University of Alberta

Mothers' and fathers' talk of internal states with toddler and preschool children:

Gender differences and predictors for parental ratings of children's social skills

by

Katherine Mary Roger

A thesis submitted to the Faculty of Graduate Studies and Research
in partial fulfillment of the requirements for the degree of

Master of Education
in
Psychological Studies in Education

Department of Educational Psychology

Fall 2009
Edmonton, Alberta

Examining Committee

Dr. Christina Rinaldi, Educational Psychology

Dr. Jacqueline Pei, Educational Psychology

Dr. Berna Skrypnek, Human Ecology

Abstract

The current study extends previous literature examining maternal internal state language (ISL) to include paternal-child observations. Gender differences in parents' ISL with young children was examined, as well as whether ISL was related to parents' ratings of the children's social skills. Fifty-seven (28 boys and 29 girls) toddler/preschool children (*M* age = 32.5 months, *SD* = 5.38 months) were observed separately with their mothers and fathers while they discussed pictures of children's facial expressions of emotions. Parents completed a questionnaire concerning their child's social development (i.e., BASC-2). Interestingly, parents used more emotion language and ISL questions with sons compared to daughters, and sons used more ISL with mothers compared to fathers. No differences were found between mothers' and fathers' ISL. Mothers' social skills ratings was predicted by mothers' ISL comments, whereas fathers' ratings were predicted by children's age and fathers' ISL clarifications. Implications and limitations of the study are discussed.

Acknowledgements

I would like to extend my sincere gratitude to the following people who have provided me with unending support and encouragement throughout the completion of this thesis. First and foremost, I would like to thank my supervisor, Dr. Christina Rinaldi, for her guidance, direction, and valuable feedback during all stages of this project. In addition, I would like to thank Dr. Jacqueline Pei and Dr. Berna Skrypnek for taking the time to be on my thesis committee and for providing positive and constructive feedback. I would also like to thank Dr. Nina Howe and Dr. Holly Recchia for the opportunity to work with them, which fostered an interest in this area of research. Finally, I am grateful to my partner, Mike, for offering humour and patience when it was most needed. Thank you.

Tables of Contents

Page

List of Tables

Table Page

List of Figures

Figure Page

Introduction

Overview of Issue

During early childhood, many important social skills and abilities emerge. Young children build on earlier knowledge of feelings and emotional expressions, and expand their understanding of the causes and consequences of emotions (Denham, Zoller, & Couchoud, 1994; Dunn, Brown, & Beardsall, 1991), more complex emotions (Barrett, 1995; Denham, 1998), as well as the difference between felt and expressed emotions (Gross & Harris, 1988; Josephs, 1994). As a result of these emerging abilities, research concerning the preschool stage is a suitable time to explore the mechanisms by which social and emotional skills develop.

During the preschool years, children observe, listen to, and imitate members of their social environment. The most notable social contributors at this age of development are parents. Parents' socialization of emotional expression and knowledge is ever-present during this early developmental period. Parents' continual contact with their children through a variety of activities they engage in during day-to-day functioning provides the ideal setting for studying emotional development. Parents are most likely to make a large impact on the development of their children's emotional development because of their personal investment and the amount of time they spend with one another. As a result of these interactions, parents are usually the first to socialize their children. Through this process, children have the opportunity to learn culturally appropriate emotional expression, adaptive reactions to many emotions, and the types of events that illicit particular reactions (Denham, 1998; Eisenberg, Fabes, Carlo, & Karbon, 1992).

There are several ways that parents can support their children's early social and

emotional development. In particular, the social interactive framework of child development has focused on family interaction as facilitating children's social understanding (Carpendale & Lewis, 2004). Positive social interactions between mothers and children, and the expression of positive emotions, are associated with children's better emotion knowledge, peer relations, and social skills (Boyum & Parke, 1995; Carson, 1991; Cassidy, Parke, Butkovsky, & Braungart, 1992; Denham & Grout, 1993; Denham, Zoller, & Couchoud, 1994; MacDonald & Parke, 1984). The importance of parent-child relationships are further highlighted by the associations of children's performance on cognitive measures with a variety of family interactions, including cooperation (Dunn, Brown, Slomkowski, et al., 1991), parenting style (Ruffman, Perner, & Parkin, 1999), and talk about the causes of inner states (Jenkins, Turrell, Kogushi, Lollis, & Ross, 2003). Mothers and fathers can support the social skills of children by explicitly teaching their children ways to problem solve or cope with anxiety, as mothers are most likely to discuss emotions when their children are upset (e.g., Dunn & Brown, 1994). As well, simply discussing the causes and consequences of emotions can help children conceptualize unseen feelings and emotions (Dunn & Brown, 1994; Howe & Ross, 1990).

Family discourse about emotions and cognitive states is central to the growth of children's understanding of inner states (Bartsch & Estes, 1996; Bartsch & Wellman, 1995). The way mothers talk about internal states (e.g., emotions, feelings, or mental states) has been conceptualized as a critical component in nurturing children's social and emotional understanding of both themselves and others (Denham, Cook, & Zoller, 1992; Harris, 1994; Taumoepeau & Ruffman, 2006). How often mothers talk about internal

state language (ISL) influences how often children use ISL (Dunn, Bretherton, & Munn, 1987), which typically begins between the age of 18- and 20-months and which rapidly increases during the third year (Bretherton, Fritz, Zahn-Waxler, & Ridgeway, 1986). This influence is important, as ISL used by children has been associated with children's ability to better understanding differing perspectives (Howe, 1991), conflict resolution strategies (Howe, Rinaldi, Jennings, & Petrakos, 2002), and sibling caretaking (Howe & Rinaldi, 2004), as well as social competency skills (Laible, 2004; Taumoepeau & Ruffman, 2006).

Although mothers' use of ISL and its relationship to social skills has been investigated in a variety of contexts (e.g., Dunn & Brown, 1993; Howe & Rinaldi, 2004), only a few studies have investigated these factors within the father-child relationship. Investigating the father-child relationship is important, as there is evidence indicating that fathers affect child social development in unique ways (Denham & Kochanoff, 2002; LaBounty, Wellman, Olson, Lagattua, & Liu, 2008; Jenkins et al., 2003; Paquette, 2004). Though it seems logical that the quality of father-child interactions and ISL would have a positive affect on children's understanding of emotions and social skills, little work has been done to explore this area. Much of the research conducted on the role parents play in the social development of young children has been based on studies that only investigate mothers. Despite recent attempts to include a more ecological picture of development by incorporating fathers and other extended family members, in reality an unbalanced depiction of parenting still exists. This is problematic, as fathers have significantly increased and changed their type of participation in the care of children in recent decades (Paquette, 2004; Marshall, 2006). Both mothers and fathers have indicated their time spent performing primary care duties (including reading to their children, taking them to

the park, doing homework, and transporting them to activities) has increased (Marshall, 2006). Furthermore, although the number of families with stay-at-home parents has decreased in recent years, the rates of stay-at-home fathers has increased from 4% in 1986 to 11% in 2005 (Marshall, 2006, p. 11). Despite this trend, it should not be assumed that mother-child and father-child interactions are equivalent, especially since it has been found that mothers display greater emotional sensitivity and talk more about emotional issues (Bauer, Stennes, & Haight, 2003; Block, 1983). It has also been theorized that fathers perform an important role in the development of children's openness to new situations through the use of play (Paquette, 2004), as well as influencing social cognitive abilities in different ways (Denham & Kochanoff, 2002; Jenkins et al., 2003). Therefore, due to fathers' changing parenting roles and shared child care giving, and the lack of research associated with this important population, research is continually needed in this area.

Present Study

Building on previous research in the area, this study aims to provide a more representative overview of child social development by examining both maternal *and* paternal influences within socialization, and in particular the relationships between ISL and social functioning. This study was designed to expand upon previous research that has examined the use of ISL within the mother-child relationship to include the father-child relationship. Therefore, this study continues to ask several necessary questions: How do mothers' and fathers' use of ISL differ? Do mothers and fathers use different types of ISL with girls versus boys? Does maternal and paternal ISL help predict ratings of children's social behaviours?

In an attempt to address these key questions, mothers and fathers were asked to interact individually with their child during two home visits. Parents were asked to show ten pictures of children's facial expressions of particular emotions (e.g., happy, sad, surprised, etc.) to their child, and to talk about them with their child. First, parent and child gender differences of ISL were investigated (i.e., type and function). Second, the relationships between the types (e.g., emotions, beliefs, goals, preferences, and physiological states), functions (i.e., commenting, clarifying, questioning, requesting and other), and reference (i.e., self versus other) of ISL used by mothers' and fathers' and social skills rating as measured by a parent questionnaire (i.e., *Behavior Assessment Scale for Children, Second Edition*) were explored. It was hoped that from this observational study, parents, practitioners, and researchers would gain a better insight into the factors and processes that foster positive social and emotional development in young children.

Literature Review

Parents, family, teachers, and peers all play a role in the socialization and social development of young children. However, it has been argued that parents play the most important role in this process (e.g., Collin, Maccoby, Steinberg, Ketherington, & Bornstein, 2000; Grusec & Davidov, 2007), and as a consequence questions concerning parents' role in the socialization of boys and girls has been a topic of research for decades (see Leaper, 2002, for a review). In particular, many developmental researchers have emphasized how the interactions between mothers, fathers, and children function in the socialization of emotion knowledge and expression in their children. Parent-child relationships, like any close relationship, contain many opportunities for learning about emotions and mental states through teaching, observation, and imitation. The following chapter presents a brief overview of the role parent-child interactions play in the development of social functioning. This section will review several theoretical perspectives that highlight the importance of parent-child interactions and relationships for childhood social development, including psychobiological, social cognitive, and social constructivist theories. Theoretical perspectives of gender differences will also be explored.

Secondly, a brief discussion of theoretical models for social and emotional functioning will be outlined (Denham & Kochanoff, 2002; Denham, Bassett, & Wyatt, 2007; Denham, von Salish, Olthof, Kochanoff, & Caverly, 2002; Rose-Krasnor, 1997; Rose-Krasnor & Denham, 2009), with an emphasis placed on the role social interactions play in the development of social functioning (e.g., Carpendale & Lewis, 2004; de Rosnay & Hughes, 2006; Harris, 1994). Following this discussion, a review of the use of

internal state language observed during parent-child interactions (mother, triadic, and father), and the important role emotional and mental state knowledge plays in the development of social skills during preschool development will be presented. Finally, parent and child gender differences of internal state language use and purpose of the current study will be introduced.

Theories of Socialization

Psychobiological theory. Psychological theories that have focused on biological processes for the basis for social function have argued that parents and children are part of the same system which is designed to protect offspring and the social demands of life. Parents and children are viewed as being biologically driven to remain in close proximity to one another for these purposes (Bugental & Grusec, 2006). Parents teach and model emotional-appropriate behaviour in order to provide offspring with the necessary skills to deal with social interactions later on in life.

Additionally, psychobiological perspectives highlight development as involving bidirectional relationships between biological and experiential factors (e.g., Beaulieu & Bugental, 2007; Bjorklund, Yunger, & Pellegrini, 2002). The biological structures of individuals are designed to be expectant of particular types of experiences, but are also influenced and changed by them. Simplified, a young infant is expectant of care, but the level of care the infant receives changes and alters that individual (Beaulieu & Bugental, 2007). Additional examples and models of this reciprocal relationship can be understood most readily in the body of attachment literature and the theories of Bowlby and Ainsworth (e.g., Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1973). In this context, children are believed to respond to stimuli typically associated with their

maternal caregivers, because from an evolutionary perspective, they will most likely provide for their needs (Beaulieu & Bugental, 2007). Children may be thought to be born with a predisposition to expect certain types of emotional interactions and behavioural responses; children are ready to learn about relationships and emotions, and the family context complements their readiness to learn by providing rich learning environments (Laible & Song, 2007). Despite biological predispositions, environmental influences and social learning processes also play an important role.

Sex or gender differences from psychobiological perspectives have been argued to begin in the womb and are the result of multiple biological processes. These processes not only produce sex characteristics but are argued to affect genes responsible for neurotransmitter production in later life. However, these processes are either enhanced or diminished through lived experience (Bjorklund & Pellegrini, 2002; Golombok & Hines, 2004). For example, some research has demonstrated that a single allele can interact with environmental conditions to affect biochemical processes, which in turn influences behavioural processes (e.g., Maccoby, 2000). Due to this interaction, other theories focusing on environmental influences of socialization become increasingly important.

Social cognitive theory. Social cognitive theories draw upon both cognitive and social learning theories (Bandura, 1986). Working from this perspective, Bandura (1969) attested that most of children's learning comes from imitating or modeling what they have observed. During the 1960s, Bandura (1969) and his colleagues demonstrated children could learn without ever having performed or been reinforced for an activity, and instead could learn social behaviours from observations. This finding is particularly important for understanding the parent-child relationship, since in North America many

preschool children spend much of their time with their mothers, fathers, or other family members.

By observing their parents or caregivers, children develop behavioural scripts or schemas that informs their own behavioural functioning. As Piaget and his colleague (Piaget & Inhelder, 1969) stated: "A scheme is the structure or organization of actions as they are transferred or generalized by repetition in similar or analogues circumstances" (p.4). The process of forming schemas and learning from behavioural models has several main functions, including paying attention and remembering the social behaviour, as well as being motivated to do so (Bandura, 1977). Therefore, within social cognitive theory children are viewed as agents who proactively engage in their own development, and can make things happen by their own actions. Children are viewed as self-organizing or self-regulating rather than reactive organisms that are shaped by environmental factors or unknown inner impulses. Social cognitive theory suggests a considerable degree of self-socialization on the part of the child, and places a child's own agency at the centre of this process (e.g., Bandura, 1986; Maccoby, 2007), which is largely influenced by the family environment and parent-child interactions. Parents model socially and emotionally competent behaviours and use emotional language in their day-to-day interactions. In turn, children learn through these observational and direct learning opportunities. Social cognitive learning theorists however take it one step further and posit that children contribute to their own personal growth through individual motivations and self-regulatory behaviour.

Similar reasoning is applied to gender socialization. Social cognitive theories propose that gender socialization happens largely when children acquire a cognitive

ability or symbolic capacity to internalize the dominant culture's notion of gender (Bussey & Bandura, 1999). Children form cognitive schemas and begin to filter the world through a gendered lens (Maccoby, 2007). Girls and boys begin to make meaning and inferences about the consequences of behaviour based on observations and experiences, and their gendered perceptions often influences or motivates type of information they attend to and remember. Consequently, it is argued that boys and girls seek out specific gender environments that strengthen their own schemas, expectations, and interests, and therefore are often regulated by internal values and beliefs (Bussey & Bandura, 1999).

However, like many psychobiological theories, social cognitive theory emphasizes the interplay of individual processes and environmental forces. For example, through a process labeled *reciprocal determinism*, children interpret the results of their own actions, and these interpretations in turn inform and alter their environments, their personal characteristics, and future actions (Pajares, 2005). This aspect highlights the importance of social relationships, which is largely addressed by social constructivist and social relationship theories.

Social constructivist and relationships theories. Vygotsky (1978) believed the family and parent-child interactions to be at the centre of child socialization. In particular, Vygotsky (1978) placed an emphasis on asymmetrical relationships, and the ability of a parent to support and extend children's skills and learning to more advanced levels through the process of scaffolding. The assistance provided by a skilled scaffolder can help a child develop social skills or emotional abilities, which may be different from what the child can accomplish alone.

From this perspective, a parent can support the social behaviours of a child by

explicitly explaining perspectives or prompting ways to cope with anxiety or distress (Rose-Krasnor & Denham, 2009). In reference to internal state language and the current study, children are inducted into language about emotions, desires, and mental states through family discourse. Some of these concepts are more salient to individual children than others, and these particular concepts are internalized (Jenkins, Dunn, O'Connor, Rasbash, & Behnke, 2005). Through this process of internalization, children are able to not only develop their internal understanding that helps with emotional regulation and other social skills, but are able to participate in the family and community discourse that surrounds them (Nelson, 2005). Furthermore, being able to talk about internal states is crucial for our ability to understand and interpret the behaviour of others (Churchland, 1988; Wellman, 1990). This idea is supported by a growing body of literature in which language about mental states, desires, and emotions facilitates the development of social understanding in children (e.g., Carpendale & Lewis, 2004; Dunn et al., 1991; Jenkins et al., 2003).

Integrating theoretical perspectives. The theoretical perspectives described thus far explain how socialization processes may occur in parent-child relationships and how gender differences emerge. Psychobiological, social cognitive, and social constructivist viewpoints raise important considerations concerning child social and emotional development, as well as gender identity. Although the present study does not employ any direct measures of biological factors, it is nevertheless important to keep the psychobiological perspective in mind. It is possible that differences in behaviour between individuals of differing genders may have been selected across generations or are influenced by different hormones and neurotransmitters (Eisenberg & Fabes, 1998).

Furthermore, as it is likely not one particular theoretical perspective can fully explain social development and gender identity, and as Maccoby (2000) suggests, it may be beneficial to integrate divergent perspectives.

However, that being said, the current study draws largely upon social constructivist, social relationships, and social cognitive theories. Interestingly, these contemporary theories are largely complimentary rather than contradictory, although they may stress different aspects (see Leaper & Friedman, 2007; Martin, Ruble, & Szkrybalo, 2002). Many researchers (e.g., Carpendale & Lewis, 2004; Chapman, 1991; Maccoby, 2000) have argued the importance of combining different theoretical perspectives in order to address a larger ecological perspective. By combining viewpoints, child development can be understood in terms of a triadic interaction of self, other, and the larger context. Social development can be best understood within relationships with parents, family, teachers or peers, which are further embedded in more complex systems of communities, cultures, societal organizations and other social structures (Howes & James, 2004). As outlined by Carpendale and Lewis (2004), the development of social understanding in particular occurs within bidirectional relationships involving the child's experience of the world that includes his or her communicative interaction with others about their own social understanding, which also occurs within larger complex systems. As many of the social interactions experienced by preschool children is with a parent or caregiver figure, further investigation into father-child relationships is important to develop a more ecological understanding.

Theoretical Conceptions of Social Functioning

Relationships involve a series of interactions between two individuals and is

defined by Laible and Thompson (2007) as "an integrated network of enduring emotional ties, mental representations, and behaviours that connect one person to another over time and across space" (p. 181). Each relationship is unique because it incorporates the mutual, bidirectional influences of both members (Laible & Thompson, 2007). In order to better understand the parent-child relationship, many researchers have used Hinde's (1979) model of relationships. In this model, individual psychological processes give rise to interactions and relationships, which also have a dialectic association. For example, while reading a story with a parent, a child may not understand a facial expression of a character. After asking the parent about this emotional expression, the parent explains the particular emotion as well as potential causes. This provides an opportunity for the child to internalize these conceptions but also adds a shared experience that is incorporated into each members' mental representations of the relationship. As Laible and Thompson (2007) attest, each partner's behaviour is affected by the mental representations of their relationship that has been derived by their shared experience, and the expectations, schemas, and affective biases they have. This may include the concept of internal working models in attachment literature, which affects the relationship from infancy (Laible & Thompson, 2007).

Hinde's (1979) model highlights the individual characteristics of both parents and children, including their personal values and attitudes. Laible and Thompson's (2007) model of relationships also highlights these aspects, and adds that influences in relationships may also be immediate (e.g., rituals and routines) and broad (e.g., mutual warmth and security). For example, parents' discussions of emotions and mental states can interact with the overall security of the relationship and larger emotional

understanding.

One of the primary tasks of parenting is to help children become socially competent individuals. Social competence is important for children as it not only helps them function as social individuals, but has been linked to school readiness and positive attitudes towards school (Carlton & Winsler, 1999). Howes and James (2004) argue that all children will develop some level of social competence, but that the display of competence, and the processes that aid the development of positive social competence, may be different for different children. Part of being able to help foster social competence is being able to understand what components to target. For instance, Rose-Krasnor (1997) defined social competence as an individual's effectiveness in social interactions. It is dependent on both self and other perspectives and is transactional, emerging from interactions between people, rather than an ability residing within an individual. Rose-Krasnor's (1997) definition indicates that competence is relative to specific goals. Children must be effective in meeting their own goals while also allowing their partners to be successful by being sensitive to social communication from others (Howes & James, 2004). Social skills are often required to accomplish these goals, and therefore for the purposes of this study, the aspect of social competence investigated is social skills (as measured by parent ratings; for an visual adaptation of a social competence and skills model see Appendix A).

Social and emotional skills. Rose-Krasnor's (1997) model of social competence outlines that socially competent behaviour changes with differing contexts. One ever-changing context is that of a child's development; adaptive functioning changes as a child grows and develops. These changes in social skills and successful interactions are

accompanied by additional reorganizations of ways to deal with emotional concerns. In particular, preschoolers' social tasks include managing emotions that impede the process of play and the social expectations of other relationships outside the family context (Gottman & Mettetal, 1986). In order to obtain these developmental tasks many social and emotional skills are needed. Children who have greater skills at identifying their peers' emotional expressions and communications are more likely to be enjoyable playmates, because their emotional knowledge (the ability to identify the affective meaning of verbal and nonverbal messages) helps them understand their peer's perspective and aids them in choosing behavioural responses that helps, and does not hinder, positive exchanges (Denham et al., 2003). Thus, emotional knowledge is critical for successful social interactions (Halberstadt, Denham, & Dunsmore, 2001), and has been associated with an increased tendency to perform prosocial behaviours (Denham, 1986), school adjustment (Shields et al., 2001), and academic achievement (Izard, Fine, Schultz, Ackerman, & Youngstrom, 2001). For instance, Cassidy and colleagues (Cassidy, Werner, Rourke, Zubernis, & Balaraman, 2003) found mental and emotional understanding, as measured by perspective-taking tasks, significantly related to peer and teacher ratings of social skills. Dunsmore and Karn (2004) also found children who used more emotion labels had more stable friendships during the first year of kindergarten, and more popular children had greater increases in emotional scripts. Additionally, Denham and colleagues (2003) demonstrated that children with better emotion knowledge at three and four years were better liked by their peers in kindergarten.

Preschool-aged children typically possess a number of emotional skills. For example, preschool children are able to express emotions that are not experienced, label

emotional processes in others, and regulate emotions in ways that are age appropriate (Halberstadt, Denham, & Dunsmore, 2001). Parents are key players in helping preschool children learn these necessary skills. Parents are experienced adults who can therefore model their emotional behaviour as well as provide strategies for regulating them in children. Parents also introduce their children to cultural rules about experiencing, expressing, and regulating emotions. Development of emotional regulation, for instance, is greatly influenced by early parent-child interactions (Tronick, 1989). The important roles parents play in teaching children about emotions is supported by growing evidence that connects social knowledge, well-being, and later positive outcomes (Calkins, Gill, Johnson, & Smith, 1999; Denham et al., 2003; Izard et al., 2001; Schultz, Izard, Ackerman, & Youngstron, 2001). Positive social interactions between mothers and children, and the expression of positive emotions, is associated with children's better emotion knowledge, peer relations, and social skills (Boyum & Parke, 1995; Carson, 1991; Cassidy et al., 1992; Denham & Grout, 1993; Denham et al., 1994; MacDonald & Parke, 1984). Alternatively, children growing up in families in which mothers and siblings very frequently get upset or angry without adequate explanation is likely to be associated with less developed understanding of feelings and internal states (Denham et al., 1994; Dunn & Brown, 1994), although a moderate level of negative affect has sometimes been shown to support children's knowledge of emotions (Denham, 1989; Denham et al., 1994; Dunn & Brown, 1994) as social conflict is a setting where social understanding can be fostered (e.g., Dunn, 1988; Dunn et al., 1991; Shantz, 1987). Specifically, being able to talk about emotions, desires, and beliefs is critical for understanding and interpreting the behaviour of other people (Churchland, 1988;

Wellman, 1990; Dunn et al., 1991).

Internal State Language

The ability to understand other perspectives, as well as label and understand emotions, is important for the development of social relationships. The ability to understand other's perspectives informs children's decisions on how to act in given social interactions by allowing children to consider an outside perspective that helps them pick up on social cues and act in culturally appropriate ways. As Beeghly, Bretherton, and Mervis (1986, p. 249) outline:

> The ability to share information about intentions, cognitions, and feeling states plays a vital role in the regulation of human interaction. Knowing a partner's feelings or intentions makes it possible to anticipate the partner's probable behavior and to plan an appropriate response.

Due to the important role emotional knowledge plays in social interactions and peer relationships, many parents consider inner state knowledge as an important area of teaching (Eisenberg & Fabes, 1994; Eisenberg et al., 1991; Gottman, Katz, & Hooven, 1997). Family discussions about emotions and cognitive states has been conceptualized as a critical component in fostering children's social understanding (Bartsch & Estes, 1996; Bartsch & Wellman, 1995; Harris, 1994), and furthermore, many theorists believe knowledge of ISL sets the stage for the growth of joint attention and the understanding of intentions, which aids the development of language, social understanding, social skills, and social competence (see Astington & Jenkins, 1995; Capage & Watson, 2001; Cassidy et al., 2003; Hobson, 1993; Denham et al., 2003; Thompson, 1998; Watson, Nixon, Wilson, & Capage, 1999). Despite the strong links between the development of ISL, perspective-taking abilities, emotional understanding, and social skills, little research has investigated the predictive qualities of family discussions of ISL and ratings of children's

social skills.

Definition issues. Internal state language has been operationally defined in many ways, and has included occurrences of cognition, emotions, goals, desires, preferences, obligations, intentions, physiological states, abilities, and judgments (e.g., Bretherton et al., 1986; Brown, Donelan-McCall, & Dunn, 1996; Brown & Dunn, 1992; Dunn et al., 1991; Howe, 1991; Howe et al., 1998; Howe & Rinaldi, 2004; Howe et al., 2002; Jenkins et al., 2003; Shatz, Wellman, & Silber, 1983; Taumoepeau & Ruffman, 2006). What all of these definitions have in common is the reference to internal processes that cannot be determined by observed behaviour alone. Despite this common concept, the differing definitions of ISL in past studies make the comparison of these studies difficult. Some previous studies included emotions and feelings (e.g., Bretherton et al., 1986; Brown & Dunn, 1992; Dunn et al., 1991) while others used mental processes to asses ISL (e.g., Brown et al., 1996; Jenkins et al., 2003; Shatz et al., 1983). Additionally, some other studies have used specific categories of emotions or mental states, such as "desires" and "modulations of assertion" (such as "maybe" or "must"; Taumoepeau & Ruffman, 2006). The majority of studies investigating ISL have focused on three categories: emotions, belief/thoughts, and desires (see Bartsch & Wellman, 1995; Brown & Dunn, 1991, 1996; Dunn et al., 1987; Dyer et al., 2000; Jenkins et al., 2003; Lagattuta & Wellman, 2002; Shatz & Gelman, 1973). The current study extends these coding schemes by including references to physiological states and broader cognitive concepts, which were first developed by Howe (1991; adapted from Dunn & Kendrick, 1982a, 1982b) and adapted by Howe, Petrakos, and Rinaldi (1998). For the purposes of this study, ISL refers to emotions, cognitions (including desires, goals, and preferences), and physiological states.

See Table 1 for an outline of the categories and examples of ISL used in the current study. Similar categories of ISL have been used in previous research in order to determine specific relationships between different types of ISL and social behaviour variables (Howe, 1991; Howe et al., 1998; Howe, Petrakos, Rinaldi & LeFebvre, 2005; Howe & Rinaldi, 2004; Howe et al., 2002).

Table 1

Categories of internal state language with examples

Category			Examples
Emotions		Positive	Happy, enjoy, excited
		Negative	Sad, angry, afraid, bored
		General	"Are you alright?"
Cognitive states	Goals	Attempts	Try, attempt
		Desires	Want, hope, wish, would love
		Obligations	Should, ought, got to, must
		Intentions	Accident, purpose, meant to
	Beliefs	Beliefs	Think, believe
		Knowledge	Know, bet you, confused
	Preferences		Liking, lack of preference
Physiological states			Hunger, hurt, sick, tired

Children's talk of internal states. There are clear individual differences in children's understanding of emotions in the childhood years (Dunn & Brown, 1994), and a number of environmental factors have been found to affect the rate which children use ISL. Maltreatment, context, teaching, and sibling relationships have all been found to be related to children's use of ISL (e.g., Beeghly & Cichetti, 1994; Dunn, Bretherton, & Munn, 1987; Lohmann & Tomasello, 2003; Recchia & Howe, 2008; Ruffman, Slade, &

Crowe, 2002). For example, in a longitudinal study investigating the ISL in family situations it was found that four-year-old children with an older sibling used more cognitive language than children who did not have an older sibling (Jenkins et al., 2003). Age differences (including learning to reference others' versus one's own internal states) and gender trends of children's use of ISL have also been found, and will be reviewed following an overview of research concerning self and other ISL references.

Self versus other. Similar to the onset of belief language, longitudinal research has found a similar delay for children referring to other's inner states, compared to their own (Bartsch & Wellman, 1995; Brown & Dunn, 1991; Brown et al., 1996; Hughes & Dunn, 1998). Children between the ages of 18-months and two-years refer mainly to their own feelings (Dunn et al., 1987; Smiley & Huttenlocher, 1989; Wellman, Harris, Banerjee & Sinclair, 1995), but between the ages of 18-months and three-years come to label the emotions of others (Bretherton, McNew & Beeghley-Smith, 1981). During the third year, there are marked increases in children's questions about other people's feelings and desires, and inquiries into why other people behave as they do, particularly when they are hurt or upset (Bartsch & Wellman, 1995; Brown et al., 1996). Talk about other's emotions during the second and third year is typically the first step in understanding other's internal states, usually during discussions with family members (Dunn & Brown, 1993). Around when children are four-years-old, they begin to understand that emotions can depend on beliefs and what they expect will happen in the future (Dunn, & Brown, 1993).

From a theoretical standpoint, this differentiation is interesting, as the move from understanding one's own inner states to that of others can be conceptualized as a

developmental milestone related to many social and emotional abilities. Many theorists believe knowledge of self versus other ISL sets the stage for the growth of joint attention and the understanding of intentions, which aids the development of language and the concept of "Theory of Mind" (see Hobson, 1993; Ruffman et al., 2002; Ruffman, Slade, Devitt, & Crowe, 2006; Ruffman et al., 2003; Thompson, 1998). With an increased ability to attribute ISL to selves versus others, children begin to understand the behaviour of others to a greater degree. They learn to predict and interpret the behaviours of others (Astington & Jenkins, 1995; Moore, Pure, & Furrow, 1990), which helps greatly with social relationships. This is consistent with the social-constructive approach to social cognition that suggests children develop social understanding through cooperative interactions with others (e.g., Carpendale & Lewis, 2004). For instance, Dunsmore and Karn (2004) found children who used more emotion labels had more stable friendships during the first year of kindergarten, and more popular children had greater increases in emotional scripts. Additionally, Denham and colleagues (2003) demonstrated that children with better emotion knowledge at three and four years of age were more popular than children who had lower scores. Furthermore, Cassidy et al. (2003) found mental and emotional understanding significantly related to peer and teacher ratings of social skills.

Parents appear to aid this development by providing children opportunities to understand others' perspectives. Recchia and Howe (2008) found that mothers talked most often about the mental states of themselves or of a younger sibling, which provided rich contexts for understanding the ISL of others. Recchia and Howe also found that older children are more likely to reference others' ISL rather than their own, highlighting that as children develop they not only an increasing number of inner state words more

frequently, but their talk becomes more sophisticated. Children's references to their siblings' ISL has been associated with their perspective-taking skills (Howe, 1991), and maternal speech about sibling ISL to children has been associated with sibling-directed positive behaviour (Howe & Ross, 1990). These findings suggest referencing other-oriented ISL may aid the development of close relationships as well as children's social cognitive skills. For the current study, references of self versus other ISL were recorded for mothers', fathers', and children.

Age differences. There is consistent evidence that children begin using ISL early in life, usually by two or three years of age (Barstch & Wellman, 1995; Bretherton et al., 1986; Shatz et al., 1983), however, some studies indicate that a more complex understanding of ISL appears around the age of four (Johnson & Maratsos, 1977; Moore, Bryant, & Furrow, 1989). Until the age of 3, the most frequent type of ISL used by children has been found to be desire language, particularly "want" (Bartsch et al., 1994). Bartsch and Wellman (1995) argue that the acquisition and understanding of cognitive (particularly desire) words, represent a "foundation for the child's continuing efforts to understand the mind" (p.93). Children begin to understand that desires differ between people, and "what I want" could be different from "what someone else wants".

Talk about emotions and feelings is typically acquired around the age of 18 to 20 months (Bretherton & Beeghly, 1982; Dunn et al., 1987; Wellman et al., 1995). By 20-months at least one-third of children have been found to produce labels for various physiological states in appropriate contexts, including sleep/fatigue, pain, and distress (Bretherton et al., 1981), and by two-years these comments become common (Dunn et al., 1985). By two or three years, children can talk about current, past, and future

emotions (Bretherton et al., 1986; Brown & Dunn, 1991; Dunn et al., 1987; Wellman et al., 1995) and begin to make several key distinctions between emotions and physiological states and the possible circumstances that create them (Bretherton et al., 1981), as well as the ability to attribute distinct emotional expressions to different individuals (Wellman et al., 1995).

References to additional cognitive states, such as "think" and "know", usually occurs by children's third birthday (Furrow, Moore, Davidge, & Chiasson, 1992; Hughes & Dunn, 1999; Shatz et al., 1983), and increases until at least the age of five (Bartsch & Wellman, 1995; Hughes & Dunn, 1999). Once children are able to recognize that cognitive words refer to mental states, they must overcome the task of what exactly each distinct mental state means. This typically occurs at a later period. Cognitive forms of ISL are considered the most advanced and frequency of its use is most closely related to false belief understanding (Hughes & Dunn, 1999). At approximately the age of four, children are capable of understanding sophisticated mental states, for example, an ability to distinguish between "know" and "think" (Johnson & Maratsos, 1977; Miscione, Marvin, O'Brien, & Greenberg, 1978). Not surprisingly, age four is also the period where children begin succeeding at false-belief tasks (Baron-Cohen, Lesley, & Frith, 1985; Wimmer & Perner, 1983).

Gender differences. Gender differences of preschoolers' use of ISL have been found, but not consistently. Dunn, Bretherton, and Munn (1987) found girls talked more about feelings and emotions with mothers and older siblings at the age of two, although these differences were only marginally significant. Fivush, Brotman, Buckner, and Goodman (2000) found that three- to four-year-old girls talked more about emotions than

boys when discussing past emotional experiences with mothers and fathers. Cervantes and Callanan (1998) found that two-year-old girls talked more frequently of emotions than boys with their mothers, but by age four, boys had increased their frequencies of emotion talk and no gender differences were found. Furthermore, Hughes and colleagues (Hughes & Dunn, 1998; Hughes & Dunn, 2002; Hughes, Lecce, & Wilson, 2007) have found preschool girls used more mental state terms overall than boys when talking to friends, and Kuebli, Butler, and Fivushi (1995) found emotion references during dyadic discussions between friends was higher when the friend was a girl.

However, despite these findings, other studies investigating preschool children's use of ISL have failed to find these differences (e.g., Beeghley et al., 1986; Denham et al., 1992; Denham & Couchoud, 1990a, 1990b; Dunn & Brown, 1994; Dunn et al., 1991; Jenkins et al., 2003; Recchia & Howe, 2008). Some researchers argue gender differences in emotion words are not found consistently until children reach the age of six-years, when girls use a greater variety and frequency of emotion words compared to boys (Adams, Kuebli, Boyle, & Fivush, 1995; Kuebli et al., 1995), which may emphasize the interconnectedness of the socialization of emotion and gender. When examined from a socialization perspective, gender differences of day-to-day emotion and cognitive language relates to and reinforces sociocultural constructs of interpersonal relations, regulation, and expression (Lutz & White, 1986; Schieffelin & Ochs, 1986). One perspective of gender socialization theory emphasizes the role language plays in the socialization of female individuals toward interpersonal relationships and emotional expressiveness, while male individuals are rewarded for autonomy and agency (Block, 1983; Cervantes & Callanan, 1998; Leaper, 1994). This may be reflected in the

differences between girls using more emotion language than boys that is sometimes found, and is most likely the result of differing frequencies of ISL by mothers (and possibly fathers) to daughters and sons.

Maternal talk of internal states. Mothers play a large role in helping children develop an understanding of emotions and mental states. When mothers talk about these ideas, children learn how to label a variety of inner states and emotions and develop a better understanding of how social situations and emotions are connected (Cervantes & Callanan, 1998; Dunn, 2000).

Links to children's talk of internal states. Mothers' talk about ISL has been found to relate to children's ISL (Beeghly, Bretherton, & Mervis, 1986; Dunn et al., 1987; Usher, Ridgeway, Barrett, Nitz, & Wagner, 1988); children's use of ISL often mirrors that of mothers (e.g., Furrow et al., 1992; Recchia & Howe, 2008). More specifically, the amount mothers' talked about feelings was found to significantly affect the amount children talked about feelings at 24-months (Dunn et al., 1987). As would be expected, Denham and colleagues (1992) found that when mothers asked more questions about emotions, children answered using more emotion words in explanations. When mothers explained using emotions words, children used fewer questions. Explanations about the causes of emotions by mothers has also been found to predict children's ability to identify and understand emotions (e.g., Denham et al., 1994), as well as more sophisticated reasoning on false-belief tasks (e.g., Dunn et al., 1991; Peterson & Slaughter, 2003).

Children's social functioning. Research has found fairly consistent links between maternal emotional and cognitive expression with other measures of children's social and

emotional development. However, mothers seem to vary in their levels of emotional expressiveness, which is likely to affect children's emotion understanding, sociocognitive abilities, and social skills. Positive emotional expressiveness by mothers has been associated with emotional understanding, peer ratings, and self-esteem of children (Boyum & Parke, 1995; Cassidy et al., 1992; Dunsmore & Smallen, 2001; Halberstadt & Eaton, 2002). Furthermore, researchers have found children's conversations about ISL with mothers were related to later affective perspective taking (Dunn & Brown, 1993), recognition of emotions in unfamiliar adult three years later (Dunn et al.,1991), ability to explain emotions (Usher et al., 1988), and concurrent and future performance on false belief tasks (Brown et al., 1996; Dunn et al., 1991; Hughes & Dunn, 1998; Meins et al., 2002, 2003).

For instance, work by Dunn and colleagues (1991) demonstrated children exposed to conversations about feelings and emotions in the family environment (with mothers), and the causality of these inner states, were better able to explain the feelings of the others. However, Dunn and colleagues did not partial out earlier measures of children's ISL, which leaves the possibility that the relation between maternal ISL and later children's emotional understanding is not a unique relationship, and may be better predicted by children's own use of ISL. Nevertheless, when investigating ISL versus non-ISL, Ruffman and colleagues (2002) found only mother's ISL (cognitive and desire terms) with three- and four-year-olds predicted later success on perspective-taking tasks, even after controlling for children's ISL and earlier scores on the same tasks. Additionally, Taumoepeau and Ruffman (2006) found mothers' use of desire terms at 15-months predicted children's mental state language and performance on an emotion

situation task nine months later, even after controlling for children's language abilities at 15-months, mother's SES, and the mothers' performance on two emotion recognition tasks. No other maternal ISL had a similar relationship with children's later ISL and emotional understanding. This suggests children learn about ISL the same way they learn about non-ISL, as children learn words that they consistently hear in their environment (Huttenlocher et al., 1991).

Social skills. Other researchers have also found an association between maternal ISL and individual differences in children's positive behaviours, including positive sibling interactions (Howe & Ross, 1990; Kojima, 2000). As mentioned previously, Howe and Ross (1990) found maternal speech to children that focused on their siblings' inner states was associated with children's positive sibling-directed behaviour. For this relationship, it may be important for mothers to talk about others' internal states because these experiences will sometimes be different from children's own feelings and cognitions, which will provide learning opportunities to make these important distinctions. Alternatively, there may be reasons for thinking that talk about children's own inner states might be particularly important to allow children the opportunity for labeling their lived emotions, feelings, and cognitive states. Harris (1991) argued that children have privileged access to their own, current mental states when imagining how they would feel or what they would think if they were in someone else's shoes. However, making insight into one's own internal states is a potentially important step toward learning about other's lived experiences (Nichols & Stitch, 2003). Consistent with social constructivist theory, talk about children's internal states highlights more concrete experiences, and mothers who focus on children's (rather than their own) inner states are

most likely to engage children on a level in which they can participate (Taumoepeau & Ruffman, 2006).

The importance of maternal ISL for sociocognitive development has also been shown during book reading tasks, which allows for opportunities for mothers to talk about their own, their children's, and fictional characters' internal states. The current study used a similar scenario of parent-child interactions while looking at a series of drawings of children expressing several emotions. Maternal ISL during a picture book reading interaction has been associated with children's success on false-belief tasks, even after controlling for many confounding variables, including verbal ability, paternal education, and number words used by mothers during the book reading interaction (Adrian, Clemente, Villanueva, & Rieffe, 2005). During one-on-one quiet reading times, mothers may engage more in reflective, analytic, and directive teaching practices about internal states, including self and other perspectives, as well as possible causes and consequences. This may provide children with more context to learn about internal states which encourages a deeper understanding (Fivush, 1993). For example, Denham, Cook, & Zoller (1992) found mothers used many teaching strategies, such as questioning, when looking at pictures of infants expressing emotions. Children were more likely to use emotion language when such a strategy was used.

Maternal self versus other perspectives. Similar to the trends of children referring to their own inner states until the age of two, maternal emotion and desire terms refer mainly to children's experiences rather than their own. Mothers' references to others increase with age (Baldwin, 1991; Bates & Goodman, 1999; Beeghly et al., 1986; Dunn et al., 1987; Smiley & Huttenlocher, 1989; Taumoepeau & Ruffman, 2006), although

between ages two and four, mothers' references for "know" was equally distributed for self and other (Booth, Hall, Robinson, & Kim, 1997). As Recchia and Howe (2008) demonstrated, when talking to three- to five-year-olds, mothers focused relatively frequently on the ISL referring to herself and the children's younger sibling, which provided rich teaching opportunities about the perspectives of familiar individuals. However, this may have been influenced by how much children talked about their own or their sibling's perspective, as these factors were related. Mothers may have influenced children's topic of conversation, or mothers were responsive to their children's tendency to talk about themselves.

Age differences. Mothers most frequently use desire terms (particularly "want") when children are between the ages of 15- to 24-months (Beeghly et al., 1986; Moore, Furrow, Chiasson, & Patriquin, 1994; Ruffman et al., 2002; Smiley & Huttenlocher, 1989; Taumoepeau & Ruffman, 2006). Desire language starts to decrease after the child reaches 30-months (Beeghly et al., 1986). This is consistent with children's use of ISL, as they most frequently use desire terms until they are three-years-old (Bartsch et al., 1994). Increased feeling and emotion words are used by mothers when their children are approaching 32-months (Dunn et al., 1987), with references to distress being the most frequent feeling terms used (Brown & Dunn, 1991; Dunn et al., 1987, 1991; Smiley & Huttenlocher, 1989). Cognitive references, such as "think" and "know" increase with age (Beeghly et al., 1986; Ruffman et al., 2002). However, differences of the proportion of cognitive versus desire terms often vary (Bartsch & Wellman, 1995). Therefore, before two years, mothers refer most to desires and emotions.

Child gender differences. It has been found that mothers talk more (Cherry &

Lewis, 1976), use more mental state terms (Dunn et al., 1987; Fivush et al., 2000; Kuebli et al., 1995), and use more negative affect (Dunsmore & Karn, 2004) with daughters than with sons. Fivush (1989) found mothers talked more about positive emotions with daughters, and were less likely to attribute negative emotions to female children, but spoke equally about positive and negative emotions with sons. Additionally, mothers also emphasized the causes and consequences of emotions with sons more than daughters. Howe and Rinaldi (2004) found that mothers spoke more to daughters about their younger siblings' internal states than to sons when taking leave of their two children in a laboratory setting for a short time. However, gender differences for maternal ISL have not been found consistently (e.g., Beeghly et al., 1986; Dunn, Brown, & Beardsall, 1991; Hughes et al., 2006; Recchia & Howe, 2008). Denham, Cook, and Zoller (1992) found mothers used similar frequencies of emotion language for daughters and sons, and Recchia and Howe (2008) found no gender differences for any measure of mothers' talk of internal states (including goals, beliefs, emotions, preferences, and physiological states).

Mother, father, and child triadic interactions. It has been assumed that mothers play the primary role in socializing the understanding and expression of emotions in children. However, this assumption has largely been based on research studies that have not included fathers as participants (e.g., Bryant, 1989; Denham et a., 1992). In an attempt to broaden our understanding of the influence of both mothers and fathers on child social development, a few studies have incorporated fathers into family observations. Two studies in particular have investigated ISL in mother-father-child triadic interactions. Lindsey and Caldera (2006) investigated parents' involvement,

sensitivity, and expression of positive and negative affect during mother-child and mother-child-father interactions. It was found that mothers were more involved and fathers displayed more emotion during a triadic play interaction. Although this study did not investigate parents' use of ISL, it highlights the importance of examining paternal influence.

Jenkins and colleagues (2003) investigated the use of ISL within two contexts: two siblings with their mother alone and with both parents. One finding in particular is relevant for the current study: during family interactions with both parents present, it was found that mothers spent more time talking about internal states than fathers, and this was true of all categories of ISL measured (cognitve, desire, and feeling talk). However, mothers and fathers were only compared when they were both present. It is possible that fathers and mothers do not differ in their frequencies of talk of internal states when interacting with their children alone. This is supported by their additional finding that when mothers were alone with their children they differentiated between younger and older siblings to a greater degree in terms of ISL. Like other studies, this suggests parents provided a higher level of simulation and were more involved with their children when alone. It remains to be explored how mothers and fathers compare in terms of ISL when interacting alone with their children.

Paternal talk of internal states. As the previous review has attempted to address, maternal ISL is important for the development of children's conceptualization of inner states and experiences, and has been linked to children's emotional understanding (e.g., Denham et al., 1992; Denham & Kochanoff, 2002; Harris, 1994; Taumoepeau & Ruffman, 2006), perspective-taking abilities (e.g., Cassidy et al., 2003; Howe, 1991),

performance on false-belief tasks (e.g., e.g., Dunn et al., 1991; Peterson & Slaughter, 2003), social competence and social skills (e.g., Astington & Jenkins, 1995; Cassidy et al., 2003; Denham et al., 2003; Thompson, 1998; Watson et al., 1999). Despite the importance of ISL on aspects of child social development, as previously stated, prior research has almost exclusively focused on mother-child discourse of internal states. In a meta-analytic study examining gender effects on parent's observed language with their children by Leaper, Anderson and Sanders (1998), differences in maternal and paternal speech were revealed. The authors reported that mothers used more supportive and negative speech, while fathers' used more directive and informing speech. Women have also been found to use more emotion language than men when describing events from their lives (Bauer et al., 2003). These findings suggest that females and males experience differential socialization regarding the expression of emotional terms, which should be further investigated in parent-child discourse.

Recently, three studies in particular have attempted to ameliorate the omission of paternal ISL by directly comparing mother-child *and* father-child interactions, and hence providing a more ecological perspective to child socialization and development. Kornhaber and Marcos (2000) tested the content (including emotion language) and function of mothers' and fathers' speech with their toddlers while playing. Mothers used more emotional language than fathers, while fathers focused more on the objects or actions used during the play session and used more requests for an action or objects as a function. Research conducted by LaBounty and colleagues (2008) investigated both mothers' and fathers' interactions with preschool children during a picture-book reading session, and the links between ISL and social understanding. They not only examined the

types of ISL used by mothers and fathers (emotions, beliefs/thoughts, and desires words), but went beyond to measure more elaborate conversations of emotions by investigating talk about the cause and consequences of internal states, which as mentioned previously has been shown to be particularly influential (e.g., Dunn et al., 1991). It was found that mothers did not talk more compared to fathers, but talked significantly more about internal states, particularly thought and emotion language. Additionally, mothers explained emotions to a greater degree, but fathers explained thought words more than mothers (they did not differ on rates of desire explanations).

LaBounty and colleagues (2008) also found important differences when investigating the associations of parent ISL with children's current and later social understanding. For this study, LaBounty and colleagues (2008) conceptualized social functioning with two distinct components for which correlations were not found: emotional understanding (emotional labeling, stereotypical affective perspective taking, and non-stereotypical affective perspective taking tasks) and performance on a false-belief task. Mothers were found to influence children's emotional understanding, whereas fathers were found to be important for children's performance on a false-belief task. Only mothers' use of emotion words and emotional explanations predicted concurrent emotional understanding. Alternatively, fathers' use of explanations of desires predicted children's concurrent performance on false-belief tasks, as well as their performance two years later. However, children's talk of internal states was not included in this study, and therefore was not used as a control or predictive variable. This will be explored in the present study.

Denham and Kochanoff (2002) did not directly compare maternal and paternal

ISL mean scores, but instead explored their predictive relationships with emotional understanding (as measured by affect knowledge of labels, mixed emotions, and display rules). Mothers' positive attitudes towards teaching their children about emotions was the strongest predictor of children's emotion knowledge at age three, with maternal behaviour variables including positive emotional expression also aiding the prediction. However, the same variables performed by fathers did not necessarily have the same effect on children, as only weak or counterintuitive findings were found (e.g., only children's situational emotion knowledge was predicted by paternal reports and observed behaviour). These comparisons highlight that mothers and fathers may play different emotional socialization roles for their children, and that these relationships need to be investigated further.

Child gender differences. Of the studies investigating the differences of maternal and paternal ISL, even fewer studies have explored the differences of parental speech based on the gender of the child. In a meta-analysis conducted by Leaper, Anderson, and Sanders (1998) on the gender effects on parents' talk to their children, no studies investigating the effect of children's gender on paternal speech were included. Fathers have been found to use more strategies involving questions with their daughters than with their sons during a book reading task (Schwartz, 2004), however, this is not specific to ISL use. Of the studies reviewed for the purposes of this current investigation, fathers' ISL was found to not differ for daughters versus sons (Jenkins et al., 2003; Kornhaber & Marcos, 2000; LaBounty et al., 2008).

Summary

Mothers' use of ISL with children is thought to be important for the development

of social understanding (e.g., Carpendale & Lewis, 2004; de Rosnay & Hughes, 2006). More broadly, it has been shown to play an integral role in children's socio-cognitive development (e.g., Ruffman et al., 2002; Ruffman et al., 2006; Ruffman et al., 2003; Thompson, 1998). Recently, Ruffman and colleagues (2006) indicated a significant relationship between maternal ISL and children's perspective-taking abilities. These results also showed that mothers' use of ISL, in combination with maternal warmth, facilitated children's cooperative behaviour with others. Similarly, Dunn et al. (1991) found that mothers' use of ISL positively affected preschool children's abilities to explain other's beliefs and feelings eight months later. Inner state language is thought to help children internalize conceptualizations of self and others (Meins, 1997), focus on others' perspectives, and teach children to cooperative with other people (Ruffman et al., 2006), and therefore is conceptualized to be related to children's social skills and behaviours.

Despite the important role maternal language plays in the social development of young children, few studies have investigated fathers' use of internal state language in the absence of mothers (for exceptions see Denham & Kochanoff, 2002; LaBounty et al., 2008). As a consequence, studies investigating mother-child dyadic interactions have attempted to generalize their findings to the broader parent-child context. By doing so, knowledge of father-child interactions have often been eclipsed by mother-child relationships. Of the few studies investigating both mother-child and father-child interactions, a few trends have emerged, although not consistently. In particular, when comparing mothers and fathers, mothers have been found to talk more about emotions that fathers (Jenkins et al., 2003; Kornhaber & Marcos, 2000; LaBounty et al., 2008). It has also been found that differing patterns of speech for mothers and fathers predict

concurrent and later social understanding of children. LaBounty et al. (2008) found that mothers' explanations of emotions was related to concurrent emotional understanding, and fathers' explanations of desires was related to both concurrent and later false-belief performance by children. These differences highlight that mothers and fathers may play different roles in child socialization, and more research is needed in this area.

Purpose of the Study and Research Questions

The main purpose of this study was to add to the existing literature by providing a more ecologically valid understanding of internal state language use in parent-child interactions by including both mothers *and* fathers. Given previous gender differences in ISL use, parent and child gender differences will be explored. Therefore, a second aim of this study is to explore unique and common influences of maternal and paternal internal state language input on ratings of social skills of boys and girls. In particular, the following questions are addressed: (a) Do mothers and fathers use similar or different types and functions of ISL overall and when interacting with sons and daughters as it has been shown in previous literature? (b) Do mothers' and fathers' use of ISL, and the way in which they talk about ISL, predict children's social skills? In order to answer these questions, the following hypotheses were made based on theories of social and emotional development as well as past research on the topic:

Internal state language.

Frequency and use.

1. *Type.* Based on previous research (e.g., Bretherton et al., 1986; Hughes & Dunn, 1999; Recchia & Howe, 2008), the age of the participants, and the emphasis on emotions during picture book tasks, it is hypothesized mothers and toddler- and

preschool-aged children will most frequently talk about emotions, followed by beliefs, goals, physiological states, and preferences. Although there has been little research involving fathers, this trend is expected to occur for fathers' use of ISL as well. More specifically, mothers, fathers and children should produce higher mean scores for emotions, with means decreasing for beliefs, goals, physiological states, and preferences. Additionally, a lack of gender differences between boys and girls on measures of emotions, beliefs, goals, and physiological states are expected based on prior findings (e.g., Beeghley et al., 1986; Denham et al., 1992; Denham & Couchoud, 1990a, 1990b; Dunn & Brown, 1994; Dunn et al., 1991; Jenkins et al., 2003; Recchia & Howe, 2008)

2. *Function.* Additionally, it is hypothesized that mothers will use sentences with ISL that question, and children will use ISL as unelaborated comments when looking at children showing emotions, as suggested by previous research (Denham et al., 1992; Denham et al., 1994; Dunn et al., 1991; Peterson & Slaughter, 2003). This relationship is also expected to be observed during father-child interactions. Mothers and fathers should produce higher mean scores for questions using ISL, and children should produce higher means scores for comments. It was also expected that boys and girls will use ISL in similar ways.

Parent comparisons and gender differences

3. Do mothers and fathers use different amounts and types of ISL overall or with sons and daughters? Little research has directly compared mothers' and fathers' use of ISL, and therefore, a comparison of mothers' and fathers' use and function of ISL with sons and daughters while looking at pictures of children's expressions

of emotions will be largely exploratory in nature. Two investigations of mother-child and father-child ISL have found that mothers use more emotion words than fathers (Kornhaber & Marcos, 2000; LaBounty et al., 2008). Alternatively, an investigation of mother, father, and child triadic interaction directly compared the differences between mothers and fathers for differing types of ISL categories, and mothers' overall frequency of ISL was found to be significant, but not specific categories of speech (Jenkins et al., 2003). Mothers have also been found to use more ISL with daughters than with sons (Dunn et al., 1987; Leaper et al., 1998), but gender differences have not been found consistently (see Jenkins et al., 2003; LaBounty et al., 2008).

Internal state language and social skills.

4. Do mothers' and fathers' ISL predict children's social behaviours? It is hypothesized that both mothers' and father's ISL and discussions of emotions will provide unique contributions to parents' ratings of their children's social skills (as measured by the Social Skills scale of the *Behaviour Assessment System for Children, Second Edition*; Reynolds & Kamphaus, 2004). This is based on the theoretical framework of social relationships theory that proposes social and emotional competence is learned through interactions with other individuals, most notably through the parent-child relationship. This hypothesis is somewhat exploratory in nature, but draws upon the work of LaBounty et al. (2008). More specifically will mothers' or fathers' frequency, function, or referent (self versus other) of ISL predict children's social skills?

Methods

This section provides a description of the families that participated in this study, as well as the producers and measures that were used in an effort to test the hypotheses that were presented in the previous chapter. Additionally, ethical practices will be discussed along with the procedures used for the study.

Participants

Fifty-seven toddlers/preschool children (28 boys and 29 girls) between the ages of 25- and 42-months (*Mean Age* = 32.5 months, *SD* = 5.83 months) with both their mothers and fathers participated in the study. The participants were recruited as part of a larger study investigating the bidirectional parent-child influences on emotional development and behaviour. Families were recruited through: (a) day cares around the Edmonton, Alberta area; (b) word of mouth; (c) advertisements placed in Edmonton's Child and Family Focus magazine; and, (d) advertisements placed on parenting internet message boards. Mothers and fathers were married (91.1%), common law (8.9%), or separated (1.8%). The population studied were predominantly middle- to upper-class (over $70 000 total family income) and self-identified with European or Canadian ethnicity (85.7%). A copy of the demographics questionnaire can be found in Appendix B. Families were given a gift certificated to a children's educational toy store or bookstore as a way of thanking them for participating.

Procedure

An ethics proposal was developed for the larger study and was submitted to the Department of Educational Psychology Research and Ethics Committee at the University of Alberta. The proposal included detailed information regarding the nature and purpose

of the study, as well as the methods that would be used to combine informed consent and ensure confidentiality for each family. As no new measures were used and no additional data were gathered, ethical approval was covered under that of the larger study. Consenting families were asked to participate in two home visits. During these home visits, mothers and fathers were asked to interact individually with their child (one visit per parent) and were asked to complete three tasks, one of which is relevant to this study: the "emotions task". For the emotions task, parents were asked to show 12 pictures of children's facial expressions of particular emotions (e.g., happy, sad, surprised, etc.; see Appendix C for a copy of each drawing). Instructions for the emotions task were consistent for each parent-child dyad: "I am interested in young children's responses to emotions. Please show these photographs to your young child. I would like the two of you to talk about the pictures. Note that each picture has a number on it. Please call out the number as you look at each picture." No time limit was given for the interactions. Each interaction was videotaped for later transcription and coding, which is discussed under *Emotions Task Coding* below. Similar types of emotions tasks have been used in previous studies to elicit a range of ISL (e.g. Howe & Rinaldi, 2004). The order of mother-child and father-child emotions task interactions were counter-balanced across families. Both parents were also asked to complete two questionnaires regarding their child's behaviour (i.e., the *Behavior Assessment System for Children, Second Edition*) and demographic information.

Measures

Demographic questionnaire. Parents were asked to fill out a demographics form in order to gather information regarding their gender, ethnicity, relationship status,

education, and combined annual income of their household. Only one aspect of this form, parents' level of education, was used for the purposes of preliminary analysis. Parents were asked to indicate their highest level of education based on eight categories: (a) graduate/professional education; (b) college/university degree; (c) partial college/university; (d) certificate in trade/technology; (e) high school diploma/GED; (f) partial high school training; (g) junior high school graduate; and, (h) eight years of schooling or less.

Emotions task coding. All conversations between parent and child during the emotions task were transcribed. Mothers', fathers' and children's references to internal states were identified and were coded as one of five broad categories: goals, beliefs, emotions, preferences, and physiological states (see Appendix D for details). This coding scheme was based on previous research studies that have used similar categories of ISL in order to determine specific relationships between different types of ISL and social behaviour variables (Howe, 1991; Howe et al., 1998; Howe et al., 2005; Howe & Rinaldi, 2004; Howe et al., 2002; Jenkins et al., 2003; Welsh-Ross, Fasig, & Farrar, 1999). Sentences were coded more than once when necessary (e.g., Do you *think* he is *sad*?). Each ISL utterance was additionally coded in a number of ways. Coders identified the referent (who the reference was about: parent, child, picture character, or other) of the ISL. Coders also categorized each unit containing an ISL as to its function: (a) questioning; (b) explaining the cause or consequences of the internal state, or clarifying misunderstandings; (c) requesting an individual to perform an action or give a verbal response; (d) commenting—noting a feeling or emotion or internal state without further explanation or clarification; and, (e) other—does not complete an idea or is unrelated to

the activity.

Reliability. To establish reliability for coding, two independent raters coded 15% of the transcripts (18 of 114 transcripts). Raters' initial identification of utterances to be coded was compared using percent agreement. Percent agreement was calculated as agreements/(agreements + disagreements) and was 89 percent. Following Bakeman and Gottman's (1997) procedure, Cohen's *kappas* were also calculated for inter-rater reliability of ISL type, referent, and function, and are reported as follows: 0.98, 0.96, and 0.89, respectively.

Conversational turns. Previous research has demonstrated that varying lengths of dyadic interactions can influence individual differences of ISL use (e.g., Jenkins et al., 2003), as in longer conversations there are more opportunities to use ISL. To control for the amount of talk between parents and children, original transcripts were divided by conversational turns, defined as all of one speaker's utterances bound by utterances of another speaker (Shatz & Gelman, 1973). Frequencies of ISL were converted to indexes of ISL for each type, function, and referent of ISL. Frequencies were divided by the number of conversational turns for mothers, fathers, and children. For example, a mother stating 20 emotion words in 100 conversational turns would have an emotion index score of .20.

Behavior Assessment System for Children, Second Edition. The *Behavior Assessment System for Children, Second Edition* (BASC-2; Reynolds & Kamphaus, 2004) was used to assess parents' perception of their children's social skills, and to test links between children's rated social skills with observed ISL. The BASC-2 is a behavioural rating system that was designed to assist professionals in the identification

and diagnosis of emotional and behavioural disorders. Parents completed the Parent Rating Scale – Preschool (PRS-P) form, which contains many statements describing both adaptive and maladaptive behaviours. Adaptive behaviours include such skills as adaptability, functional communication, and social skills, whereas maladaptive behaviours include both internalizing (anxiety, somatization, and depression) and externalizing (hyperactivity, aggression, and conduct problems) behaviours. For each statement, mothers and fathers were asked to rate the frequency of the behaviour during the past 6 months on a four-point scale (never, sometimes, usually, and almost always). Scores for subscales and five composite scales are reported in the form of t-scores (M = 50, SD = 10), however only the Social Skills scale, a component of the Adaptive Skills composite, was used for our purposes due to the focus on adaptive rather than maladaptive behaviours for this study. The Social Skills scale emphasizes the interpersonal aspects of social adaptation, and includes references to children's tendencies to compliment or help others.

For the preschool population, separated or combined gender norms are available for these scales. The combined gender norms were used for this study as the separated gender norms have been found to mask gender differences (Kamphaus & Frick, 1996). The manual reports high internal consistency for the Social Skills scale (α =.88), as well as high test-retest reliability (ρ =.74), for the PRS-P. Interrater reliability for the PRS-P is also adequate for the Social Skills scale (α = .64). Validity studies have indicated the PRS-P to be comparable with other behavioural rating scales, including the parent form of the Child Behaviour Checklist for Ages 1½ to 5 (Achenbach & Rescorla, 2001), although this form does not necessarily focus on adaptive functioning.

Results

In this chapter, the results of the current investigation are presented in two parts: (a) measures of ISL, and (b) ISL and social skills. Two different statistical analysis were used to analyze observational and questionnaire data. For measures of ISL, repeated measures analysis of variance (ANOVAs) were conducted to determine possible differences between mothers', fathers', and children's use of ISL overall, or with mothers' and fathers' talk to sons and daughters (*Questions 1*, *2*, and *3*). For ISL and social skills, regression analysis techniques were used to assess if mothers' and fathers' ISL are predictive of parents' ratings of their children's social skills (*Question 4*). Both parts are organized in the following manner: (a) statistical assumptions related to the statistical analyses; (b) preliminary analyses; and (c) results associated with the proposed research questions. For all analysis, statistical significance was assessed using two-tailed tests. For omnibus analyses of variance (ANOVAs) and regression analysis, the *alpha* level was set at $p = .05$. The Bonferroni correction was used for all post hoc tests and when multiple repeated measures ANOVAs were conducted.

Measures of Internal State Language

Scores for ISL type, function, and referent for all family members were found to be positively skewed, with some families not using particular types of ISL (see Table 2). Square root transformations were applied to all index scores, which is a common statistical procedure (Glass & Hopkins, 1996) and similar to previous research in this area (e.g., Jenkins et al., 2003). Furthermore, one ISL code (children's requests for information) was dropped from further analysis due to low occurrence (less than 5% of participants). Finally, when problems of sphericity arouse for repeated measures ANOVA

operations the Greenhouse-Geisser or Huynh-Feldt corrections were applied as needed (Field, 2005). Following these procedures, the necessary assumptions for repeated measures ANOVA were met (Howell, 2002).

Table 2

Frequency Means, Standard Deviations, and Ranges of Type of ISL Talk[1]

Speaker		Emotions	Beliefs	Goals	Physiological	Preferences
Mothers	*M*	28.72	18.70	4.25	1.86	0.81
	SD	20.01	15.16	2.65	2.18	1.68
	Range	0-102	0-76	0-27	0-9	0-8
Fathers	*M*	25.12	16.95	2.28	1.54	0.98
	SD	16.46	14.48	2.91	2.01	1.60
	Range	0-70	0-77	0-13	0-8	0-7
Children with Mothers	*M*	8.05	3.79	1.70	1.09	0.32
	SD	7.90	5.22	3.06	2.31	1.28
	Range	0-45	0-25	0-14	0-15	0-9
Children with Fathers	*M*	7.05	2.79	1.16	0.81	0.21
	SD	6.35	4.74	2.46	1.99	0.70
	Range	0-21	0-22	0-17	0-13	0-3

Preliminary analyses.

Age effects. Children's references to beliefs ($r = .56$, $p < .01$) and emotions ($r = .38$, $p < .01$) when talking to their mothers and references to beliefs ($r = .34$, $p < .01$) when talking to their fathers increased with age. However, all categories of ISL used by

[1] Although frequencies were not used in the analysis of data, due to the confounding variable of amount of talk between family members, the frequencies ISL for family members illustrates the general positive skew of the ISL variables.

mothers and fathers did not change as a function of children's age, and therefore age was not controlled when examining parental comparisons of ISL.

Demographic effects. Previous research has indicated a relationship between maternal education and rates of ISL used by mothers and children (Adrian et al., 2005; Jenkins et al., 2003; Garrett-Peters et al., 2008). No significant correlations were found between maternal or paternal education and measures of ISL, and therefore was not controlled in subsequent analysis.

Frequency and use.

Type (Question 1). In order to investigate whether family members used different amounts of ISL categories, for each family member (mother, father, and child) a repeated measures ANOVA with type (emotion, belief, goal, physiological state, and preference) of ISL talk as a within-participants factor was conducted. Two additional factors were assessed for children's ISL talk, which included context (mother, father) as a within-participants factor and gender (boy, girl) as a between-participant factor. It was hypothesized that mothers, fathers, and children would produce higher mean scores for emotions, with means decreasing for beliefs, goals, physiological states, and preferences.

A significant difference was found between types of ISL categories for mothers, $F(3.22, 180.54) = 141.64$, $p < .01$, fathers, $F(2.98, 167.23) = 132.33$, $p < .01$, and children, $F(3.46, 190.00) = 62.91$, $p < .01$. Family members used some types of ISL more than others. For each family member, planned comparisons were used to assess differences between mean scores of emotions, beliefs, goals, physiological states, and preferences (comparing each type to the subsequent category). Mothers were found to talk significantly more about emotions, $F(1, 56) = 24.41$, $p < .01$, followed by beliefs,

$F(1, 56) = 93.44$, $p < .01$, goals, $F(1, 56) = 11.53$, $p < .01$, and physiological states, $F(1, 56) = 10.80$, $p < .01$. Fathers talked significantly more about emotions, $F(1, 56) = 17.64$, $p < .01$, followed by beliefs, $F(1, 56) = 148.09$, $p < .01$. Differences between goals and physiological states, $F(1, 56) = 1.67$, *ns*, as well as between physiological states and preferences, $F(1, 56) = 0.65$, *ns,* were not significant for father utterances. Children also produced significantly higher rates of emotions, $F(1, 55) = 42.32$, $p < .01$, followed by beliefs, $F(1, 55) = 8.96$, $p < .01$. Differences between goals and physiological states was not significant, $F(1,55) = 1.78$, *ns*. However, children's rates of preferences was significantly lower than physiological states, $F(1, 55) = 9.14$, $p < .01$.

A main effect of gender was not found, $F(1, 55) = 0.81$, *ns*, indicating overall boys and girls used the same amount of ISL. Overall, children used a greater amount of ISL language with mothers ($M = 0.15$, $SE = 0.01$) compared to fathers ($M = 0.12$, $SE = 0.01$), as a main effect of context was found for children's ISL talk, $F(1, 55) = 9.80$, $p < .01$. However, a significant context x gender interaction was found, $F(1, 55) = 10.05$, $p < .01$, indicating girls used the same amount of ISL with mothers ($M = 0.14$, $SE = 0.01$) and fathers ($M = 0.14$, $SE = 0.01$), but boys used significantly more ISL with mothers ($M = 0.15$, $SE = 0.01$) than with fathers ($M = 0.10$, $SE = 0.01$). No significant interaction of type x context was found, $F(3.45, 189.73) = 0.54$, *ns*, and no significant interaction of type x context x gender was found for children's ISL talk, $F(3.45, 189.73) = 2.56$, *ns*.

In summary, it was found that all family members used emotion words to the greatest degree followed by belief language. Boys also used more ISL language with mothers compared to fathers.

Function (Question 2). To further investigate how family members used ISL, for

each family member (mother, father, and child) a repeated measures ANOVA with function (question, comment, clarification, request, and other) of ISL as a within-participant factor was conducted.[2] Two additional factors were assessed for children's function of ISL, which included context (mother, father) as a within-participants factor and gender (boy, girl) as a between-participant factor. It was hypothesized that mothers and fathers would use more ISL language as questions, whereas children would use more comments.

A significant difference was found between function of ISL talk for mothers, $F(2.70, 151.36) = 206.26$, $p < .01$, fathers, $F(2.70, 151.36) = 206.26$, $p < .01$, and children, $F(1.65, 90.79) = 219.62$, $p < .01$. How each family member used ISL was inconsistent across function categories. Planned comparisons were used to assess whether parents used significantly more questions than any other function of ISL (comparing questions to each category). Mothers used significantly more questions compared to comments, $F(1, 56) = 30.37$, $p < .01$, clarifications, $F(1, 56) = 135.70$, $p < .01$, requests, $F(1, 56) = 420.37$, $p < .01$, and other functions, $F(1, 56) = 582.03$, $p < .01$. Fathers also used significantly more questions compared to comments, $F(1, 56) = 30.37$, $p < .01$, clarifications, $F(1, 56) = 135.67$, $p < .01$, requests, $F(1, 56) = 420.32$, $p < .01$, and other functions, $F(1, 56) = 582.03$, $p < .01$.

For children, planned comparisons were used to assess whether comments were used more than any other function (comparing comments to each category). Children used ISL language as comments significantly more compared to questions, $F(1, 56) = 250.32$, $p < .01$, clarifications, $F(1, 56) = 272.09$, $p < .01$, and other functions, $F(1, 56) =$

[2] As mentioned previously, children's requests for information as a code index was dropped from the analysis due to low occurrence.

250.32, $p < .01$.

For children's use of ISL, a main effect of context was found to be not significant, $F(1, 55) = 5.27$, *ns*, and a main effect of gender was also found to be not significant, $F(1, 55) = 1.24$, *ns*. However, a function x context interaction was found to be significant, $F(1.71, 95.52) = 5.60$, $p = .01$, indicating children used inner state language in different ways with mothers than with fathers (see Figure 1). Similar to children's ISL type, a context x gender interaction was found to be significant, $F(1.71, 95.52) = 5.60$, $p = .01$, indicating girls used generally the same amount of ISL functions with mothers ($M = 0.13$, $SE = 0.01$) and fathers ($M = 0.14$, $SE = 0.01$), but boys used significantly more ISL with mothers ($M = 0.14$, $SE = 0.01$) than with fathers ($M = 0.09$, $SE = 0.01$).

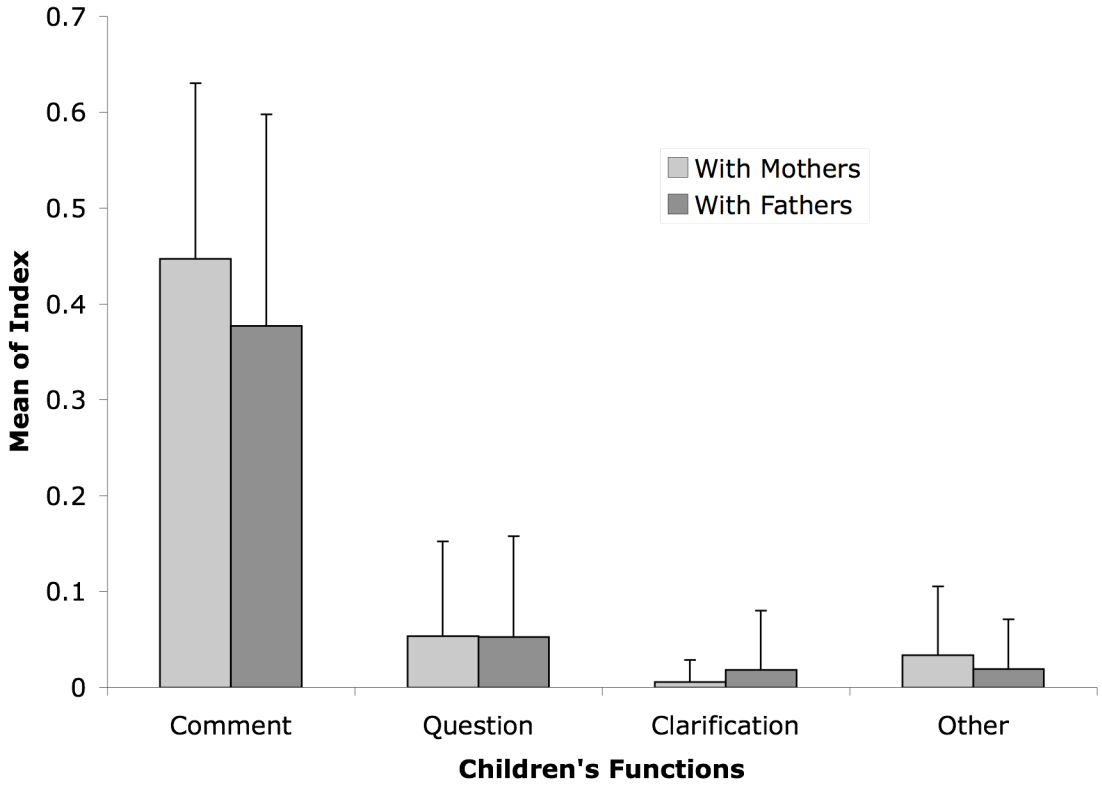


Figure 1. Mean of index scores of children's ISL functions with mothers and fathers.

In summary, it was found that parents used significantly more questions than any

other type of ISL function. Overall, children used ISL language as comments compared to questions, clarifications, and other functions, but used differing amounts of these functions with mothers and fathers. Again, boys used significantly more ISL functions overall with mothers than with fathers.

Parent comparisons and gender differences (Question 3).

Type. In order to compare types of ISL used by mothers and fathers with sons and daughters, a repeated measures ANOVA with type of ISL (emotion, belief, goal, physiological state, preference) as a within-participant variable, and parent (mother, father) and child gender (boy, girl) as between-participant factors was performed. This analysis revealed two main effects and an interaction. The type of ISL used by parents was significant, $F(3.14, 345.20) = 275.10$, $p < .01$, which was expected and previously addressed in *Question 1*. A second significant main effect was found between parents' types of ISL used with sons and daughters, $F(1, 110) = 5.60$, $p < .05$. This indicates parents' used significantly more ISL with sons ($M = 0.36$, $SE = 0.01$) than with daughters ($M = 0.31$, $SE = 0.01$). Furthermore, a significant type x child gender interaction was also found, $F(3.14, 345.20) = 2.85$, $p < .05$, indicating parents used more ISL with sons than daughters in some categories compared to others (see Figure 2). Interestingly, no main effect was found between mothers' and fathers' use of ISL, $F(1, 110) = 0.195$, *ns*, indicating parents did not differ on the types of ISL used overall (see Table 3).

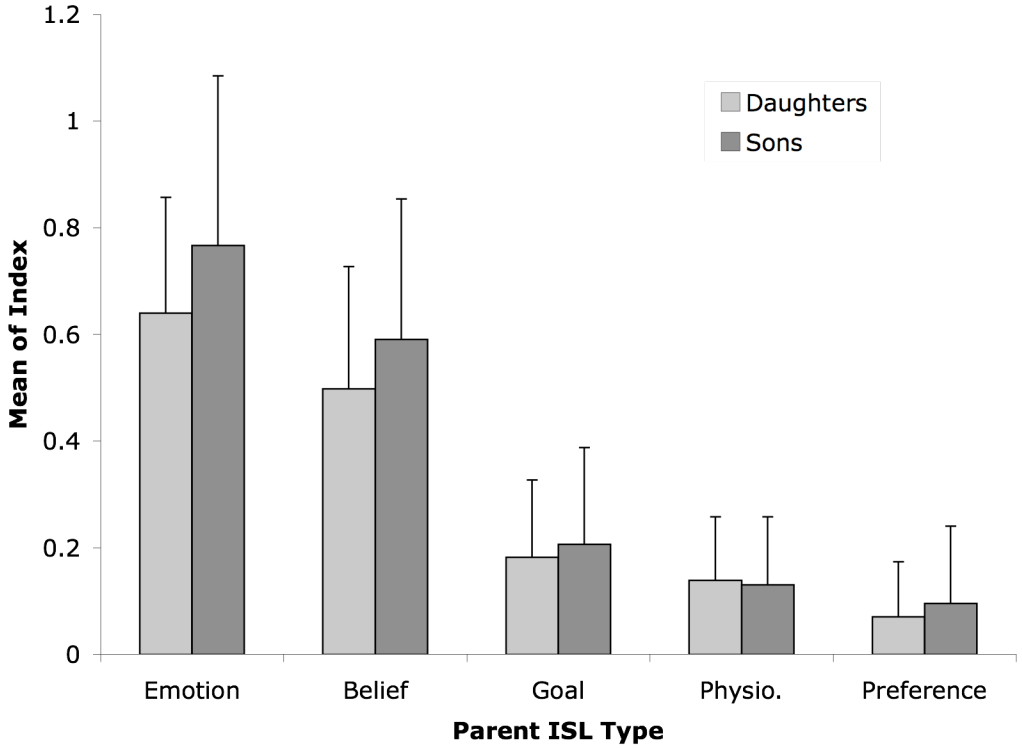


Figure 2. Mean of index scores of parents' ISL type categories to daughters and sons.

A series of one-way ANOVAs were calculated as post hoc analysis to determine possible differences between parents' ISL with sons and daughters in particular categories. These analyses revealed that parents used significantly more emotion words with sons ($M = 0.77$, $SE = 0.04$) than with daughters ($M = 0.64$, $SE = 0.03$), $F(1, 113) = 6.18$, $p = .01$. A trend was also found toward parents greater use of belief terms with sons ($M = 0.59$, $SE = .04$) versus daughters ($M = .50$, $SE = .03$), however this trend was not significant, $F(1, 113) = 4.02$, $p = .05$.

Overall, both mothers and fathers were found to use more ISL with sons than daughters. In particular, parents used significantly more emotion words with sons than daughters.

Table 3

Index Mean Scores (and Standard Deviations) of ISL Talk Categories

Child's Gender	Speaker	Emotion	Belief	Goal	Physiological	Preference
Son	Father	.77 (.38)	.60 (.24)	.17 (.21)	.11 (.14)	.10 (.15)
	Mother	.76 (.25)	.58 (.29)	.24 (.14)	.14 (.12)	.09 (.14)
Daughter	Father	.63 (.22)	.51 (.24)	.15 (.13)	.13 (.11)	.10 (.12)
	Mother	.64 (.21)	.49 (.22)	.21 (.16)	.15 (.12)	.04 (.07)

Function. In order to compare functions of ISL used by mothers and fathers with sons and daughters, a repeated measures ANOVA with function of ISL (question, comment, clarification, request, and other) as a within-participant variable, and parent (mother, father) and child gender (boy, girl) as between-participant factors was performed. The functions of ISL used by parents was significant, $F(2.12, 223.52) = 307.48$, $p < .01$, which was expected and previously addressed in *Question 2*. A between-participant significant main effect was found between parents' functions of ISL with sons and daughters, $F(1, 110) = 7.26$, $p < .01$. This reflects parents' use of significantly more ISL (and therefore functions of ISL) with sons ($M = 0.32$, $SE = 0.01$) than with daughters ($M = 0.27$, $SE = 0.01$). Furthermore, a significant function x child gender interaction was also found, $F(2.12, 233.52) = 3.85$, $p < .05$, indicating parents used differing amounts of functions with sons versus daughters in some categories compared to others (see Figure 3). Interestingly, no main effect was found between mothers' and fathers' ISL functions, $F(1, 110) = 0.05$, *ns*, indicating parents used ISL in generally the same ways (i.e., generally used the same amounts of questions, comments, clarifications, requests, and other functions; see Table 4).

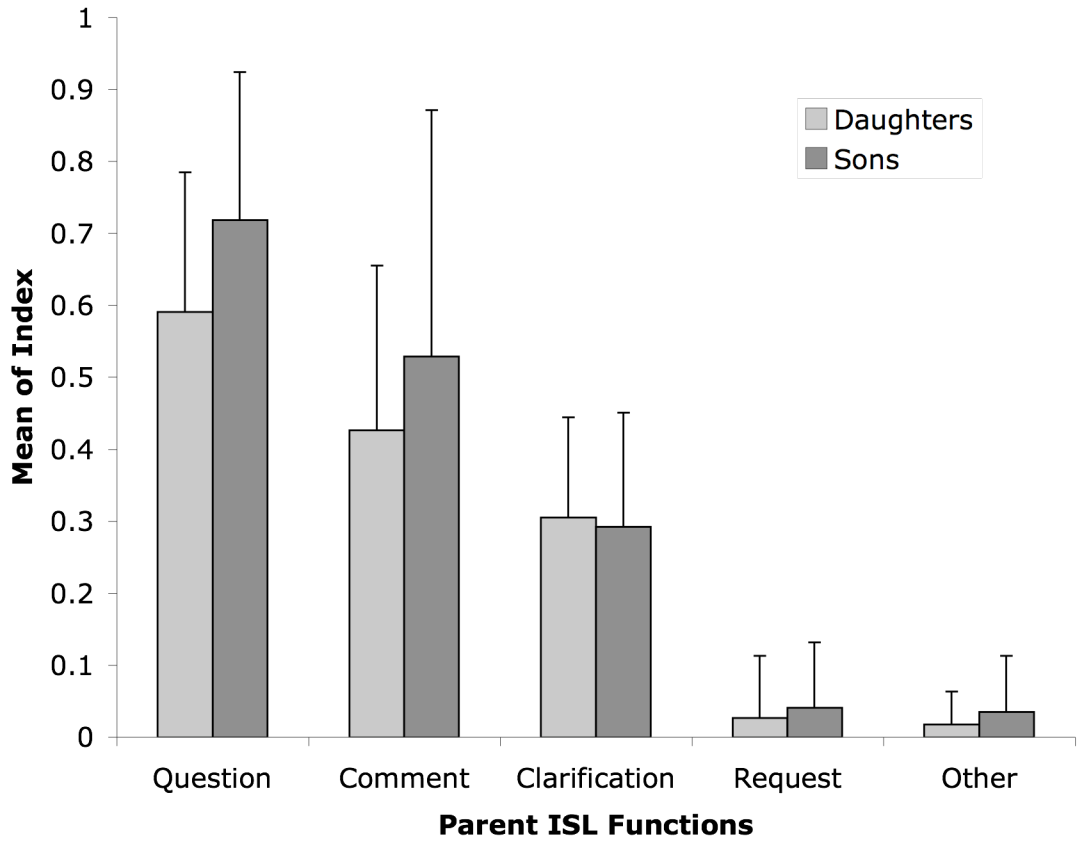


Figure 3. Mean of index scores of parents' ISL functions with daughters and sons.

A series of one-way ANOVAs were used as a post hoc test to determine possible differences between parents' ISL functions with sons and daughters in particular categories. Post hoc analysis indicate parents used significantly more questions with sons ($M = 0.72$, $SE = 0.03$) than with daughters ($M = 0.59$, $SE = 0.03$), $F(1, 113) = 11.61$, $p = .001$.

Overall, both mothers and fathers were found to use more ISL with sons than daughters, and this was reflected in the difference of overall amount of functions. In particular, parents used significantly more questions with sons than daughters, but not other types of functions.

Table 4

Index Mean Scores (and Standard Deviations) of ISL Functions

Child's Gender	Speaker	Question	Comment	Clarification	Request	Other
Son	Father	.72 (.21)	.54 (43)	.27 (.15)	.04 (.09)	.04 (.07)
	Mother	.71 (.21)	.52 (.24)	.32 (.16)	.05 (.09)	.03 (.08)
Daughter	Father	.60 (.19)	.42 (.26)	.31 (.16)	.02 (.08)	.01 (.03)
	Mother	.59 (.20)	.43 (.20)	.30 (.11)	.03 (.10)	.02 (.05)

Internal State Language and Social Skills (Question 4)

Preliminary analyses.

Zero-order correlations. Before submitting data to exploratory multiple regression analysis, a correlation matrix was computed for parent ISL variables, child's age, and parental BASC Social Skills ratings and it is presented in Table 5.

Table 5

Zero-order Correlations for Child's Age, Parents' ISL, and Parents' Social Skills Ratings

	BASC Social Skill			
	Mother Rating		Father Rating	
	Mother ISL	Father ISL	Mother ISL	Father ISL
Type				
Total	-.06	-.03	.14	.05
Emotion	-.12	-.02	.06	-.10
Belief	.11	.04	.28*	.05
Goal	.06	-.24	.04	-.11
Physiological state	-.06	.26	.01	.37**
Preference	-.29*	-.08	.01	-.23
Function				
Question	.04	.11	.14	.03
Comment	-.37**	-.18	-.07	-.14
Clarification	.20	.16	.44**	.46**
Request	-.20	.09	.09	.01
Other	.16	.24	.19	.14
Referent				
Self	.08	-.16	.04	-.12
Child	.05	.05	.21	-.02
Picture	-.08	-.08	.06	-.05
Child's Age	.13		.40**	

* $p < 0.05$ ** $p < 0.01$

ISL predictors of social skills.

In order to further explore the socialization links between children's social skills and parents' use of ISL (type, function, and referent), a series of linear hierarchical multiple regression analysis were conducted. It was determined that the present study meets the requirements for the necessary assumptions for regression analysis. Due to the limited number of participants in the current study, the number of predictors was largely restricted (Field, 2005). On the basis of correlation results, mothers' ISL index of comments and mothers' ISL index of preferences were added sequentially in order to predict mothers' ratings of children's social skills. This established that variance in mothers' use of ISL in comments accounted for a small, but significant, amount of the variance in mothers' BASC-2 ratings, 13%, $R^2 = .13$, $F(1, 55) = 10.41$, $p < .01$. Mothers' preferences as a ISL type did not account for a significant amount of variance when added to the model, despite a trend in this direction, $\Delta R^2 = .05$, $F(2, 54) = 2.948$, $p < .10$. Table 6 summarizes the results from this regression analysis.

Table 6

Summary of Hierarchical Regression Analysis Predicting Children's Social Skills (as assessed by mothers' BASC-2 reports)

	B	*SE B*	*β*
Step 1			
Constant	58.53	2.22	
Mother ISL Comments	-12.29	4.22	-.37*
Step 2			
Constant	58.53	2.18	
Mother ISL Comments	-10.71	4.25	-.32*
Mother Preferences	-14.45	8.42	-.22

Note. $R^2 = .13$ for Step 1 ($p < .01$); $\Delta R^2 = .05$ for Step 2 ($p < .10$). * $p < .01$.

On the basis of correlation results, children's age, fathers' and mothers' ISL clarifications, and fathers' references to physiological states were added as subsequent steps in order to predict fathers' ratings of their children's social skills. This established that variance in children's age, as well as fathers' and mothers' ISL clarifications accounted for a significant amount of variance in fathers' BASC ratings, 33%, $R^2 = .33$, $F(3, 53) = 8.80$, $p < .001$. However, mothers' clarifications did not significantly contribute to the model, as seen in Table 7 that summarizes the results of the regression analysis. When fathers' use of physiological state words was added is also did not account for a significant amount of variance, $\Delta R^2 = .03$, $F(4, 56) = 2.02$, *ns*.

Table 7

Summary of Hierarchical Regression Analysis Predicting Children's Social Skills (as assessed by fathers' BASC-2 reports)

	B	*SE B*	*β*
Step 1			
Constant	32.01	5.64	
Child Age	.55	.17	.40**
Step 2			
Constant	30.05	5.16	
Child Age	.40	.17	.29*
Father ISL Clarification	15.06	6.46	.32*
Mother ISL Clarification	8.60	7.67	.16
Step 3			
Constant	31.04	5.16	
Child Age	.36	.17	.26*
Father ISL Clarification	13.80	6.46	.29*
Mother ISL Clarification	6.73	7.71	.13
Father Physiological States	10.34	7.26	.17

Note. $R^2 = .16$ for Step 1 ($p < .01$); $\Delta R^2 = .17$ for Step 2 ($p < .01$); $\Delta R^2 = .03$ for Step 3 ($p = .16$). $^{**}p < .01$, $^{*}p < .05$.

These results indicate that differing variables predict fathers' versus mothers' ratings of their children's social skills. As children become older, and as fathers' use of clarifications containing ISL also increased, ratings by fathers about their children's social skills also increased. Alternatively, as mothers' use of comments containing ISL increased, their ratings of their children's social skills decreased.

Discussion

The aim of the current study was to provide a more representative overview of child social development by examining both maternal and paternal patterns of ISL use, as well as the influences between ISL and social functioning. The types of ISL used by family members, and how they were used, were examined in both mother-child and father-child interactions during a picture book reading activity. Relationships between maternal and paternal ISL use and parental ratings of children's social skills were explored. In this last chapter, the results of the current investigation will be interpreted and discussed in relation to past research and theory. Additionally, the limitations of this study will be addressed. Finally, possible directions for future research and applications will be presented.

Measures of Internal State Language

Frequency and use.

Type (Question 1). The prediction that mothers, fathers, and children would most frequently talk about emotions was supported by the present study. Family members used emotion words more than other types of ISL, followed by words that denote beliefs or thoughts. In particular, it was assumed all family members would talk most about emotions, as the current study used pictures that depict facial expressions of key emotions, such as happiness, sadness, and surprise. Family members were also advised that the researchers were interested in children's responses to emotions. The prediction that family members would use decreasing amounts of words denoting goals, physiological states, and preferences was not supported across family members. Fathers and children used similar amounts of words referencing these types of inner states.

Overall, this finding is consistent with previous research, which has indicated parents and children would be most likely to talk about emotions and beliefs, based on the children's age (e.g., Bretherton et al., 1986; Hughes & Dunn, 1999) and the type of activity completed by parents and children (e.g., Adrian et al., 2005; Denham et al., 1992). The current study extends these previous findings of mother-child observations to include father-child interactions.

As expected, overall gender differences were not found when comparing boys' and girls' use of ISL. This finding is consistent with some previous research that has found a lack of gender differences between preschool boys and girls on measures of ISL (e.g., Beeghley et al., 1986; Denham et al., 1992; Denham & Couchoud, 1990a, 1990b; Dunn & Brown, 1994; Dunn et al., 1991; Jenkins et al., 2003; Recchia & Howe, 2008). This gives further support for the argument that concrete gender differences in emotion words and other ISL are not found consistently until children reach the age of six-years, at which time girls use a greater variety and frequency of emotion words compared to boys (Adams, Kuebli, Boyle, & Fivush, 1995; Kuebli et al., 1995).

Interestingly, boys were found to use more ISL overall with mothers than with fathers, despite mothers using the same amount of ISL as fathers (reviewed below under *Parent Comparisons and Gender Differences*). Children's use of ISL during mother-only and father-only interactions has not been directly compared in prior studies, and therefore this result is novel. Alternatively, gender comparisons in previous research have largely focused on contrasting boys and girls during mother-child interactions, rather than gender differences of children with mothers and fathers.

There are several possible explanations as to why boys would use a larger amount

of ISL with mothers than with fathers. Whether or not differences in boys' use of ISL is an outcome of child or parent characteristics or behaviours was not addressed by the design of the current study, but the results are possibly due to a combination of both parent and child contributions, and the way in which dyads reciprocally shaped the experience together. This perspective would be consistent with social relationships theory that posits children learn about emotions and cognitive states through family interactions, which is supported by a growing body of research that highlights the important role internal state discussion plays in the development of social understanding in children (e.g., Carpendale & Lewis, 2004; Dunn et al., 1991; Jenkins et al., 2003).

Alternatively, boys may be more comfortable talking about emotions and other ISL with their mothers compared to their fathers. This explanation would be consistent with the assumption that mothers provide necessary emotional support for children and are the primary socialization agents (e.g., Kuczynski & Parkin, 2007). Interviews with children have indicated they often approach their mothers for help with emotional difficulties, whereas fathers are preferred for one-on-one time outside the home, based on children's appraisals of their parents' differing expertise, personalities, availability, as well as other characteristics (Kuczynski, Lollis, McCullough, Parkin, & Oliphant, 2006, as cited in Kuczynski & Parkin, 2007). Girls were found to use approximately the same amount of ISL with both parents, which may indicate fathers and daughters have distinctly different relationships than fathers and sons, since both mothers and fathers used the categories and functions of ISL with both sons and daughters. Furthermore, differences between mothers and fathers on measures of verbal tone, positive affect, or additional behavioural factors may have encouraged sons to express more ISL with

mothers compared to fathers, which should be explored further in future studies.

Previous research has detailed toddler and preschooler boys as being more active than girls (Block, 1983; Campbell & Eaton, 1999; Coie & Dodge, 1997), while girls are generally more verbal (Yogman, 1994). It may be that boys exhibited more physical play, and less verbal expression, and fathers were more receptive to this approach. This would be consistent with research indicating fathers tend to try to excite their children (Dixon, Yogman, Tronick, Adamson, & Brazelton, 1981; Goldberg, Clarke-Stewart, Rice, & Dellis, 2002) and tend to be more physical in their play than mothers, who engage in more verbal and didactic play (Clarke-Stewart, 1980; Teti et al., 1988; Yogman, 1982). Furthermore, observations of parents' interactions with children indicate fathers more often than mothers treat girls and boys differently (Kruper & Uzgiris, 1987; Lytton & Romney, 1991; Power & Parke, 1982; Snow, Jacklin, & Maccoby, 1983). For example, fathers have been found to use more physical play with sons than with daughters (Jacklin, DiPetro, & Maccoby, 1994; MacDonald & Parke, 1986). Although caution should be taken when characterizing individuals along gender boundaries[3], it may be that boys had different expectations of the emotions task with mothers and fathers based on past experiences with their parents. This argument would be consistent with assertions that each partner's behaviour is affected by representations of their relationship, which is derived from shared narratives (Laible & Thompson, 2007). Despite mothers and fathers using the same amounts of ISL with both sons and daughters, it may be that boys were more likely to use physical play with their fathers, and less verbal expression, based on past experiences of play with their fathers. In contrast, sons may have been more

[3] Categorizing behaviors along gender lines may be beneficial for determining gender trends, however, grouping participants into gender binaries masks any individual differences within categories. It is likely there are more similarities between individuals of distinct genders than there are differences.

receptive to talk about ISL with mothers. This plausible explanation lends support to Paquette's (2004) suggestion that the father-child relationship is one of *activation* (as differentiated from the mother-child attachment relationship) that helps children's openness to the world through the use of play and excitement.

Further research is needed to better understand the interconnectedness of the socialization of emotion and gender, and the expression of emotional language with mothers and fathers that reinforces schemas of interpersonal relations and expression (Lutz & White, 1986; Schieffelin & Ochs, 1986). Increased understanding is important, as children's participation in family discourse about inner states has been linked to individual differences in their emotional understanding (Dunn et al., 1991) and experiences with peers in preschool (Denham, McKinley, Couchoud, & Holt, 1990).

Function (Question 2). As predicted, parents used ISL in questions more than any other type of speech. This is consistent with previous research that found mothers used teaching strategies, such as questions, when looking at pictures of children expressing emotions (Denham et al., 1992). The current study extends this research by indicating fathers also most frequently used ISL as questions while looking at emotion pictures. It is possible that both mothers and fathers used this opportunity as a way to teach their children about emotions, feelings, cognitions, and physiological states. It may be representative of the reflective, analytic, and directive teaching practices used by mothers and fathers, although a more direct examination is needed to better understand the specific teaching strategies used. Alternatively, parents may have used questions to engage children in the activity, rather than as a direct teaching measure. Additionally, parents may have also used questions to gain a better insight into their children's level of

emotional understanding. Nonetheless, previous research has indicated that talk about internal states during picture book reading (more than the general talk) can aid children's understanding of others' emotional and cognitive states (Adrian et al., 2005). It may provide the opportunity to reflect on labels of internal states, self and other perspectives, and possible cause and consequences that may provide children with a greater context to learn about internal states, which in turn may encourage a deeper understanding (Fivush, 1993).

It was also expected that children would use more unelaborated comments when talking about ISL with their parents. Consistent with previous research (Denham et al., 1992; Denham et al., 1994; Dunn et al., 1991; Peterson & Slaughter, 2003), children were found to use comments more than other expressions when talking about inner states. Interestingly, it was also found that children used ISL in different ways with mothers than with fathers. Both girls and boys appeared to use ISL in comments more with mothers than with fathers, but used similar amounts of questions, clarifications, and other types of functions with both parents. However, these differences may only generally reflect boys' greater use of ISL with mothers than with fathers, rather than distinctive modes of communication between parents.

Parent comparisons and gender differences (Question 3).

Type and function. Do mothers and father use different amounts and types of ISL overall, or with sons and daughters? Interestingly, mothers and fathers did not significantly differ in their use of ISL overall with their children, and used ISL in the same way. Due to the little amount of research directly comparing mothers' and fathers' ISL, this comparison was somewhat exploratory in nature. Yet, these results are

inconsistent with the few previous studies that have investigated parent ISL differences. In contrast to the lack of differences between mothers and fathers on measures of ISL found in the current study, Jenkins and colleagues (2003) found mothers used more ISL overall compared to fathers during mother, father, and child triadic interactions, when both mothers and fathers were present during observations of day-to-day activities, such as during meals or unstructured play. Furthermore, two prior investigations of mother-child and father-child ISL have found mothers use more emotion words than fathers (Kornhaber & Marcos, 2000; LaBounty et al., 2008). Specifically, Kornhaber and Marcos (2000) asked parents to engage in free play with their toddler children either at home or at a daycare setting, and LaBounty and colleagues (2008) asked parents and children to look at a picture book depicting six emotion-eliciting situations. These three contexts appear to have elicited parent gender differences.

These contradictory findings may be the result of methodological differences due to type of activities or contexts used rather than straightforward dissimilarities. Both studies completed by Kornhaber and Marcos (2000) and Jenkins and colleagues (2003) included direct observation or activities with little instruction or restrictions. LaBounty and colleagues (2008) asked participants to complete a book activity, which is similar to the present study, however the instructions of the task emphasized the discussion of the causes and consequences of emotion, rather than labeling emotional expressions. Specifically, the experimenter gave the book to the parent and asked the parent to discuss each picture with such questions as “How is the child in the pictures feeling? Why? How are others in the pictures felling? Why? What is going to happen next?” (Labounty et al., 2008, p. 761). It may be when mothers and fathers are asked to discuss emotional labels,

rather than the cause and consequences of the emotions, differences between mothers' and fathers' use of ISL disappear.

Despite the lack of differences between mothers' and fathers' use of ISL, the results of this study suggest substantial differences in the manner with which parents talk about internal states with their sons and daughters. In particular, both mothers and fathers used more emotion language and ISL questions with their sons. Compared to past research this finding appears to be unusual, as in previous studies mothers have been found to use more emotion language with daughters or use the similar amounts with both boys and girls. Additionally, in the few studies investigating fathers' use of ISL, no gender differences have been found. Rarely has greater amounts of emotion language been found for sons than for daughters. Alternatively, mothers have been found to talk more (Cherry & Lewis, 1976), use more ISL (Dunn et al., 1987; Fivush et al., 2000; Kuebli et al., 1995), and express more negative emotions (Dunsmore & Karn, 2004) with daughters than with sons. Fivush (1989) found that mothers talked more about positive emotions with daughters, but spoke equally about positive and negative emotions with sons. Conversely, other studies have found a lack of gender differences for both mothers' and fathers' use of ISL (e.g., Beeghly et al., 1986; Dunn, Brown, & Beardsall, 1991; Hughes et al., 2006; Jenkins et al., 2003; Kornhaber & Marcos, 2000; LaBounty et al., 2008; Recchia & Howe, 2008).

One exception highlights that gender differences may be attributed to definitional issues. Cervantes and Callanan (1998) found that girls and boys received the same amount of emotional language from mothers when labeling was used as the operational measure, whereas boys received more emotion language from mothers compared to girls

when the measure of talk involved emotional explanation. However, this finding is contrary to the results of the current study, where labeling of inner state language was used.

The results of the current study show that both parents used more emotional language with their sons, but sons used greater amounts of ISL with their mothers. As stated previously, prior research has indicated preschool-aged boys are more active than girls (Block, 1983; Campbell & Eaton, 1999; Coie & Dodge, 1997), and fathers have been found to use more physical play with sons than with daughters (Jacklin, DiPetro, & Maccoby, 1994; MacDonald & Parke, 1986). Furthermore, mothers have been found to use more didactic and verbal types of play with their young children (Clarke-Stewart, 1980; Teti et al., 1988; Yogman, 1982). Hypothetically, it may be that both parents were attempting to engage their toddler or preschool-aged son by using more emotional language and questions, however, mothers were more successful in eliciting emotion language from their sons due to their instructional approach and shared history. As LaBounty and colleagues (2008) have suggested, it may be that book reading is more conducive to mothers' facilitation of ISL use by children than fathers', since mothers tend to interact with their children in educational activities more often and have been shown to be more comfortable using a reading as an instructional tool (Jenkins et al., 2003; Kornhaber & Marcos, 2000). Further research is needed for a closer examination of the differing approaches used by mothers and fathers, and divergent responses by sons and daughters, including children's level of activity and attention during tasks. Additionally, gender differences in varying contexts of ISL use has been mixed. Therefore, the factors that influence gender differences may not yet have been found and require further

examination (Jenkins et al., 2003).

The result of the current study for the differential treatment of boys and girls, and the differences between boys' and girls' behaviour with their parents, lends support for social cognitive and social relationships theories of gender development that focus on children's attention to and imitation of same- and opposite-gender parents (e.g., Bussey & Bandura, 1999; Lindsey, Mize, & Pettit, 1997; Maccoby, 2007). Parents have long been seen as important contributors for the gender socialization of their children (Block, 1983), and it has been suggested that there is considerable variability of the differential treatment of boys and girls by parents across contexts (McHale, Crouter, & Whiteman, 2003). Parents may actively reinforce gender-stereotyped behaviours their children exhibit by differentially responding to particular behaviours but not others (Lindsey et al., 1997). Fathers and mothers have previously been shown to demonstrate different behaviours during certain types of play, and therefore it may be argued that these behaviours influence gender differences in the behaviour of their children through the processes of imitation and reinforcement. Daughters may be rewarded for emotional expressiveness and interpersonal relationships, while sons are rewarded for autonomy and agency (Block, 1983; Cervantes & Callanan, 1998; Leaper, 1994). From this perspective, gender differences of ISL use may be best conceptualized as emerging from parent-child interactions involving the discussion of inner states in varying contexts, rather than essential characteristics of individuals (Fivush et al., 2000).

Internal State Language and Social Skills (Question 4)

Do mothers' and fathers' ISL predict children's social behaviours? Based on the social relationships theory that proposes social and emotional skills are learned through

interactions with other individuals, it was hypothesized that both mothers' and fathers' ISL and discussions of emotions would provide unique contributions to parents' ratings of their children's social skills. This hypothesis was based on the proposed theoretical models of social and emotional competence by Rose-Krasnor and Denham (Rose-Krasnor, 1997; Rose-Krasnor & Denham, 2009), and research suggesting parents' use of ISL helps children develop emotional understanding (Denham et al., 2003) and social skills (Howe & Ross, 1990; Kojima, 2000).

As expected, both mothers' and fathers' ISL successfully predicted children's rated social skills. Mothers' use of comments when talking about inner states predicted mothers' ratings; the less mothers' talked about ISL as unelaborated comments the higher social skills ratings children received. Fathers' ratings of their children's social skills was predicted by their children's age and fathers' use of clarifications when talking about ISL. Fathers' ratings of children's social skills increased as children became older and fathers used clarifications to a greater degree. No other ISL variables (type, function, or talking about the self or other) predicted children's social skills.

Interestingly, these findings suggest the same behaviours of mothers and fathers do not necessarily have the same affects on children's social behaviours. Mothers and fathers appear to play different roles in the socialization of children's social competence. These results are consistent with a limited amount of research that has investigated the relative contributions of both mothers' and fathers' inner state discussions on children social skills development. In particular, Denham and Kochanoff (2002) found children's development of emotional knowledge was affected by their mothers' emotional expression, and that this relationship was mediated by mothers' beliefs about teaching

their children about emotions in general. Alternatively, these researchers also found fathers' behaviours during father-child interactions had less weight when predicting their children's emotional knowledge. Based on these results, Denham and Kochanoff (2002) argue fathers perform different parenting roles. The relative contributions of fathers' behaviours suggests a more complex picture than previously envisioned. This perspective is supported by the results of the current study. For instance, only fathers' use of clarifications (and not mothers') helped predict fathers' ratings. Furthermore, fathers' social skills ratings were partly determined by the age of the child, but the same relationship was not found for mothers' ratings. These unique findings provide valuable information regarding the need to include fathers in future research, rather than generalizing from studies based on mother-child interactions to describe parenting influences as a whole.

What does this mean for the relationship between ISL and social competence skills? Models for the process of emotion socialization (Denham, 2008; Eisenberg, Cumberland & Spinrad, 1998; Rose-Krasnor & Denham, 2009) propose parental modeling, coaching, and contingent responsiveness contribute to children's emotional expression, understanding, and regulation, which is thought to influence children's social skills and relationships with peers (McDowell, Kim, O'Neil, & Parke, 2002). Parent-child discussions of internal states help children development methods for regulating their own emotional reactions and the emotional reactions of others (Bretherton & Beeghly, 1982; Denham et al., 1992; Denham et al., 2003; Gottman & Mettetal, 1986). Mothers ratings of children's social skills increased as their use of unelaborated comments decreased, whereas fathers' ratings of children's social skills increased as children became older and

as fathers used more clarifications. First, from the theoretical perspective of emotion socialization, perhaps mothers used more unelaborated comments particularly when their children were poorer at understanding inner states. It may be that mothers attempted to coach children about the emotion cards, but when children had difficulty, mothers indicated their own appraisals in an attempt to teach their children about emotions through the process of scaffolding. Second, it is possible fathers who coached their children explain emotions through the use of clarifications assisted their children to understand the subtleties between differing emotions. This approach may have in turn helped children understand alternative perspectives that support social skills development. However, these two proposed premises are only speculative. The results of the current study can only attest to the differential contributions of mothers and fathers in parenting young children. Further research is needed to better understand both mothers' and fathers' contributions to children's development of emotional competence.

Limitations

Although several of the findings of the current study are supported by past research, caution should be used when generalizing the findings to other settings or populations due to the following limitations. First, despite the home environment being a relatively naturalistic environment in which to observe parent-child interactions, the emotions task of looking at pictures of facial expressions while talking about emotions is generally an atypical way for mothers, fathers, and children to talk about inner states. However, time restrictions required the use of the emotions task to elicit numerous occurrences of ISL, since general observations of typical family activities have sometimes found relatively few instances of ISL. Additionally, the presence of the video

camera may have influenced family discussions of emotions, particularly if parents or children were nervous about being videotaped. Based on these factors, these findings can not be generalized to other day-to-day interactions.

Second, only parent ratings of children's social skills were obtained in the current study. Although parents are knowledgeable about their children's social abilities and skills, the information provided may not accurately represent the children's level of social competence outside the home environment. Having an additional rater, such as a caregiver, or additional observational measures of children interacting with peers may have been beneficial to better understand the toddlers' and preschoolers' level of social competence across settings.

Third, it has been found that mothers' frequency, content, and complexity of ISL (and thus children's ISL) can be affected by their perception of their children's language skills, developmental abilities, and their beliefs about their children's development as well as the value of teaching about emotions (Beeghly et al., 1986; Denham & Kochanoff, 2002; Hutchings, Bond, Silliman, & Bryant, 2009). Additionally, parent-child interactions can be largely affected by the children's level of linguistic competence, attention level, and temperament characteristics. As Dunn, Brown, and Beardsall (1991) indicate, it is likely that families who differ on their level of ISL use will also differ on a number of other important features, such as parental emotional expression, parenting styles and interactions, as well as parents' own social competence. All of these factors may have affected the parent-child interaction and ISL use and should be further investigated in future studies.

Finally, the sample of the current study was composed of predominantly middle-

to upper-class families who self-identified with European ethnicity. The current sample was also recruited through a process of self-selection. It is likely parents who participated in the study are active in their children's lives and are interested in learning more about their children's development. Future studies investigating both mothers' and fathers' use of ISL with their children should include a greater diversity within the sample in order for the results to be generalized to a larger, more diverse, population.

Future Directions and Implications

Despite limitations, the findings from this study point to differences between frequencies of sons' and daughters' use of ISL with mothers and fathers. Toddler and preschool boys were found to use less ISL with fathers, and both mothers and fathers were found to use more questions and emotion language with sons. Additionally, unique contributions of mothers' and fathers' ISL were found to predict children's social skills. These results have implications for our understanding of gender socialization, our conceptualization of social competence, and the role fathers play in both of these processes. These findings will be helpful for parents, educators, and mental health professionals.

The findings of this study indicate, for example, the value of attempting to provide a more representative overview of child social development by examining both maternal and paternal influences within socialization. Understanding how fathers contribute to young children's understanding of emotions is important, since this knowledge has been associated with conflict resolution (Dunn & Herrera, 1997) and good peer relationships in school (Cutting & Dunn, 2001; Dunn, 1995), which has much significance for children's adjustment in school. Family discussions of ISL have also

been found to predict children's concurrent and future performance on false belief tasks (Brown et al., 1996; Dunn et al., 1991; Hughes & Dunn, 1998; Meins et al., 2002, 2003). Thus, since the current study found boys were less likely to use ISL with fathers, it appears critical to better understand the relationship between fathers and sons, and the social and emotional processes that are present while moving beyond simple mother-father comparisons.

Future studies may choose to look at mutual influences between parents and children to better understand how mothers, fathers, and children talk about inner states. The specific ways in which emotion words are used in bidirectional interactions by family members should be studied to better understand gender socialization and emotional competence development. Additionally, examining these relationships within the context of cross-lagged analysis would allow for a more comprehensive interpretation of the transmission of emotional knowledge between ISL, expression of social skills, and larger social competence processes. Furthermore, although we were able to conclude differences between boys' and girls' use of ISL, or what they heard from parents, we do not claim causality of one for the other, as it is believed parents and children reciprocally shape these conversations. ISL use by parents and educators should be encouraged by highlighting the benefits and associations of discussion of emotions, as this has been found to encourage the use of ISL by children, which also enhances emotional understanding. Researchers and educators could continue to explore the reciprocal relationship between ISL and social skills. Such investigations should help to determine how educators may help facilitate children's social and emotional development in the school context.

Conclusion

In conclusion, the findings of the current study provide new insight into the use of ISL by both mothers and fathers, and how they differentially use ISL with sons and daughters. The surprising finding that both mothers and fathers used increased amounts of ISL with sons compared to daughters, but that sons used relatively little emotion words with fathers suggests specific differences between father-son and father-daughter relationships. Additionally, how mothers and fathers used ISL predicted children's social behaviour, but in differing ways. Consistent with previous research (e.g., Denham & Kochanoff, 2002; LaBounty, Wellman, Olson, Lagattua, & Liu, 2008; Jenkins et al., 2003; Paquette, 2004), this suggests parents provide unique contributions for the development of children's social competence. It is hoped that research will continue to investigate the maternal and paternal influences on child socialization in order to develop a better understanding of the processes that foster children's development of social skills and overall socioemotional competence.

References

Achenbach, T. M., & Rescorla, L. A. (2001). *Manual for ASEBA School-Age Forms & Profiles*. Burlington, VT: University of Vermont, Research Center for Children, Youth, & Families.

Adams, S., Kuebli, J., Boyle, P. A., & Fivush, R. (1995). Gender differences in parent-child conversations about past emotions: A longitudinal investigation. *Sex Roles, 33*, 309-323.

Adrian, J. E., Clemente, R. A., Villanueva, L., & Rieffe, C. (2005). Parent-child picture-book reading, mothers' mental state language and children's theory of mind. *Journal of Child Language, 32*(3), 673-686. doi:10.1017/S0305000905006963

Ainsworth, M. S., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation.* Hillsdale, N.J.: Lawrence Erlbaum Associates.

Astington, J. W., & Jenkins, J. M. (1995). Theory of mind development and social understanding. *Cognition & Emotion, 9*, 151-165. doi:10.1080/02699939508409006

Bakeman, R., & Gottman, J. M. (1997). *Observing interaction: An introduction to sequential analysis* (2nd ed.). New York: Cambridge University Press.

Baldwin, D. A. (1991). Infants' contribution to the achievement of joint reference. *Child Development, 62*(5), 875-890. doi:10.2307/1131140

Bandura, A. (1969). *Principles of behavior modification.* Oxford, England: Holt, Rinehart, & Winston.

Bandura, A. (1977). *Social learning theory.* Englewood Cliffs, NJ: Prentice-Hall.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory.* Englewood Cliffs, NJ: Prentice-Hall.

Baron-Cohen, S., Leslie, A. M., & Frith, U. (1985). Does the autistic child have a "theory of mind"? *Cognition, 21*(1), 37-46. doi:10.1016/0010-0277%2885%2990022-8

Barrett, K. C. (1995). A functionalist approach to shame and guilt. In J. P. Tangney, & K. W. Fischer (Eds.), *Self-conscious emotions: The psychology of shame, guilt, embarrassment, and pride* (pp. 25-63). New York: Guilford Press.

Bartsch, K., & Estes, D. (1996). Individual differences in children's developing theory of mind and implications for metacognition. *Learning and Individual Differences, 8*(4), 281-304. doi:10.1016/S1041-6080(96)90020-5

Bartsch, K., & Wellman, H. M. (1995). *Children talk about the mind.* New York: Oxford University Press.

Bates, E., & Goodman, J. C. (1999). On the emergence of grammar from the lexicon. In B. MacWhinney (Ed.), *The emergence of language* (pp. 29-79). Mahwah, NJ: Lawrence Erlbaum Associates Publishers.

Bauer, P. J., Stennes, L., & Haight, J. C. (2003). Representation of the inner self in autobiography: Women's and men's use of internal states language in personal narratives. *Memory, 11*(1), 27-42.

Beaulieu, D. A., & Bugental, D. B. (2007). An evolutionary approach to socialization. In J. E. Grusec, & P. D. Hastings (Eds.), *Handbook of socialization: Theory and research* (pp. 71-95). New York: Guilford Press.

Beeghly, M., & Cicchetti, D. (1994). Child maltreatment, attachment and the self system. *Development and Psychopathology, 6*, 5-30.

Bjorklund, D. F., & Pellegrini, A. D. (2002). Evolutionary perspectives on social development. In P. K. Smith, & C. H. Hart (Eds.), *Blackwell handbook of childhood social development* (pp. 44-59). Malden, MA: Blackwell Publishing.

Bjorklund, D. F., Yunger, J. L., & Pellegrini, A. D. (2002). The evolution of parenting and evolutionary approaches to childrearing. In M. H. Bornstein (Ed.), *Handbook of parenting: Vol. 2. Biology and ecology of parenting* (2nd ed., pp. 3-30). Mahwah, NJ: Lawrence Erlbaum Associates.

Block, J. H. (1983). Differential premises arising from differential socialization of the sexes: Some conjectures. *Child Development, 54*(6), 1335-1354.

Booth, J. R., Hall, W. S., Robison, G. C., & Kim, S. Y. (1997). Acquisition of the mental state verb know by 2- to 5-year-old children. *Journal of Psycholinguistic Research, 26*(6), 581-603. doi:10.1023/A:1025093906884

Bowerman, B. L., & O'Connell, R. T. (1990). *Linear statistical models: An applied approach* (2nd edition). Belmont, CA: Duxbury.

Bowlby, J. (1973). *Attachment and Loss: Vol. 1. Attachment*. New York: Basic Books.

Boyum, L. A., & Parke, R. D. (1995). The role of family emotional expressiveness in the development of children's social competence. *Journal of Marriage & Family, 57*(3), 593-608.

Bretherton, I., & Beeghly, M. (1982). Talking about internal states: The acquisition of an explicit theory of mind. *Developmental Psychology, 18*(6), 906-921. doi:10.1037/0012-1649.18.6.906

Bretherton, I., Fritz, J., Zahn-Waxler, C., & Ridgeway, D. (1986). Learning to talk about emotions: A functionalist perspective. *Child Development, 57*(3), 529.

Bretherton, I., NcNew, S., & Beeghley-Smith, M. (1987). Early person knowledge as expressed in gestural and verbal communication: When do infants acquire a "theory of mind"? In M. Lamb & L. Sherrod (Eds.), *Infant social cognition* (pp. 219-246). Hillsdale, NJ: Erlbaum.

Brown, J. R., Donelan-McCall, N., & Dunn, J. (1996). Why talk about mental states? the significance of children's conversations with friends, siblings, and mothers. *Child Development, 67*(3), 836-849. doi:10.2307/1131864

Brown, J. R., & Dunn, J. (1992). Talk with your mother or your sibling? developmental changes in early family conversations about feelings. *Child Development, 63*(2), 336-349. doi:10.2307/1131483

Brown, J. R., & Dunn, J. (1996). Continuities in emotion understanding from 3-6 yrs. *Child Development, 67*(3), 789-802. doi:10.2307/1131861

Bryant, D. G. (1989). The ecological basis of behaviour. *Applied Animal Behaviour Science, 22*(2), 215-224. doi:10.1016/0168-1591(89)90055-5

Bugental, D. B., & Grusec, J. E. (2006). Socialization processes. In N. Eisenberg, W. Damon & R. M. Lerner (Eds.), *Handbook of child psychology: Vol. 3, social, emotional, and personality development* (6th ed.) (pp. 366-428). Hoboken, NJ: John Wiley & Sons Inc.

Bussey, K., & Bandura, A. (1999). Social cognitive theory of gender development and differentiation. *Psychological Review, 106*(4), 676-713. doi:10.1037/0033-295X.106.4.676

Calkins, S. D., Gill, K. L., Johnson, M. C., & Smith, C. L. (1999). Emotional reactivity and emotional regulation strategies as predictors of social behavior with peers

during toddlerhood. *Social Development, 8*(3), 310-334. doi:10.1111/1467-9507.00098

Campbell, D.W., & Eaton, W.O. (1999). Sex differences in the activity level of infants. *Infant and Child Development, 8*, 1–17.

Capage, L., & Watson, A. C. (2001). Individual differences in theory of mind, aggressive behavior, and social skills in young children. *Early Education and Development, 12*(4), 613-628. doi:10.1207/s15566935eed1204_7

Carlton, M. P., & Winsler, A. (1999). School readiness: The need for a paradigm shift. *School Psychology Review, 28*(3), 338-352.

Carpendale, J. I. M., & Lewis, C. (2004). Constructing an understanding of mind: The development of children's social understanding within social interaction. *Behavioral and Brain Sciences, 27*(1), 79-151.

Carson, R. C. (1991). The social-interactional viewpoint. In M. Hersen, A. E. Kazdin & A. S. Bellack (Eds.), *The clinical psychology handbook* (2nd ed.) (pp. 185-199). Elmsford, NY: Pergamon Press.

Cassidy, J., Parke, R. D., Butkovsky, L., & Braungart, J. M. (1992). Family-peer connections: The roles of emotional expressiveness within the family and children's understanding of emotions. *Child Development, 63*(3), 603-618. doi:10.2307/1131349

Cassidy, K. W., Werner, R. S., Rourke, M., Zubernis, L. S., & Balaraman, G. (2003). The relationship between psychological understanding and positive social behaviors. *Social Development, 12*(2), 198-221. doi:10.1111/1467-9507.00229

Cervantes, C. A., & Callanan, M. A. (1998). Labels and explanations in mother-child

emotion talk: Age and gender differentiation. *Developmental Psychology, 34*(1), 88-98. doi:10.1037/0012-1649.34.1.88

Chapman, M. (1991). The epistemic triangle: Operative and communicative components of cognitive competence. In M. Chandler, & M. Chapman (Eds.), *Criteria for competence: Controversies in the conceptualization and assessment of children's abilities* (pp. 209-228). Hillsdale, NJ: Lawrence Erlbaum Associates.

Cherry, L., & Lewis, M. (1976). Mothers and two-year-olds: A study of sex-differentiated aspects of verbal interaction. *Developmental Psychology, 12*(4), 278-282. doi:10.1037/0012-1649.12.4.278

Churchland, P. M. (1988). *Matter and consciousness: A contemporary introduction to the philosophy of mind.* Cambridge, MA: The MIT Press.

Clarke-Stewart, K. A. (1980). The father's contribution to children's cognitive and social development in early childhood. In M. F. Pedersen (Ed.), *The father–infant relationship: Observational studies in the family setting* (pp. 111–146). New York: Praeger.

Collins, W. A., Maccoby, E. E., Steinberg, L., Hetherington, E. M., & Bornstein, M. H. (2000). Contemporary research on parenting: The case for nature and nurture. *American Psychologist, 55*(2), 218-232. doi:10.1037/0003-066X.55.2.218

Coie, J.D., & Dodge, K.A. (1997). Aggression and antisocial behavior. In W. Damon, & N. Eisenberg (Eds.), *Handbook of Child Psychology: Social, emotional and personality development* (pp. 779– 862), Vol. 3. New York: Wiley and Sons.

de Rosnay, M., & Hughes, C. (2006). Conversation and theory of mind: Do children talk their way to socio-cognitive understanding? *British Journal of Developmental*

Psychology, 24(1), 7-37. doi:10.1348/026151005X82901

Denham, S. A. (1986). Social cognition, prosocial behavior, and emotion in preschoolers: Contextual validation. *Child Development, 57*(1), 194-201. doi:10.2307/1130651

Denham, S. A. (1998). *Emotional development in young children.* New York: Guilford Press.

Denham, S. A., Bassett, H. H., & Wyatt, T. (2007). The socialization of emotional competence. In J. E. Grusec, & P. D. Hastings (Eds.), *Handbook of socialization: Theory and research* (pp. 614-637). New York: Guilford Press.

Denham, S. A., Blair, K. A., DeMulder, E., Levitas, J., Sawyer, K., Auerbach-Major, S., & Queenan, P. (2003). Preschool emotional competence: Pathway to social competence. *Child Development, 74*(1), 238-256. doi:10.1111/1467-8624.00533

Denham, S. A., & Couchoud, E. A. (1990). Young preschoolers' ability to identify emotions in equivocal situations. *Child Study Journal, 20*(3), 153-169.

Denham, S. A., & Couchoud, E. A. (1990). Young preschoolers' understanding of emotions. *Child Study Journal, 20*(3), 171-192.

Denham, S. A., & Grout, L. (1993). Socialization of emotion: Pathway to preschoolers' emotional and social competence. *Journal of Nonverbal Behavior, 17*(3), 205-227. doi:10.1007/BF00986120

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

Denham, S. A., Zoller, D., & Couchoud, E. A. (1994). Socialization of preschoolers' emotion understanding. *Developmental Psychology, 30*(6), 928-936.

doi:10.1037/0012-1649.30.6.928

Denham, S., & Kochanoff, A. T. (2002). Parental contributions to preschoolers' understanding of emotion. *Marriage & Family Review, 34*, 311-343. doi:10.1300/J002v34n03_06

Denham, S., Salisch, M., Olthof, T., Kochanoff, A., & Caverly, S. (2002). Emotional and social development in childhood. In P. K. Smith, & C. H. Hart (Eds.), *Blackwell handbook of childhood social development* (pp. 308-328). Malden, MA: Blackwell Publishing.

Dixon, S., Yogman, M., Tronick, E., Adamson, L., Als, H., & Brazelton, T.B. (1981). Early infant social interaction with parents and strangers. *Journal of the American Academy of Child Psychiatry, 20*, 32–52.

Dunn, J. (1988). *The beginnings of social understanding.* Cambridge, MA: Harvard University Press.

Dunn, J. (2000). Mind-reading, emotion understanding, and relationships. International *Journal of Behavioral Development, 24*(2), 142-144. doi:10.1080/016502500383241

Dunn, J., Bretherton, I., & Munn, P. (1987). Conversations about feeling states between mothers and their young children. *Developmental Psychology, 23*(1), 132-139. doi:10.1037/0012-1649.23.1.132

Dunn, J., & Brown, J. (1994). Affect expression in the family, children's understanding of emotions, and their interactions with others. *Merrill-Palmer Quarterly, 40*(1), 120-137.

Dunn, J., & Brown, J. R. (1993). Early conversations about causality: Content,

pragmatics and developmental change. *British Journal of Developmental Psychology, 11*(2), 107-123.

Dunn, J., Brown, J., & Beardsall, L. (1991). Family talk about feeling states and children's later understanding of others' emotions. *Developmental Psychology, 27*(3), 448-455. doi:10.1037/0012-1649.27.3.448

Dunn, J., Brown, J., Slomkowski, C., Tesla, C., & Youngblade, L. (1991). Young children's understanding of other people's feelings and beliefs: Individual differences and their antecedents. *Child Development, 62*, 1352-1366. doi:10.2307/1130811

Dunn, J., Brown, J., Slomkowski, C., Tesla, C., & Youngblade, L. (1991). Young children's understanding of other people's feelings and beliefs: Individual differences and their antecedents. *Child Development, 62*(6), 1352-1366.

Dunn, J., & Herrera, C. (1997). Conflict resolution with friends, siblings, and mothers: A developmental perspective. *Aggressive Behavior, 23* , 343–357.

Dunn, J., & Kendrick, C. (1981). Social behavior of young siblings in the family context: Differences between same-sex and different-sex dyads. Child Development, 52(4), 1265-1273.

Dunn, J., & Kendrick, C. (1982). The speech of two- and three-year-olds to infant siblings: "baby talk" and the context of communication. *Journal of Child Language, 9*(3), 579-595.

Dunsmore, J. C., & Karn, M. A. (2004). The influence of peer relationships and maternal socialization on kindergartners' developing emotion knowledge. *Early Education and Development, 15*(1), 39-56. doi:10.1207/s15566935eed1501_3

Dunsmore, J. C., & Smallen, L. S. (2001). Parents' expressiveness and young children's emotion decoding with parents and unknown adults. *Journal of Genetic Psychology, 162*(4), 478-494.

Dyer, J. R., Shatz, M., & Wellman, H. M. (2000). Young children's storybooks as a source of mental state information. *Cognitive Development, 15*, 17–37.

Eisenberg, N., Cumberland, A., & Spinrad, T. (1998). Parental socialization of emotion. *Psychological Inquiry*, *9,* 241–273.

Eisenberg, N., & Fabes, R. A. (1992). Emotion, regulation, and the development of social competence. In M. S. Clark (Ed.), *Emotion and social behavior* (pp. 119-150). Thousand Oaks, CA: Sage Publications.

Eisenberg, N., & Fabes, R. A. (1994). Mothers' reactions to children's negative emotions: Relations to children's temperament and anger behavior. *Merrill-Palmer Quarterly, 40*(1), 138-156.

Eisenberg, N., & Fabes, R. A. (1998). Prosocial development. In W. Damon, & N. Eisenberg (Eds.), *Handbook of child psychology: Vol 3. social, emotional, and personality development* (5th ed.)(pp. 701-778). Hoboken, NJ: John Wiley & Sons.

Eisenberg, N., Fabes, R. A., Carlo, G., & Karbon, M. (1992). Emotional responsivity to others: Behavioral correlates and socialization antecedents. In N. Eisenberg & R. A. Fabes (Eds.), *Emotion and its regulation in early development* (pp. 57-73). San Francisco, CA: Jossey-Bass.

Eisenberg, N., Fabes, R. A., Schaller, M., & Carlo, G. (1991). The relations of parental characteristics and practices to children's vicarious emotional responding. *Child*

Development, 62(6), 1393-1408. doi:10.2307/1130814

Field, A. (2005). *Discovering Statistics Using SPSS* (2nd edition). Thousand Oaks, CA: Sage Publications. doi:10.1007/BF00288079

Fivush, R. (1989). Exploring sex differences in the emotional content of mother-child conversations about the past. *Sex Roles, 20*(11-12), 675-691.

Fivush, R. (1993). Emotional content of parent-child conversations about the past. In C. A. Nelson (Ed.), *Memory and affect in development* (pp. 39-77). Hillsdale, NJ, England: Lawrence Erlbaum Associates.

Fivush, R., Brotman, M. A., Buckner, J. P., & Goodman, S. H. (2000). Gender differences in parent-child emotion narratives. *Sex Roles, 42*, 233-253. doi:10.1023/A:1007091207068

Furrow, D., Moore, C., Davidge, J., & Chiasson, L. (1992). Mental terms in mothers' and children's speech: Similarities and relationships. *Journal of Child Language, 19*(3), 617-631. doi:10.1017/S0305000900011594

Garrett-Peters, P., Mills-Koonce, R., Adkins, D., Vernon-Feagans, L., & Cox, M. (2008). Early environmental correlates of maternal emotion talk. *Parenting, 8*(2), 117-152. doi:10.1080/15295190802058900

Glass, G. V., & Hopkins, K. D. (1996). *Statistical methods in education and psychology* (3rd ed.). Needham Heights, MA: Allyn & Bacon.

Goldberg, W. A., Clarke-Stewart, A., Rice, J. A., & Dellis, E. (2002). Emotional energy as an explanatory construct for fathers' engagement with their infants. *Parenting: Science and Practice, 2*, 379–408.

Golombok, S., & Hines, M. (2002). Sex differences in social behavior. In P. K. Smith, &

C. H. Hart (Eds.), *Blackwell handbook of childhood social development* (pp. 117-136). Malden, MA: Blackwell Publishing.

Gottman, J. M., & Mettetal, G. (1986). Speculations about social and affective development: Friendship and acquaintanceship through adolescence. In J. M. Gottman, & J. G. Parker (Eds.), *Conversations of friends: Speculations on affective development* (pp. 192-237). New York: Cambridge University Press.

Gottman, J. M., Katz, L. F., & Hooven, C. (1997). *Meta-Emotion: How Families Communicate Emotionally.* Hillsdale, NJ: Lawrence Erlbaum Associates.

Gross, D., & Harris, P. L. (1988). False beliefs about emotion: Children's understanding of misleading emotional displays. *International Journal of Behavioral Development, 11*(4), 475-488.

Grusec, J. E., & Davidov, M. (2007). Socialization in the family: The roles of parents. In J. E. Grusec, & P. D. Hastings (Eds.), *Handbook of socialization: Theory and research* (pp. 284-308). New York: Guilford Press.

Halberstadt, A. G., Denham, S. A., & Dunsmore, J. C. (2001). Affective social competence. *Social Development, 10*(1), 79-119. doi:10.1111/1467-9507.00150

Halberstadt, A. G., & Eaton, K. L. (2002). A meta-analysis of family expressiveness and children's emotion expression and understanding. In R. A. Fabes (Ed.), *Emotion and the Family* (pp. 35-62). Philadelphia, PA: Haworth.

Harris, P. L. (1991). The work of the imagination. In A. Whiten (Ed.), *Natural theories of mind: Evolution, development and simulation of everyday mindreading* (pp. 283-304). Cambridge, MA: Basil Blackwell.

Harris, P. L. (1994). The child's understanding of emotion: Developmental change and

the family environment. *Journal of Child Psychology and Psychiatry, 35*(1), 3-28. doi:10.1111/j.1469-7610.1994.tb01131.x

Hinde, R. A. (1979). *Towards understanding relationships.* New York: Academic Press.

Hobson, R. P. (1993). The emotional origins of social understanding. *Philosophical Psychology, 6*(3), 227-249. doi:10.1080/09515089308573090

Howe, N. (1991). Sibling-directed internal state language, perspective taking, and affective behavior. *Child Development, 62*(6), 1503-1512. doi:10.2307/1130822

Howe, N., Petrakos, H., Rinaldi, C. M., & LeFebvre, R. (2005). "This is a bad dog, you know...": Constructing shared meanings during sibling pretend play. *Child Development, 76*(4), 783-794. doi:10.1111/j.1467-8624.2005.00877.x

Howe, N., Petrakos, H., & Rinaldi, C. M. (1998). "All the sheeps are dead. he murdered them": Sibling pretense, negotiation, internal state language, and relationship quality. *Child Development, 69*(1), 182-191. doi:10.2307/1132079

Howe, N., & Rinaldi, C. M. (2004). 'You be the big sister': Maternal-preschooler internal state discourse, perspective-taking, and sibling caretaking. *Infant and Child Development, 13*(3), 217-234. doi:10.1002/icd.350

Howe, N., Rinaldi, C. M., Jennings, M., & Petrakos, H. (2002). 'No! the lambs can stay out because they got cozies!': Constructive and destructive sibling conflict, pretend play, and social understanding. *Child Development, 73*(5), 1460-1473. doi:10.1111/1467-8624.00483

Howe, N., & Ross, H. S. (1990). Socialization, perspective-taking, and the sibling relationship. *Developmental Psychology, 26*(1), 160-165. doi:10.1037/0012-1649.26.1.160

Howell, D. C. (2004). *Fundamental statistics for the behavioral sciences* (5th ed.). Belmont, CA : Thomson-Brooks/Cole.

Howes, C., & James, J. (2004). Children's social development within the socialization context of childcare and early childhood education. In P. K. Smith & C. K. Hart (Eds.), *Blackwell handbook of childhood social development* (pp. 137-155). Malden, MA: Blackwell Publishing.

Hughes, C., & Dunn, J. (1998). Understanding mind and emotion: Longitudinal associations with mental-state talk between young friends. *Developmental Psychology, 34*(5), 1026-1037. doi:10.1037/0012-1649.34.5.1026

Hughes, C. & Dunn, J. (1999). Theory of mind and emotion understanding: Longitudinal associations with mental-state talk between young friends. *Developmental Psychology, 34*, 1026-1037.

Hughes, C. & Dunn, J. (2002). 'When I say a naughty word': A longitudinal study of young children's accounts of anger and sadness in themselves and close others. *British Journal of Developmental Psychology, 20*(4), 515-535.

Hughes, C., Fujisawa, K. K., Ensor, R., Lecce, S., & Marfleet, R. (2006). Cooperation and conversations about the mind: A study of individual differences in 2-year-olds and their siblings. British Journal of Developmental Psychology, 24(1), 53-72. doi:10.1348/026151005X82893

Hughes, C., Lecce, S. & Wilson (2006). "Do you know what I want?" Preschoolers' talk about desires, thoughts and feelings in their conversations with sibs and friends. *Cognition & Emotion, 21*(2), 330-350. doi:10.1080/02699930600551691

Hutchins, T. L., Bond, L. A., Silliman, E. R., & Bryant, J. B. (2009). Maternal

epistemological perspectives and variations in mental state talk. *Journal of Speech, Language, and Hearing Research, 52*(1), 61-80. doi:10.1044/1092-4388(2008/07-0161)

Huttenlocher, J., Haight, W., Bryk, A., Seltzer, M., & Lyons, T. (1991). Early vocabulary growth: Relation to language input and gender. *Developmental Psychology, 27*(2), 236-248. doi:10.1037/0012-1649.27.2.236

Izard, C., Fine, S., Schultz, D., Mostow, A., Ackerman, B., & Youngstrom, E. (2001). Emotion knowledge as a predictor of social behavior and academic competence in children at risk. *Psychological Science, 12*(1), 18-23. doi:10.1111/1467-9280.00304

Jacklin, C. N., DiPetro, P. A., & Maccoby, E. E. (1994). Sex-typing behaviour and sex-typing pressure in child/parent interaction. *Archives of Sexual Behaviour, 13*, 413-425.

Jenkins, J. M., Dunn, J., O'Connor, T. G., Rasbash, J., & Behnke, P. (2005). Change in maternal perception of sibling negativity: Within- and between-family influences. *Journal of Family Psychology, 19*(4), 533-541.

Jenkins, J. M., Turrell, S. L., Kogushi, Y., Lollis, S., & Ross, H. S. (2003). A longitudinal investigation of the dynamics of mental state talk in families. *Child Development, 74*(3), 905-920. doi:10.1037/0893-3200.19.4.533

Johnson, C. N., & Maratsos, M. P. (1977). Early comprehension of mental verbs: Think and know. *Child Development, 48*(4), 1743-1747. doi:10.2307/1128549

Kamphaus, R. W., & Frick, P. J. (1996). *Clinical Assessment of Child and Adolescent Personality and Behavior.* Needham Heights, MA: Allyn & Bacon.

Kojima, Y. (2000). Maternal regulation of sibling interactions in the preschool years: Observational study in Japanese families. *Child Development, 71*(6), 1640-1647. doi:10.1111/1467-8624.00254

Kornhaber, M., & Marcos, H. (2000). Young children's communication with mothers and fathers: Functions and contents. *British Journal of Developmental Psychology, 18*(2), 187-210. doi:10.1348/026151000165643

Kruper, J. C., & Uzgiris, I. C. (1987). Fathers' and mothers' speech to young infants. *Journal of Psycholinguistic Research, 16*, 597-614.

Kuczynski, L., & Parkin, C. M. (2007). Agency and bidirectionality in socialization: Interactions, transactions, and relational dialectics. In J. E. Grusec, & P. D. Hastings (Eds.), *Handbook of socialization: Theory and research* (pp. 181-207). New York: Guilford Press.

Kuebli, J., Butler, S., & Fivush, R. (1995). Mother-child talk about past emotions: Relations of maternal language and child gender over time. *Cognition & Emotion, 9*(2-3), 265-283. doi:10.1080/02699939508409011

LaBounty, J., Wellman, H. M., Olson, S., Lagattuta, K., & Liu, D. (2008). Mothers' and fathers' use of internal state talk with their young children. *Social Development, 17*(4), 757-775. doi:10.1111/j.1467-9507.2007.00450.x

Lagattuta, K. H., & Wellman, H. M. (2002). Differences in early parent-child conversations about negative versus positive emotions: Implications for the development of psychological understanding. *Developmental Psychology, 38*(4), 564-580. doi:10.1037/0012-1649.38.4.564

Laible, D. (2004). Mother-child discourse in two contexts: Links with child temperament,

attachment security, and socioemotional competence. *Developmental Psychology, 40*(6), 979-992. doi:10.1037/0012-1649.40.6.979

Laible, D., & Song, J. (2006). Constructing emotional and relational understanding: The role of affect and mother-child discourse. *Merrill-Palmer Quarterly, 52*(1), 44-69.

Laible, D., & Thompson, R. A. (2007). Early socialization: A relationship perspective. In J. E. Grusec, & P. D. Hastings (Eds.), *Handbook of socialization: Theory and research* (pp. 181-207). New York: Guilford Press.

Leaper, C. (1994). Exploring the consequences of gender segregation on social relationships. In C. Leaper (Ed.), *Childhood gender segregation: Causes and consequences* (pp. 67-86). San Francisco, CA: Jossey-Bass.

Leaper, C. (2002). Parenting girls and boys. In M. H. Bornstein (Ed.), *Handbook of parenting: Vol. 1. Children and parenting* (2nd ed.) (pp. 189-225). Mahwah, NJ, US: Lawrence Erlbaum Associates Publishers.

Leaper, C., Anderson, K. J., & Sanders, P. (1998). Moderators of gender effects on parents' talk to their children: A meta-analysis. *Developmental Psychology, 34*(1), 3-27. doi:10.1037/0012-1649.34.1.3

Leaper, C., & Friedman, C. K. (2007). The socialization of gender. In J. E. Grusec, & P. D. Hastings (Eds.), *Handbook of socialization: Theory and research* (pp. 561-587). New York: Guilford Press.

Lindsey, E. W., & Caldera, Y. M. (2006). Mother-father-child triadic interaction and mother-child dyadic interaction: Gender differences within and between contexts. *Sex Roles, 55*(7-8), 511-521. doi:10.1007/s11199-006-9106-z

Lindsey, E. W., Mize, J. & Pettit, G. S. (1997). Differential pay patterns of mothers and

fathers of sons and daughters: Implications for children's gender role development. *Sex Roles, 37*, 643-661. doi:10.1007/BF0293633

LoGiudice, C. & Warner, M. (2003). *The Nonverbal Language Kit*. East Moline, IL: LinguiSystems.

Lohmann, H., & Tomasello, M. (2003). The role of language in the development of false belief understanding: A training study. *Child Development, 74*(4), 1130-1144. doi:10.1111/1467-8624.00597

Lutz, C., & White, G. M. (1986). The anthropology of emotions. *Annual Review of Anthropology, 15*, 405-436. doi:10.1146/annurev.an.15.100186.002201

Lytton, H., & Romney, D. M. (1991). Parents' differential socialization of boys and girls: A meta-analysis. *Psychological Bulletin, 2*, 267-296. doi:10.1037/0033-2909.109.2.267

Maccoby, E. E. (2000). Perspectives on gender development. *International Journal of Behavioral Development, 24*(4), 398-406. doi:10.1080/016502500750037946

Maccoby, E. E. (2007). Historical overview of socialization research and theory. In J. E. Grusec, & P. D. Hastings (Eds.), *Handbook of socialization: Theory and research* (pp. 13-41). New York, NY, US: Guilford Press.

MacDonald, K., & Parke, R. D. (1984). Bridging the gap: Parent-child play interaction and peer interactive competence. *Child Development, 55*(4), 1265-1277. doi:10.2307/1129996

Marshall, K. (2006). Converging gender roles. *Perspectives*, *7* (No. 75-001-XIE). Ottawa, Ontario: Statistics Canada. Retrieved August 26, 2009, from http://www.statcan.gc.ca/bsolc/olc-cel/olc-cel?lang=eng&catno=75-001-

X20061079268

Martin, C. L., Ruble, D. N., & Szkrybalo, J. (2002). Cognitive theories of early gender development. *Psychological Bulletin, 128*(6), 903-933. doi:10.1037/0033-2909.128.6.903

McHale, S. M., Crouter, A. C., & Whiteman, S. D. (2003). The family contexts of gender development in childhood and adolescence. *Social Development, 12*, 125-148. doi:10.1111/1467-9507.00225

Meins, E. (1997). *Security of Attachment and the Social Development of Cognition.* Hove, England: Psychology Press.

Meins, E., Fernyhough, C., Wainwright, R., Clark-Carter, D., Gupta, M. D., Fradley, E., & Tuckey, M. (2003). Pathways to understanding mind: Construct validity and predictive validity of maternal mind-mindedness. *Child Development, 74*(4), 1194-1211. doi:10.1111/1467-8624.00601

Meins, E., Fernyhough, C., Wainwright, R., Gupta, M. D., Fradley, E., & Tuckey, M. (2002). Maternal mind-mindedness and attachment security as predictors of theory of mind understanding. *Child Development, 73*(6), 1715-1726. doi:10.1111/1467-8624.00501

Miscione, J. L., Marvin, R. S., O'Brien, R. G., & Greenberg, M. T. (1978). A developmental study of preschool children's understanding of the words "know" and "guess.". *Child Development, 49*(4), 1107-1113. doi:10.2307/1128750

Moore, C., Bryant, D., & Furrow, D. (1989). Mental terms and the development of certainty. *Child Development, 60*(1), 167-171. doi:10.2307/1131082

Moore, C., Furrow, D., Chiasson, L., & Patriquin, M. (1994). Developmental

relationships between production and comprehension of mental terms. *First Language, 14*, 1-17. doi:10.1177/014272379401404001

Moore, C., Pure, K., & Furrow, D. (1990). Children's understanding of the modal expression of speaker certainty and uncertainty and its relation to the development of a representational theory of mind. *Child Development, 61*(3), 722-730. doi:10.2307/1130957

Nelson, K. (2005). Language pathways into the community of minds. In J. W. Astington, & J. A. Baird (Eds.), *Why language matters for theory of mind* (pp. 26-49). New York: Oxford University Press.

Nichols, S., & Stich, S. P. (2003). *Mindreading: An Integrated Account of Pretence, Self-Awareness, and Understanding Other Minds.* New York: Oxford University Press.

Pajares, F. (2005). Gender differences in mathematics self-efficacy beliefs. In A. M. Gallagher, & J. C. Kaufman (Eds.), *Gender differences in mathematics: An integrative psychological approach* (pp. 294-315). New York: Cambridge University Press.

Paquette, D. (2004). Theorizing the father-child relationship: Mechanisms and developmental outcomes. *Human Development, 47*(4), 193-219. doi:10.1159/000078723

Peterson, C., & Slaughter, V. (2003). Opening windows into the mind: Mothers' preferences for mental state explanations and children's theory of mind. *Cognitive Development, 18*(3), 399-429. doi:10.1016/S0885-2014(03)00041-8

Piaget, J., & Inhelder, B. (1969). *The development of physical number concepts in*

children: Maintenance and atomism. Oxford, England: Ernst Klett.

Power, T. G., & Parke, R. D. (1982). Play as a context for early learning: Lab and home analyses. In L. M. Laosa & I. E. Sigel (Eds.), *Families for learning environments for children* (pp. 147-178). New York: Plenum Press.

Recchia, H. E., & Howe, N. (2008). Family talk about internal states and children's relative appraisals of self and sibling. *Social Development, 17*(4), 776-794. doi:10.1111/j.1467-9507.2007.00451.x

Reynolds, C. R., & Kamphaus, R. W. (2004). *Behavior assessment system for children* (2nd ed.). Circle Pines, MN: American Guidance Service.

Rose-Krasnor, L. (1997). The nature of social competence: A theoretical review. *Social Development, 6*(1), 111-135. doi:10.1111/1467-9507.00029

Rose-Krasnor, L. & Denham, S. (2009). Social and emotional competence in early childhood. In K.H. Rubin, W. Bukowski, & B. Laursen (Eds.), *Peer interactions, relationships, and groups* (pp. 162-179). NY: Guilford.

Ruffman, T., Perner, J., & Parkin, L. (1999). How parenting style affects false belief understanding. *Social Development, 8*(3), 395-411. doi:10.1111/1467-9507.00103

Ruffman, T., Slade, L., & Crowe, E. (2002). The relation between children's and mothers' mental state language and theory-of-mind understanding. *Child Development, 73*(3), 734-751. doi:10.1111/1467-8624.00435

Ruffman, T., Slade, L., Devitt, K., & Crowe, E. (2006). What mothers say and what they do: The relation between parenting, theory of mind, language and conflict/cooperation. *British Journal of Developmental Psychology, 24*(1), 105-124. doi:10.1348/026151005X82848

Ruffman, T., Slade, L., Rowlandson, K., Rumsey, C., & Garnham, A. (2003). How language relates to belief, desire, and emotion understanding. *Cognitive Development, 18*(2), 139-158.

Schieffelin, B. B., & Ochs, E. (1986). Language socialization. *Annual Review of Anthropology, 15*, 163-191. doi:10.1146/annurev.an.15.100186.001115

Schultz, D., Izard, C. E., Ackerman, B. P., & Youngstrom, E. A. (2001). Emotion knowledge in economically disadvantaged children: Self-regulatory antecedents and relations to social difficulties and withdrawal. *Development and Psychopathology, 13*(1), 53-67. doi:10.1017/S0954579401001043

Schwartz, J. I. (2004). An observational study of Mother/Child and Father/Child interactions in story reading. *Journal of Research in Childhood Education, 19*(2), 105-114.

Shantz, C. U. (1987). Conflicts between children. *Child Development, 58*(2), 283-305. doi:10.2307/1130507

Shatz, M., & Gelman, R. (1973). The development of communication skills: Modifications in the speech of young children as a function of listener. *Monographs of the Society for Research in Child Development, 38*(5, Serial 152), 1-37. doi:10.2307/1165783

Shatz, M., Wellman, H. M., & Silber, S. (1983). The acquisition of mental verbs: A systematic investigation of the first reference to mental state. *Cognition, 14*(3), 301-321. doi:10.1016/0010-0277(83)90008-2

Shields, A., Dickstein, S., Seifer, R., Giusti, L., Magee, K. D., & Spritz, B. (2001). Emotional competence and early school adjustment: A study of preschoolers at

risk. *Early Education and Development, 12*(1), 73-96. doi:10.1207/s15566935eed1201_5

Smiley, P., & Huttenlocher, J. (1991). Young children's acquisition of emotion concepts. In C. Saarni & P. L. Harris (Eds.), *Children's understanding of emotion* (pp. 27-49). New York: Cambridge University Press.

Snow, M. E., Jacklin, C. N., & Maccoby, E. E. (1983). Sex-of-child differences in father-child interaction at one year of age. *Child Development, 54*, 227-232. doi: 10.2307/1129880

Taumoepeau, M., & Ruffman, T. (2006). Mother and infant talk about mental states relates to desire language and emotion understanding. *Child Development, 77*(2), 465-481. doi:10.1111/j.1467-8624.2006.00882.x

Teti, D. M., Bond, L. A., & Gibbs, E. D. (1988). Mothers, fathers, and siblings: A comparison of play styles and their influence upon infant cognitive level. *International Journal of Behavioral Development, 11*(4), 415-432.

Thompson, R. A. (1998). Early sociopersonality development. In N. Eisenberg (Ed.), *Handbook of child psychology: Social, emotional, and personality development* (Vol. 3, 5th ed., pp. 25–104) . Hoboken, NJ : Wiley.

Tronick, E. Z. (1989). Emotion and emotion communication in infants. *American Psychologist, 44*, 112-119.

Usher, B., Ridgeway, D., Barrett, K., Nitz, K., & Wagner, E. (1988, April). *Maternal correlates of children's communication about emotions*. Paper presented at International Conference on Infant Studies, Washington, D.C.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological*

processes. Cambridge, MA: Harvard University Press.

Watson, A. C., Nixon, C. L., Wilson, A., & Capage, L. (1999). Social interaction skills and theory of mind in young children. *Developmental Psychology, 35*(2), 386-391. doi:10.1037/0012-1649.35.2.386

Welch-Ross, M. K., Fasig, L. G., & Farrar, M. J. (1999). Predictors of preschoolers' self-knowledge: Reference to emotion and mental states in mother-child conversation about past events. *Cognitive Development, 14*(3), 401-422. doi:10.1016/S0885-2014(99)00012-X

Wellman, H. M. (1990) *The child's theory of mind.* Cambridge, MA: MIT Press.

Wellman, H. M., Harris, P. L., Banerjee, M., & Sinclair, A. (1995). Early understanding of emotion: Evidence from natural language. *Cognition & Emotion, 9*, 117-149. doi:10.1080/02699939508409005

Wimmer, H., & Perner, J. (1983). Beliefs about beliefs: Representation and constraining function of wrong beliefs in young children's understanding of deception. *Cognition, 13*(1), 103-128. doi:10.1016/0010-0277%2883%2990004-5

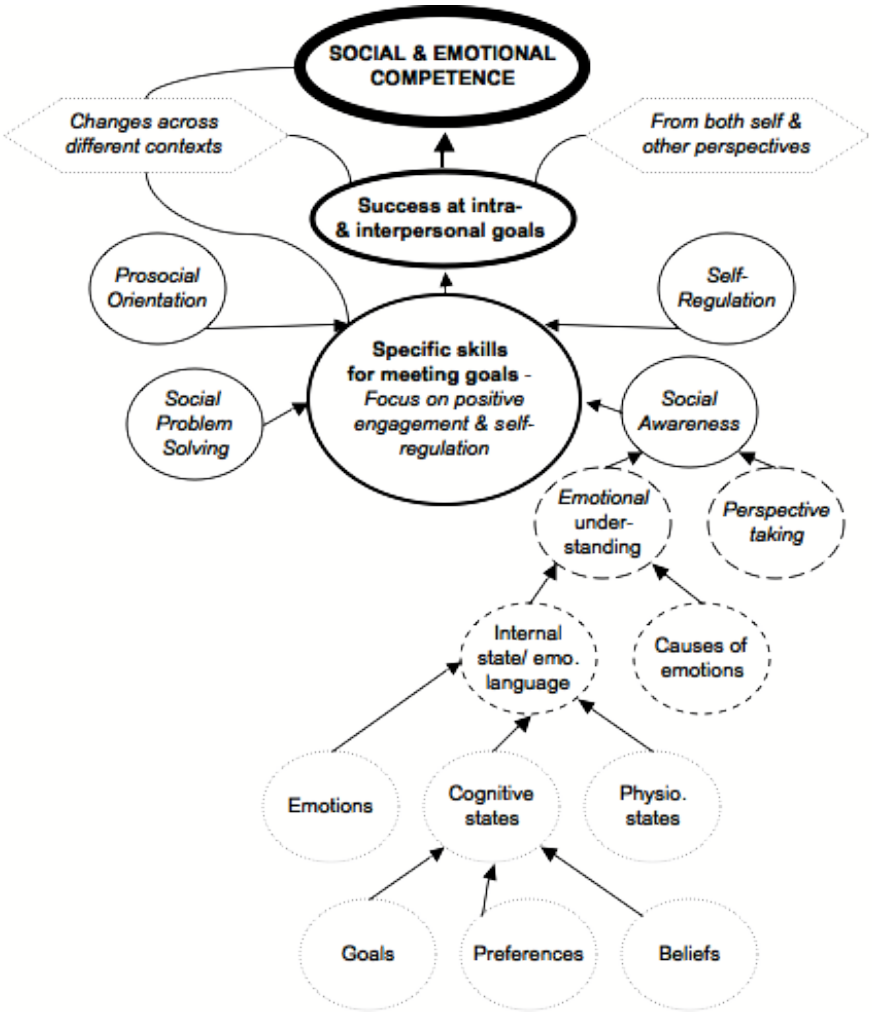
Yogman, M. W. (1984). Development of father-infant relationship. *Theory and research in behavioral pediatrics, 1*, 221-280.

Yogman, M. W. (1994). Observations on the father-infant relationship. In S. Cath , A. Gurwitt, & J. M. Ross (Eds.), *Father and child: Developmental and clinical perspectives* (pp. 101-122) Boston: Little, Brown.

Appendix A

An Adapted Socioemotional Competence and Skills Model.

Adaptation and integration of social and emotional competence models (Rose-Krasnor, 1997; Rose-Krasnor & Denham, 2009).



Appendix B

Family Demographics Questionnaire

Demographics

Often when research is submitted to scholarly journals for publication those journals require that researchers specify and describe the group characteristics of those we have studied. For example, we might find that 15% of the group was French Canadian or that only 20% of the people we studied were single. The information obtained from this form will help us to be able to better classify the group we are studying. Furthermore, all information obtained on an individual level is strictly confidential.

Child's Name:_____

Child's Age:_____(months) Child's Birth date:____/____/____
yy/mm/dd

Child's Gender: M F

Child's Ethnicity:
a. Asian
b. Black
c. East Indian
d. First Nations
e. Hispanic
f. Mixed Ethnicity
g. White
h. Other

Relationship status of parent: (parent filling out this sheet)
a. Single
b. Married
c. Common-law
d. Divorced
e. Separated
f. Widowed

Highest level of education of parent:

a. Graduate/Professional education
b. College/University degree
c. Partial college/University
d. Certificate in a trade/Technology
e. High school diploma/GED
f. Partial high school training
g. Junior high school graduate
h. 8 years of schooling or less

Approximate combined annual income of your household (circle one):

a. less than $35,000
b. $ 35,000 - $69,000
c. $70,000 +

Appendix C

Emotions Task Coding Scheme

Overview

There are two different components that are coded using this scheme. (Before coding begins, transcriptions are parsed into subject-verb units, and the speaker for each unit is identified.)

1. Internal state language: refers to language that addresses emotions, cognitions, physiological states.
    a. **Emotions** are categorized into:
        i. **Positive** (happy, glad, excited, etc.) emotions
        ii. **Negative** (sad, angry, afraid, bored, etc.) emotions
        iii. **General** references to emotions/feelings ("How did you feel when you did that?"; "Are you alright?"; "What is the matter?"; or, "surprised" when no indication of negativity or positivity)
    b. **Cognitive states** are categorized under goals, beliefs, and preference terms
        i. **Goals** refers to such things as:
            1. **Attempts** (try, attempt, etc.)
            2. **Desires** (want, dying to, hope, etc.)
            3. **Obligations** (should, must, got to, etc.)
            4. **Intentions** (accident, meant to, meant to, plan to, etc.)
        ii. **Beliefs** refers to both:
            1. **Beliefs** (think, believe, etc.)
            2. **Knowledge** (know, bet you, confused, etc.)
        iii. **Preferences** are concerned with such things as liking, hating (things), enjoying, or a lack of preference, like not caring.
    c. **Physiological states** reflect internal states such as hunger, hurt, sick, tired, etc.
2. Functions of utterances/phrases: parsed lines containing internal state words are categorized into one of five types:
    a. **Commenting:** Noting a feeling or emotion or internal state without further explanation or clarification
    b. **Clarifying:** Correcting a misunderstanding
    c. **Questioning:** Giving a hint or suggestion about the child's emotions or asking a question
    d. **Requesting:** For example, requesting for a person to produce an emotional face
    e. **Other:** For example, does not complete the idea or is referencing an internal state that is unrelated to the emotion cards

Before coding

1. **Transcribe verbal and nonverbal information**
2. **Indicate the speaker for all verbal and nonverbal information**
3. **Count the number of conversational turns (i.e., all utterances bounded by the utterances of another speaker) for each speaker**
4. **Indicate off-task behaviour (i.e., talking to other individuals)**
    a. **Off-task behaviour is characterized as any verbal information that is directed to any other individuals (e.g., research assistant)**
5. **Indicate for each line which card number is being discussed**

Table of Emotion Codes

Overview of coding scheme				
Internal State Language	1	Emotion states	Ep	Positive Terms
			En	Negative Terms
			Eg	General Terms
	2	Cognitive states	G	Desire Terms
			B	Belief/Knowledge Terms
			P	Preference Terms
	3	Physiological states		
Functions of phrases	6	Function of phrases containing internal state language terms	Fc	Commenting
			Fl	Clarifying
			Fq	Questions
			Fr	Requests
			Fo	Other

Internal State Words

Instructions (also see Appendix A):

(1) Code each internal state word (emotional states, cognitive/desire states)
(2) Code the referent for each internal state word
    a. P = parent
    b. C = child
    c. D = child in picture
    d. O = other (including people in general)
(3) If the person repeats themselves, before finishing their sentence or statement, to not code both utterances.

(1) Emotion states: words that refer to discrete emotions. Code reference to the actual emotion, although sometimes the meaning is the opposite (e.g., "He's not happy" is a negative emotion and not a positive one).

EMOTIONS		
Positive (Ep)	**Negative (En)**	**General (Eg)**
comforted curious excited feel better/good/ok fun funny glad good (in response to "How does s/he feel?") happy pleased proud silly to love (a person)	afraid angry anxious bored concerned embarrassed fed up feel bad/worse/awful/hurt frustrated grouchy grumpy hate (a person) hurt (mentally) jealous lonely mad misses someone sad scared shocked sorry upset worried	*for general emotion references* ex. "How did you feel when you did that?"; "Are you alright?"; "What is the matter?" surprised

(2) Cognitive/desire states: references to internal cognitive states such as think, know, remember, pretend, sure, wonder, understand, doubt, guess, hope, want (code 2)

<table>
<tr><th colspan="3">GOALS</th></tr>
<tr><th>Attempts (Ga)</th><th>Desires (Gd)</th><th>Intentions (Gi)</th></tr>
<tr><td>attempt
try
seems</td><td rowspan="3">change my mind
desire
dying to
hope
hopefully
PERSON cry for
PERSON expect (another person) to
would like
want
wish
would love</td><td rowspan="3">accident
expect to
intent to
mean to
meant
on purpose
plan to
shall</td></tr>
<tr><th>Obligations (Go)</th></tr>
<tr><td>got to
have to/ had to/having to
make sure
must
need to
ought to
should
supposed to</td></tr>
<tr><th colspan="3">BELIEFS</th></tr>
<tr><th colspan="2">Beliefs (Bb)</th><th>Knowledge (Bk)</th></tr>
<tr><td colspan="2">believe
feel (“I feel that you…”)
figure out
guess
hard to say/tell
idea*
I’ll bet
imagine
pretend
suppose
think
wonder</td><td>aware
bet you
confused
convinced
forget
get it (“Do you get it?”)
idea*
know/I don’t know
memories
not sure/(to be) sure
notice
remember
sure
understand</td></tr>
<tr><td colspan="3">* "I have no idea" = "I don't know" (Bk) vs. "What is your idea?" ="What do you think?" (Bb)</td></tr>
<tr><th colspan="3">PREFERENCES (P)</th></tr>
<tr><td colspan="3">enjoy
hate (something – not person)
like/dislike
love (something, NOT person)
don’t care about something (lack of preference)</td></tr>
</table>

(3) Physiological states: words that reflect internal states.

PHYSIOLOGICAL (Py)
antsy
hungry
hurt
hyper
fidgety
owwie/ow
shy
sick
sleepy
tired

Function of phrases

Functions of utterances/phrases containing internal state words:

Instructions:
(1) Code the function of each utterances or phrases that contain internal state words with the codes below.

Commenting (Fc)	Noting a feeling or emotion or internal state without further explanation or clarification (e.g., "Look this this girl is crying"; "She's happy" or C: "He's happy." P: "He's happy." – repeats but does not ask a question about it.). These utterances do not contain reasons or explanations for the emotion and are usually short descriptions. (Also, "I wonder why.")
Clarifying (Fl)	Correcting a misunderstanding (e.g., "Just sad but she's not crying."), or repeating a statement made by the other person for more information or for clarification (C: He's happy. P: He's happy?). Further explaining an internal state label (P: "He's happy. (.) He's smiling."), or questioning whether the individual really beliefs the label. (C: She's happy." P: You sure?)
Questioning (Fq)	Giving a hint or suggestion about the child's emotions or asking a question ("Is the boy crying?" or C: She's crying. P: Why do you think the boy is crying?). Asking the child general questions (such as "What do you think?" or "What is the boy feeling?") Child's questions about the internal state are coded ("How come he's scared?").
Requesting (Fr)	Example: Requesting for a person to produce an emotional face ("Show me your happy face.") imitating emotion card ("Surprise!"). Requesting child to perform an action or give a verbal response ("Pick out your favourite one"; "Tell me which one is happy.")
Other (Fo)	Does not complete the idea ("Do you think (.)), or is referencing an ISL that is unrelated to the emotion cards.

Chart of Internal State Words

<table>
<tr><th colspan="3">Internal State Talk</th></tr>
<tr><th colspan="3">GOALS</th></tr>
<tr><th>Attempts (Ga)</th><th>Desires (Gd)</th><th>Intentions (Gi)</th></tr>
<tr><td>attempt
try
seems</td><td rowspan="2">change my mind
desire
dying to
hope
hopefully
PERSON cry for
PERSON expect (another person) to
would like
want
wish
would love</td><td rowspan="2">accident
expect to
intent to
mean to
meant
on purpose
plan to
shall</td></tr>
<tr><th>Obligations (Go)</th></tr>
<tr><td>got to
have to/ had to/having to
make sure
must
need to
ought to
should
supposed to</td></tr>
<tr><th colspan="3">BELIEFS</th></tr>
<tr><th colspan="2">Beliefs (Bb)</th><th>Knowledge (Bk)</th></tr>
<tr><td colspan="2">believe
feel (“I feel that you…”)
figure out
guess
hard to say/tell
idea*
I’ll bet
imagine
pretend
suppose
think
wonder</td><td>aware
bet you
confused
convinced
forget
get it (“Do you get it?”)
idea*
know/I don’t know
memories
not sure/(to be) sure
notice
remember
sure
understand</td></tr>
<tr><td colspan="3">* "I have no idea" = "I don't know" (Bk) vs. "What is your idea?" ="What do you think?" (Bb)</td></tr>
<tr><th colspan="3">EMOTIONS</th></tr>
<tr><th>Positive (Ep)</th><th>Negative (En)</th><th>General (Eg)</th></tr>
<tr><td>comforted
curious
excited
feel better/good/ok
fun
funny
glad
good (in response to “How does s/he feel?”)
happy</td><td>afraid
angry
anxious
bored
concerned
embarrassed
fed up
feel bad/worse/awful/hurt
frustrated
grouchy</td><td>for general emotion references
ex. "How did you feel when you did that?"; "Are you alright?”; “What is the matter?”
surprised</td></tr>
</table>

pleased proud silly to love (a person)	grumpy hate (a person) hurt (mentally) jealous lonely mad misses someone sad scared shocked sorry upset worried	
PREFERENCES (P)	**PHYSIOLOGICAL (Py)**	
hate (something – not person) like/dislike love (something, NOT person) don't care about something (lack of preference)	antsy hungry hurt hyper fidgety owwie/ow shy sick sleepy tired	