If the child examiner did not summarize the story, the story ends upon completion of the parent and child’s last action.

1. Child reluctance to engage with peers:

Any time the child refuses (verbally or not) to interact with the peer(s) in the story. This includes the child refusing to bring his/her doll near the peers, shaking his/her head when asked to go to or play with peers, saying “no” or “I don’t want to play with them” or “I only want to play with you, mom/dad,” etc. *Not at all* is given if the child displays NO reluctance at any point in the story. *Somewhat* is given if the child shows one to three mild expressions of reluctance or one large display (e.g. NOOOO!!!). *Very* is given if the child shows more than 3 mild displays of reluctance or more than one large display. To each reluctance code, there MUST be a parental reaction: either **accept** or **reject** the reluctance.

2. Parent accepts child reluctance:

Any explicit or implicit acceptance of child reluctance. E.g. child says “I don’t want to play with them” and parent responds “ok,” suggests other things to do (e.g. “how about we go talk to your teacher”), or plays with child him/herself. The parent may *silently* accept child’s reluctance (e.g. no response). *Not at all* is given if the parent never accepts the child’s reluctance. *Somewhat* is given if the parent accepts some of the child’s reluctance. *Very* is given if the parent accepts all of the child’s reluctance.

3. Parent rejects child reluctance:

Parent says child has to play with peer(s), or says “that’s what happens at daycare, you have to play with the kids”. The parent may criticize or show disapproval of the child not interacting, or may take the child doll to the peers despite the child’s verbal or non-verbal refusal to do so. If the parent encourages the child to interact, the child refuses, and the parent encourages alternative type of peer interaction, this counts as rejecting the child’s reluctance. E.g. the parent says “do you want to play with Jimmy,” the child shakes his head, and the parent says “ok. Well how about you show Jimmy your room?” this parent has accepted the child’s reluctance by saying “ok” and rejected it by presenting another social alternative. *Not at all* is given if the parent never rejects the child’s reluctance. *Somewhat* is given if the parent rejects some of the child’s reluctance. *Very* is given if the parent rejects all of the child’s reluctance.

• Period 1:

Record the number of times each parent strategy occurred from when the story began until the child’s first peer interaction. If the child *never* interacted with peers, record number of times each strategy occurred from when story begins until summary begins, and write nothing under period 2. If the child *never* interacted with peers & there was *no* summary, record number of times each strategy occurred from when story begins until the story ends, and write nothing under period 2 & 3.

4. Suggests behavior:

Parent suggests any behavior or alternatives involving interacting with peers, such as “Would you like to do X (or Y) with the kids?” or “Why don’t you go play ball with Chrissy?” The parent presents the behavior or alternatives in the form of a question; this is so that the child has the choice of saying “yes” or “no,” or “I want to do X” or “I want to do Y.” The parent is providing the idea/ choice for a *new* behavior, namely one that the child is not already engaged in. If the parent presents a couple of suggestions, one after the other, *without pausing* to let the child answer, code this as *I suggests* (the lack of pause between suggestions functions the same way as a parent saying “or” between alternatives). E.g. parent says, “do you want to eat birthday cake with your friends? How about singing happy birthday to Barry?” without pausing, this would be coded as 1 suggests. If the child is clearly *not* engaged in any activity with the peer and the parent says “what game **are** you guys playing?” this counts as suggests because the parent is providing the idea of what the child should do. Do not code as suggests if the parent is merely reflecting the behavior of the child. E.g. the child is standing with peers and the parent says “hey, do you want to go see your friends?” or the child is about to kick the ball to peers and the parent says “do you want to play ball with your friends?” Main difference between this and tells child to interact with peers is that saying “no” does *not* constitute disobedience. Main difference between this and encourage is that the parent has provided the idea and given choice. If parent asks “what ball game would you like to play with the kids” when the child is either *away from the children* or is *not engaged in ball play*, this is coded as suggest, not encourage. Similarly, if parent asks “what do you want to do with your friends” when child is away from and/or not doing anything with peers, this is coded as suggest, not encourage. If the parent presents the choice between a social alternative involving peers and a non-social alternative, presentation of the social alternative is coded as suggests and presentation of the non-social alternative is coded as supports non-social behavior. E.g. “Do you want to go play with the kids or lie on the couch?” If the parent presents the choice between a social alternative involving peers and a social alternative involving other adult, presentation of the social alternative is coded as suggests and presentation of the adult alternative is coded as gets child to interact with other adult. If the parent uses the peer doll to present a suggestion, e.g. “do you want to play ball with me,” this counts as parent makes peers initiate interaction, *not* suggests.

5. Encourages child to come up with own ideas:

Any attempt to get child to generate own ideas about what to do or say in the situation. E.g. parent says “what are you *going to do* now?” If the child is *facing* the peer(s) and the parent says “what are you going to say?” this counts as encourage; on the other hand, if the child is *not facing* the peer(s), this would count as suggests. Do not code as encourage if the parent is merely reflecting the behavior of the child. If parent asks “what ball game would you like to play with the kids?” when child is already with the peers and the ball is already being played with, this is coded as encourage, not suggest, because the parent is trying to get the child to generate a new variation of the activity or add to it him/herself.

Similarly, if parent asks “what do you want to do with your friends?” when child and peers are facing each other and/or child is doing something with peers, this is coded as encourage, not suggest. If the parent asks what the child is presently doing, do not code this as encourage because the parent is not encouraging the child to come up with anything new, but is rather seeking clarification on the child’s activity. E.g. the child is kicking the ball to the peer and the parent says “what game **are** you playing?” or the child is playing doll with the peer and the parent says “what **are** you guys doing?” If the child is playing with peers and the parent says “who should go 1st?” this does *not* count as encourage. If the child and peer *are watching TV* and the parent says “what show are you watching?” or “what show do you want to watch?” than this counts as encourage.

6. Familiarization:

The parent makes the situation one that the child has a previous awareness of. The parent identifies the peers, teacher, or situation as known to the child, such as “this is your teacher at Rainbow school. You know her name. It’s Sally” or “this is just like last week when we were at the park together” or “what do we *normally* [or *usually*] do when we get to school?” If the parent says “what do we do when we get to school?” this does *not* count. If it is unclear that the name the parent assigns to a character is that of a person the child is familiar with, then *do not* code as familiarization.

7. Tells child to interact with peers:

Tells child s/he has to “do X, do Y with peers” such as “go play ball with them” or “how about you go to the kids.” If the parent says “*can you* go play with them” or “*can you* say hi to Barry” this counts as tells because the child is clearly capable of playing with them or saying hi, so the parent is not really asking a question but rather is telling the child what to do. Do not code if the parent is merely reflecting the behavior of the child. If the parent says, “kick the ball to them” when the child is already playing a ball game with the peers, this does not count, unless it is clear that the child would not have kicked it otherwise. In the parent suggests something and the child agrees, and then the parent tells the child to go do what he/she’s already agreed to do, this does not count as tells. E.g. parent says “how about you go play with Jimmy,” the child responds “ok,” then the parent says “Ok. Go play with him” this statement does not count as tells because the child was presumably going to do it anyway. Different from encourage or suggest because parent provides idea and does not offer choice. So, if the parent says “give him the present” and the child says “no,” this constitutes disobedience. Do not code if the parent says to the child “go into daycare” or “come in” or “go” because this is not clearly telling the child to interact with the peers. On the other hand, if the parent says “go into daycare” and points or gestures to the peers, this would be coded as tells.

8. Asks child why won’t join peer(s):

Any time parent asks child why s/he's not playing with the other children, or why s/he doesn't want to. E.g. "what's wrong? Why don't you want to play with them?"

9. Parent and child interact with other kids:

Parent doll and child doll interact with peers together. The parent doll becomes or is part of the peer group with the child. E.g. parent and child walk together to the peers and start talking or playing with them. If child is already interacting with peers, and the parent comes and joins the interaction, this *does* count. Do not code if the parent goes to peer group with child and introduces the child to the peers, then leaves them to play or interact together.

10. Parent makes peers initiate interaction:

Parent acts as one of the peers and initiates interaction with child, or initiates a new activity. If the child is not interacting with peers and the parent takes a peer doll and says "Hi. What's your name?" or "let's play ball," this counts. If the child is playing ball with the peer, and the parent speaks as the peer and says "let's play dolls" or "hey, let's go to your room," this counts because the parent is changing the activity. If the parent uses peer to receive/ acknowledge/ respond to play that is *initiated by the child*, this does not count. E.g. if child says "let's play ball" and parent/peer says "sure, let's play ball," this does not count. Similarly, if the child and peer are already playing ball and the parent (using peer doll) says "playing ball is fun" or "your turn. Now you kick it," this does not count.

11. Parent takes over the child:

Parent takes child doll and uses it to interact with peers or adult. E.g. the parent may take child doll and bring it to the peers, may start kicking the ball with the peers, or may say "Hey guys. How are you?" If the parent is holding the child doll and not interacting, this does not count.

12. Parent takes role of other adult:

When parent becomes the teacher or another parent and talks to the child such as "welcome to my house, how are you today?"

13. Parent models social engagement:

Parent uses his/her own doll to interact with teacher, other parent, or peer. E.g. "I am going to talk with teacher" or "Me and Terri's dad are going to go talk on the couch" or says to other adult "Thanks for inviting us." Within the context of modeling, parent verbalizations can receive other codes. E.g. parent doll says to other adult "Hi. This is J. He's Barry's friend from school. They play together. Thanks for inviting us." In this case, the *action* is models social engagement and most of the *content* is reasoning/explanation, so this would be coded models and reasoning/explanation.

14. Supports child interaction with other adult:

The parent suggests, encourages, or commands the child to interact with the other adult in the story. E.g. “go talk to your teacher,” “shake hands with Barry’s dad,” or “Let’s go meet Chrissy’s mom.”

15. Supports parent becoming playmate for child:

This includes directing, encouraging, accepting, suggesting, reinforcing, or acting out the parent and child playing together. E.g. parent says “do you want to play ball with me?” or “let’s play ball together.” The parent may take parent doll and play with child only (no peers). If the parent, child, and a peer are standing in a triangle form facing each other and the parent is only kicking the ball to his child, give the benefit of the doubt and don’t count this as the parent becoming playmate for child. On the other hand, if the parent is holding the parent doll and is playing ball with the child, apart from the peers and other adult OR with parent and child oriented only to each other, this counts.

16. Supports non-social behavior:

This includes directing, encouraging, accepting, suggesting, and reinforcing non-social behavior. The parent supports behaviors that do not involve interactions with other characters in the story. E.g. “Would you like to go lie on the couch?” or “You don’t want to play with them? That’s ok.” If the child is *interacting with peers* and the parent directs/suggests an activity that would effectively take the child away from peers, e.g. “go put the present on the table” or “put your lunchbox in your cubby,” this counts as supporting non-social; BUT if the child is *not* with peers and the parent suggests these same things, this would *not* be coded as supports non-social. If the parent suggests a non-social alternative to the child, the child responds “yes,” and the parent accepts this (e.g. says “ok”), this counts as 2 supports non-social behavior. E.g. parent says “you don’t want to play anymore?” the child nods, and the parent says “that’s ok.” If the parent supports anti-social behavior (e.g. being aggressive with the characters in the story), this does *not* count. If parent says to child “give me a goodbye kiss” or “I’m leaving. Say bye” or “school’s over, let’s go home” this does *not* count.

17. Reinforces social behavior:

Any positive statement given on something good that the child did, only with regards to *social behavior*, such as “good sharing” or “you’re playing nicely with her.” Must be *explicit*. E.g. do not code “thanks” or “good.”

18. Reasoning/Explanation:

Any time the parent explains to or reasons with the child, e.g. “no, mommy has to go to work and you need to stay here in daycare where children do their work.” The parent must be providing an explanation or reason as to why the child should play (or play nicely) with peer(s). Reasoning/explanation must be about the child’s *interaction* with peers and must be *explicit*. E.g. parent says to other adult “my son is friends with Barry. They go to school together” this counts as reasoning/explanation because the parent is adding details to the story and giving a reason why the child and peer should interact (content); the action of speaking

to the other adult is models; this is not familiarization because the child has *no* previous awareness of that situation, namely it's made-up and not an actual situation in the child's life (i.e. child and Barry are not actually friends in real life and they do not go to school together). May also involve the parent telling child about the *consequences* of his/her actions. E.g. child takes peer's toy and plays alone with it and the parent uses peer doll to act out crying and say "but I wanted to play with you." E.g. if child doll and peer doll are playing together, parent uses peer doll to say "I like it when you play with me." Actions like crying and statements like "that's my ball," "I like this," and "thank you" do *not* count as reasoning/explanation because they are not explicit statements relating the child's *actions* to a *consequence* or explaining why the child should interact with peer(s).

19. Introduces social dilemma:

Parent generates a conflict that is *not* already present. E.g. "the boy is stealing your toy" or "and now you steal his ball."

20. Describes child as shy:

When parent reflects child's *anxious* behaviour, such as "are you being shy?"

21. Critiques child:

Any negative comments (including sarcasm) on what the child does or says, such as "you're not talking or what? Daddy's doing all the talking here" (+ condescending tone) or "that's not nice."

● **Total Number of Attempts:**

The parent uses each parenting strategy a given number of times (0 or +) during the doll story. Write the total number of attempts the parent used in each period. E.g. if in period 1 the parent used suggest 6 times, encourage 2 times, and critique 4 times, write 12 for total number of attempts in period 1.

● **Number of Different Strategies Used:**

Write the total number of strategies used in each period. E.g. if in period 1 the parent used suggest 6 times, encourage 2 times, and critique 4 times, write 3 for number of different strategies used in period 1.

Doll Story

ID _____ CODER _____ DATE _____

PARENT 1: MOM _____ DAD _____ STORY: _____

STORY BEGINS (hh:mm:ss) _____ 1ST PEER INTERACTION _____

SUMMARY BEGINS _____ STORY ENDS _____

IF...

1. Child reluctance to engage with peers: Not at all somewhat very

THEN...

2. Parent accepts child reluctance: Not at all somewhat very

3. Parent rejects child reluctance: Not at all somewhat very

PARENT STRATEGY

Period 1

- 4. Suggests behavior: _____
- 5. Encourage child to come up with own ideas: _____
- 6. Familiarization: _____
- 7. Tells child to interact with peers: _____
- 8. Asks child why won't join peers: _____
- 9. Parent and child interact with kids: _____
- 10. Parent makes peers initiate interaction: _____
- 11. Parent takes over the child: _____
- 12. Parent takes role of other adult: _____
- 13. Parent models social engagement: _____
- 14. Supports child interaction with other adult: _____
- 15. Supports parent becoming playmate for child: _____
- 16. Supports non-social behavior: _____
- 17. Reinforces social behavior: _____
- 18. Reasoning/Explanation: _____
- 19. Introduces Social Dilemma: _____
- 20. Describes child as shy: _____
- 21. Critiques child: _____

Total Number of Attempts: _____

Number of Different Strategies Used: _____

Appendix H

Coding Manual for Clean-up Task

Parental Clean-Up Behaviours Coding System

Twelve aspects of parental behaviour and reactivity during the cleaning-up component of the parent-child interactions will be examined. In addition, in order to control for one possible confounding factor, an aspect of the examiners' behaviour during the cleaning-up procedure will be coded as well. Behaviours will be observed and recorded using an event-sampling technique. The clean-up period will be divided into **10-second** segments. Each behaviour will be coded as present or absent in each of the 10-second segments. If a clean-up session ends with six or more seconds left, code that final period as a segment. If a clean-up session ends with five or fewer seconds remaining, do not code that final period.

CODE: Parent

DEFINITION

Assist with Object

Parent picks up an object and gives it to child (may or may not also give verbal instruction). OR Child picks up an object and passes it to parent, who puts it into container.

Put Object Away

Parent picks up an object and puts it into a container. Action is not shared with child.

Request Child's Help

Parent asks for child's assistance. Typically phrased as question: "Will you help me?" "Can you put this away?" "Are you ready to begin?"

May be an indirect statement: "It would be really nice if you would pick these up." "I could use some help with this." OR Parent suggests joint effort: "Let's do this together/let's clean up." "We can both clean up." "You do some and I'll do some." Can/would/could.

Demand Child's Help

Parent tells child to clean-up, or help clean-up. Typically will be a directive: "Put this away." "Pick that up." "You have to tidy up now."

May be a direction to stop other behaviours: "You can't play now." Must/have to.

Justify/Provide Reason

Parent gives a reason why child should clean: "We made the mess, so now it's our job to clean up." "We need to get ready for the next activity."

"Johanna needs our help." "It's good to be helpful and tidy."

Bribe/Bargain

Parent offers something in exchange for child's help: "If you're good, we can go for ice cream later." "If you just

finish cleaning up, I'll give you a special treat." "Wait 'til you see what's next! But we have to finish."

Threaten/Punish

Parent suggests negative outcome if child doesn't help: "If you don't do this now, you can't play later." "Do you need a time-out?" OR Parent gives child a punishment: "OK, no treat for you."

Praise/Reinforce

Parent praises child's efforts or thanks child: "Good job! High five!" "That's it, that's the way." "You're a good helper." "You're so nice."

Criticize/Disapprove

Parent criticizes child's efforts or expresses displeasure: "You can do better than that." "That's not nice." "Some helper you are!" (sarcastic tone) "You're not being very good." "What's wrong with you today?" Do not include if parent comments on the child placing toy in the wrong box.

Assist with Box

Parent assists child with opening or closing a container OR moves container to make task easier for child.

Accept Child's Noncompliance

Parent accepts that child is unwilling to help with cleaning activity. Parent may or may not continue cleaning up materials alone.

Physical Force

Each time the parent holds the child's hand/arm or holds the child down as a way to make him/her clean-up.

Rating Scale

Indicate the overall proportion of work completed by both parent and child (amount of activity shared).

Clean-Up Behaviours Coding Sheet 1

ID _____ CODER _____ DATE _____ PARENT: _____ MOM _____ DAD _____

CLEAN-UP BEGINS (hh:mm:ss) _____ CLEAN-UP ENDS (hh:mm:ss) _____ # OF SEGMENTS _____

BEHAVIOUR	S-1	S-2	S-3	S-4	S-5	S-6	S-7	S-8	S-9	S-10	S-11	S-12
Assist with Object	10	20	30	40	50	1:00	10	20	30	40	50	2:00
Put Object Away												
Request Child Help												
Demand Child Help												
Justify/Reason												
Bribe/Bargain												
Threaten/Punish												
Praise/Reinforce												
Criticize/Disapprove												
Examiner Assist/Structure												
Assist with Box												
Accept Non-Compliance												
Physical Force												

Clean-Up Behaviours Coding Sheet 2

ID _____

PARENT:

MOM

DAD

BEHAVIOUR	S-13	S-14	S-15	S-16	S-17	S-18	S-19	S-20	S-21	S-22	S-23	S-24
Assist with Object	10	20	30	40	50	3:00	10	20	30	40	50	4:00
Put Object Away												
Request Child Help												
Demand Child Help												
Justify/Reason												
Bribe/Bargain												
Threaten/Punish												
Praise/Punish												
Criticize/Disapprove												
Examiner Assist/Structure												
Assist with Box												
Accept Non-Compliance												
Physical Force												

Clean-Up Behaviours Coding Sheet 3

ID _____	PARENT:		MOM	DAD												
	S-25	S-26	S-27	S-28	S-29	S-30	S-31	S-32	S-33	S-34	S-35	S-36				
BEHAVIOUR	10	20	30	40	50	5:00	10	20	30	40	50	6:00				
Assist with Object																
Put Object Away																
Request Child Help																
Demand Child Help																
Justify/Reason																
Bribe/Bargain																
Threaten/Punish																
Praise/Punish																
Criticize/Disapprove																
Examiner Assist/Structure																
Assist with Box																
Accept Non-Compliance																
Physical Force																

Clean-Up Behaviours Coding Sheet

ID _____ PARENT: MOM DAD

SUMS:

Assist with Object _____ Demand Child Help _____ Threaten/Punish _____ Examiner Assist _____
 Put Object Away _____ Justify/Reason _____ Praise/Reinforce _____ Assist with Box _____
 Request Child Help _____ Bribe/Bargain _____ Criticize/Disapprove _____ Accept Non-Compliance _____

Physical Force _____

Overall rating of clean-up task division

1	2	3	4	5
almost totally cleaned by parent	mostly cleaned by parent	about 50/50	mostly cleaned by child	almost totally cleaned by child

Appendix I

Regression Tables for Path Analyses

Table II

Summary of Hierarchical Regression Analyses for Maternal and Paternal Parent Effects

	<u>Mothers</u>		<u>Fathers</u>	
	T2 Internalizing		T2 Internalizing	
	β	t	β	t
Authoritarian: Main Effects Model				
	Final Adj. R ² = .40, $F(3,86) = 19.84^{***}$		Final Adj.R ² = .35, $F(3,54)= 10.66^{***}$	
T1 IP	.61***	7.27	.61***	5.57
T1 A'rian	.21*	1.92	.13	.99
T2 A'rian	-.18 [†]	-1.78	-.05	-.38
Authoritarian: Moderation Models				
Age: $\Delta R^2=.03, \Delta F(1,81) = 3.70^{\dagger}$			Age: $\Delta R^2=.004, \Delta F(1,49) = .33$	
Age X T1 A'rian	-.05	-.61	.02	.19
Sex: $\Delta R^2=.03, \Delta F(1,81) = 3.85^{\dagger}$			Sex: $\Delta R^2=.002, \Delta F(1,49) = .13$	
Sex X T1 A'rian	-.14	-.50	-.19	-.42
IP: $\Delta R^2=.03, \Delta F(1,82) = 3.86^{\dagger}$			IP: $\Delta R^2=.001, \Delta F(1,50) = .12$	
T1 IP X T1 A'rian	.06	.66	-.20 [†]	-1.85
Authoritative: Main Effects Model				
	Final Adj. R ² = .37, $F(3,86) = 17.54^{***}$		Final Adj.R ² = .34, $F(3,54)= 10.13^{***}$	
T1 IP	.63***	7.22	.61***	5.50
T1 A'tive	-.03	-.29	.02	.15

Table II (continued)

	<u>Mothers</u>		<u>Fathers</u>	
	T2 Internalizing		T2 Internalizing	
	β	t	β	t
T2 A'tive	.07	.69	-.01	-.05
Authoritative: Moderation Models				
Age: $\Delta R^2=.001$, $\Delta F(1,81) = .14$			Age: $\Delta R^2=.00$, $\Delta F(1,49) = .01$	
Age X T1 A'tive	-.12	-1.42	-.15	-1.25
Sex: $\Delta R^2=.002$, $\Delta F(1,81) = .29$			Sex: $\Delta R^2=.00$, $\Delta F(1,49) = .03$	
Sex X T1 A'tive	.66*	2.38	.77 [†]	1.97
IP: $\Delta R^2=.004$, $\Delta F(1,82) = .49$			IP: $\Delta R^2=.003$, $\Delta F(1,50) = .23$	
T1 IP X T1 A'tive	.10	.10	.26*	2.27
Protective: Main Effects Model				
	Final Adj. $R^2 = .37$, $F(3,86) = 17.60^{***}$		Final Adj. $R^2 = .35$, $(3,54)=10.53^{***}$	
T1 IP	.63***	7.25	.62***	5.48
T1 Prot	-.08	-.76	-.07	-.56
T2 Prot	.04	.34	.10	.83
Protective: Moderation Models				
Age: $\Delta R^2=.001$, $\Delta F(1,81) = .08$			Age: $\Delta R^2=.01$, $\Delta F(1,49) = .66$	
Age X T1 Prot	.05	.60	-.08	-.74
Sex: $\Delta R^2=.001$, $\Delta F(1,81) = .12$			Sex: $\Delta R^2=.01$, $\Delta F(1,49) = .69$	
Sex X T1 Prot	-.19	-.62	-.11	-.29

Table II (continued)

	<u>Mothers</u>		<u>Mothers</u>	
	T2 Internalizing		T2 Internalizing	
	β	t	β	t
IP: $\Delta R^2 = .001$, $\Delta F(1,82) = .11$			IP: $\Delta R^2 = .01$, $\Delta F(1,50) = 1.11$	
T1 IP X T1 Prot	-.01	-.09	.23*	2.04

Table I2

Summary of Hierarchical Regression Analyses for Maternal and Paternal Child Effects

	Authoritative		Authoritarian		Protective	
	β	t	β	t	β	t
<u>Mothers</u>						
Main Effects Model						
	Final Adj. R ² = .30, $F(3,86) = 13.27^{***}$		Final Adj. R ² = .41, $F(3,86) = 20.87^{***}$		Final Adj. R ² = .34, $F(3,86) = 15.64^{***}$	
T1 Parenting	.55 ^{***}	6.02	.65 ^{***}	7.74	.60 ^{***}	6.78
T1 IP	-.15	-1.27	.08	.74	-.01	-.06
T2 IP	.08	.69	-.18 [†]	-1.70	.04	.34
Moderation Models						
Age:	$\Delta R^2 = .003, \Delta F(1,81) = .36$		$\Delta R^2 = .03, \Delta F(1,81) = 3.78^{\dagger}$		$\Delta R^2 = .000, \Delta F(1,81) = .01$	
Age X						
T1 IP	.02	.24	.01	.13	.19*	2.09
Sex:	$\Delta R^2 = .003, \Delta F(1,81) = .42$		$\Delta R^2 = .03, \Delta F(1,81) = 3.78^{\dagger}$		$\Delta R^2 = .001, \Delta F(1,81) = .13$	
Sex X						
T1 IP	-.07	-.19	.21	.67	.63*	1.98
Parenting:	$\Delta R^2 = .004, \Delta F(1,82) = .48$		$\Delta R^2 = .03, \Delta F(1,82) = 3.85^{\dagger}$		$\Delta R^2 = .001, \Delta F(1,82) = .12$	
T1 IP X						
T1 Parenting	-.03	-.35	-.02	-.24	.04	.40

Table I2 (continued)

	Authoritative		Authoritarian		Protective	
	β	t	β	t	β	t
<u>Fathers</u>						
Main Effects Model						
	Final Adj. $R^2 = .22$, $F(3,54) = 6.09^{**}$		Final Adj. $R^2 = .27$, $F(3,54) = 7.64^{***}$		Final Adj. $R^2 = .09$, $F(3,54) = 2.68^\dagger$	
T1 Parenting						
	.51 ^{***}	4.24	.56 ^{***}	4.75	.36 ^{**}	2.68
T1 IP	-.05	-.36	-.01	-.04	-.10	-.57
T2 IP	-.08	-.05	-.06	-.38	.14	.83
Moderation Models						
Age:	$\Delta R^2 = .00, \Delta F(1,49) = .01$		$\Delta R^2 = .003, \Delta F(1,49) = .21$		$\Delta R^2 = .01, \Delta F(1,49) = .36$	
Age X						
T1 IP	-.02	-.18	-.08	-.63	.20	1.45
Sex:	$\Delta R^2 = .00, \Delta F(1,49) = .00$		$\Delta R^2 = .002, \Delta F(1,49) = .13$		$\Delta R^2 = .01, \Delta F(1,49) = .62$	
Sex X						
T1 IP	-.30	-.58	-.02	-.05	-.02	-.04
Parenting:	$\Delta R^2 = .003, \Delta F(1,50) = .23$		$\Delta R^2 = .002, \Delta F(1,50) = .12$		$\Delta R^2 = .02, \Delta F(1,50) = 1.11$	
T1 IP X						
T1 Parenting	-.23 [†]	-1.77	.01	.05	-.13	-.95