The Role of Mother-Child Communication in the Development of Children's Social Competence and Relationships in At-Risk Families: A Longitudinal Study across Two Generations

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ABSTRACT

The Role of Mother-Child Communication in the Development of Children's Social Competence and Relationships in At-Risk Families: A Longitudinal Study across Two Generations

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The two studies that make up the present dissertation were designed to investigate mother-child communication and its role in developing relationships and social development in an at-risk community sample. Specifically, it examined the associations between mother-child communication in childhood, and mothers' childhood histories of risk (aggression and social withdrawal) and their offspring's social competence, and peer relationships (friendship quality, bullying). Participants in Study 1 were mothers and their 5-12 year-old-children (n = 64); participants in Study 2 included mothers and their 9-13 year-old-children (n = 74). Both samples were drawn from the Concordia Longitudinal Risk Project: a prospective, intergenerational study of high-risk children from disadvantaged neighbourhoods. Boys and girls from the Concordia Project were rated on measures of aggression and social withdrawal in childhood and followed into parenthood to examine the influence of childhood behavior problems on both their parenting behaviour and on their offsprings' development.

Observational measures were used to capture mother and child communication (theme, tone, function, and orientation) during videotaped conflict (Studies 1 and 2), and game-playing (Study 2) interaction contexts. Social competence (Studies 1 and 2), friendship (Study 1), and bullying (Study 2) were measured in children through the use of reliable and well-validated questionnaire measures.

Results revealed that mother-child communication themes, functions, tone, and orientation in childhood were predicted by maternal risk factors (i.e., education, childhood

histories of aggression and withdrawal). Moreover, communication themes, functions, and tone in mother- child interactions predicted children's social acceptance and psychosocial functioning (internalizing and externalizing behaviour problems) in childhood. Finally, communication tone in childhood predicted positive and negative features of friendships in young adulthood, while communication themes and functions predicted some measures of social competence and bullying behaviour in adolescence and young adulthood.

The results from the present dissertation make an important contribution to our understanding of mother-child communication in childhood and its association to relationship development in at-risk families. Associations between maternal histories of risk, and mother-child communication, as well as mother-child communication and social competence, friendship quality, and bullying were identified. Results have implications for the design of preventive interventions targeting social and emotional development in children from at-risk families and provide a better understanding of how to promote healthy relationships.

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Chapter 1: General Introduction

Beginning in infancy, humans have the ability to communicate in some way (e.g. vocalizations, smiling, crying). As children develop, the ability to communicate becomes more sophisticated (i.e. progresses from communicating through play to having more complex nonverbal gestures, verbal discussions and negotiations, etc.), however, the importance of communication remains. Communication has been defined as a process through which information is shared through words, gestures, and nonverbal expressions (Tabak, et al., 2012). Communication includes verbal and nonverbal behaviour and is a reciprocal process from which, and through which, relationships are built. In families, communication allows for closeness and intimacy and for members to feel cared, supported, and valued (Blechman, 1991; Reis & Shaver, 1988). Adaptive communication skills enable families to meet developmental and situational demands and share their views, opinions, desires, and feelings (Tabak et al., 2012). Some researchers consider communication in the family as the most influential factor in determining relationship quality (Tabak et al., 2012). Consequently, communication in parent-child interactions plays an important role in children's development, especially in the process of socialization and the development of relationships (Zhang, 2007).

Children spend a large part of their time with their mothers, and there is a wide and diverse literature on mothers and their children from which to draw. Therefore, many studies, including the present, focus on mother-child interactions when discussing parenting behaviours. However, some of the literature broadly refers to 'parents' when discussing parenting behaviours, therefore the terms 'parenting' or 'parents' will be used in the present dissertation when referring to studies in the literature who opted to use these terms or those that examined mothers and fathers. The present dissertation was designed to investigate communication

behaviours during mother-child interactions and their relation to children's social-emotional outcomes in adolescence and young adulthood. In addition, the predictive contributions of mothers' childhood histories of risk to mother-child communication were examined, as well as how these communication behaviours were associated with children's peer relationships (friendship quality, bullying) and social competence. Taken together, the current study provides a valuable contribution to our knowledge of socio-emotional development from childhood to adolescence.

Parent-Child Communication

Communication is inherent to the development of relationships as it involves a reciprocal interchange in order to transfer information from one person to another. Although social learning theorists postulate that throughout development, children learn from observing their parents (Patterson, 1982), bidirectional (Bell, 1968) and transactional (Sameroff, 2009; Sameroff & Chandler, 1975) theories argue that the development of relationships involves multiple people (e.g. mother and child) and factors (e.g. family stress) in their environments. Thus children, parents, and their environments would have an influence on how they communicate with one another (Kuczynski, 2003). However, understanding *how* these multiple factors influence each other (direction of effect) has proven difficult in the developmental literature. When conceptualizing mothers and children in the context of a long-term relationship, their bidirectional influences can be best understood as circular (Patterson, 1982), in that they are based on a history of interactions within the relationship. For example, a mother's aggressive nature may lead to children's withdrawal from interactions, which in turn, may lead mothers to experience unsuccessful attempts at engaging their children in conversation, thereby limiting their children's communication skills. This cyclical process that conceptualizes parent and child

behaviour points to the transactional nature of parent-child relationships. However, circular interaction patterns do not help explain how changes in relationships occur given that they do not identify distinct beginning and end points. Dynamic systems theory (Fogel, 2009; Fogel, Garvey, Hsu & West-Stroming, 2006) has attempted to explain how changes in relationships occur. According to this framework, the parent-child relationship can be understood as an entity undergoing continuous interchanges that are constantly shifting. Over time, these micro level shifts lead to flexibility in parent-child behaviour and ultimately in the structure of their interactions (Fogel & Garvey, 2007). Building on this perspective, horizontal and vertical qualities inherent to the parent-child relationship help to explain that parents and children move from having primarily vertical (i.e. based on power hierarchy) interactions to having horizontal (i.e. based on equality) ones, as increases in children's cognitive competence, maturity and social responsibility occur over time (Russell, Pettit, & Mize, 1998). This explanation is particularly helpful for guiding our understanding of the changes that may occur to communication within the parent-child relationship. In the preschool years, the communication that occurs between parents and children may be more vertical in nature (e.g. involving more parent commands), however, as children enter the school-aged years and beyond, in accordance with the developmental changes taking place, parent-child communication may become more horizontal in nature (e.g. involving more parent and child negotiation).

These developmental changes highlight the importance of studying parent-child communication during important phases of development. In the developmental literature, the preschool and adolescent transition periods have received extensive research attention (Barber & Harmon, 2002; McElhaney & Allen, 2001; Weinfield, Ogawa, & Egeland, 2002; Zimmer-Gembeck & Collins, 2003), while childhood is a period that is less understood (Wray-Lake,

Crouter, & McHale, 2010). The middle childhood period (9-12 years of age) has been particularly neglected by researchers (Grunzeweig, 2014; Ng, Kenney-Benson & Pomerantz, 2004; Ross & Howe, 2009). During middle childhood, children begin to determine their own experiences to a greater degree than previously in early childhood, and thus the need for parental input and approval is reduced (Collins, Madsen, & Susman-Stillman, 2002). Children are faced with applying their knowledge from interactions within primarily vertical relationships (i.e. parent-child) to horizontal relationships (i.e. with peers). Middle childhood is also a period of development that serves as a transition between childhood and adolescence, and consequently these more defined developmental periods often overshadow it. Despite the major transition points that occur, such as maturational changes and social constraints (e.g. spending more time outside of the home with peers; Collins & Madsen, 2003), the changes that occur in middle childhood inevitably alter the amount, kind, content, and significance of interactions between parents and children and children and their peers (Collins et al., 2002; Ross & Howe, 2009), thereby highlighting once again the importance of studying parent-child communication in childhood, including middle-childhood.

While some research has investigated the stability of parent-child communication over time, (e.g. Loeber et al., 2000), less is known about whether the nature of communication remains stable across different interaction contexts. Conflict is understood as an important context for communication (Adams & Laursen, 2007; Sillars, Canary, & Tafoya, 2004); in a typical day, three to four conflicts take place with parents, while one to two conflicts take place with friends (Laursen & Collins, 1994). However, little is known about whether or how the nature of communication during a conflict differs from that which takes place in neutral or positive interaction contexts. For example, direct (forthcoming, honest) parent-child

communication in difficult situations has been found to lead to better emotional outcomes in children (Gumina, 2009), but whether or not parents who use direct communication in conflict discussions use it equally in more neutral situations, is less understood. Furthermore, children's outcomes associated with specific communication variables in neutral or positive contexts are unknown. Moreover, conflict inherently has a negative connotation, therefore, to better understand the nature of conflict in the parent-child relationship, it is important to examine whether negative forms of communication occur more in conflict discussions than in more neutral discussions. Investigating different interaction contexts would increase our understanding of parent-child communication and may contribute to a more comprehensive understanding of the stability of communication across situations.

Parent-Child Communication: Implications

Previous research that has examined communication in adolescence has demonstrated that effective communication between adolescents and their parents is associated with adolescents' high self-esteem (Kernis, Brown, & Brody, 2000), low delinquency, better conflict resolution skills, and better coping skills in adverse situations. In contrast, poor communication between adolescents and their parents is associated with risky behaviours such as drug abuse (Tabak et al, 2012). In particular, parent-child communication characterized by responsiveness, confirmation, and explanations has been linked to children's adjustment and emotional security (Brown, Fitzgerald, Shipman, & Schneider, 2007; Reese, Bird, & Tripp, 2007; Schrodt, Ledbetter, & Ohrt, 2007). In contrast, parent-child communication characterized by negative talk, criticism, parental inattention to and lack of acknowledgement of the needs and feelings of the child, and role reversal (child providing support to the parent) have been associated with child outcomes related to adolescent risky behavior (e.g., early sexual behavior and drug and

alcohol use; Jones & Houts, 1992; Reese et al., 2007; Otten, Harakeh, Van der Eijnden, & Engels, 2007; Schrodt et al., 2007). Furthermore, the type or theme of parent-child communication and its association with interpersonal skills has been examined. Specifically, more negative emotional expression in interactions with caregivers has been shown to be associated with a greater lack of concern for others' feelings, guilt, and remorse (Pasalich, Dadds, Vincent, Cooper, & Brennan, 2012).

Parents with better communication quality may be serving as more appropriate role models for their children; they may be encouraging, and teaching children about reciprocal interactions and adaptive appraisals about conflict, and increasing their children's sense of security and competence (Brown, Fitzgerald, Shipman, & Schneider, 2007). Despite its importance, there is no consensus in the literature as to what constitutes good versus poor quality communication. Furthermore, while many different terms are often used synonymously, a common definition for communication constructs has yet to be operationalized or used consistently. Consequently, systematically studying parent-child communication using clear operational definitions and varied methods and samples is warranted.

One communication variable researchers have consistently studied is communication orientation (Koerner & Fitzpatrick, 2002). There are two primary orientations argued to guide communication in families. Conversation orientation describes unrestrained interaction, in other words, open expression of ideas, beliefs, and values about an array of topics. In contrast, conformity orientation refers to more restrained interaction and the uniformity of beliefs and values, not often placing importance on the individual's needs (Koerner & Fitzpatrick, 2002). These orientations tend to be inversely related, however, they represent two distinct dimensions (Babin & Palazzolo, 2012). Dyads with a conformity orientation tend to be hierarchically

structured and emphasize child obedience whereas families with a stronger conversation orientation engage in communication with few constraints, discuss many topics, and encourage family members to express their opinions (Babin & Palazzolo, 2012). Conformity orientation has been associated with conflict avoidance, verbal aggression, and lack of assertiveness in relationships (Koerner & Fitzpatrick, 2002; Koesten, 2004), while conversation orientation has been associated with adaptive interpersonal skills such as self-disclosure and conflict management (Koesten & Anderson, 2004). Therefore, children whose parents use more of a conformity orientation may be more easily victimized in other relationships due to a reticence to express their emotions or opinions. Alternatively, these children may also engage in aggressive behaviour as a means of obtaining obedience in other relationships. In contrast, children exposed to a conversation orientation may be equipped with the skills necessary for adaptive social interactions and relationships.

Despite the wealth of research on parent-child communication orientation, generally studies examining communication are limited and have mainly relied on parent and self-report measures. Furthermore, many studies only examine communication as a single or small set of variables (e.g. positive and negative communication; Caughlin, 2010), or they lack consistency in examining the same communication constructs. In multiple goals theory (Caughlin, 2010) it is argued that communication is instrumental and may serve several functions simultaneously (e.g. providing comfort, giving advice, and trying to influence others). Therefore, studying the functions of communication is essential to gaining a better understanding of its association with relationship outcomes. However, there is a paucity of research examining different functions of communication.

Furthermore, although the type or theme of communication has been previously examined,

research has mainly focused on emotion communication, without considering other communication themes. Similarly, although positive and negative communication has been examined, there is a paucity of research examining communication for which the tone is neither positive nor negative. The current studies were designed to address these gaps in the literature by examining multiple communication variables, including original measures of function, theme (social, logistic), tone (neutral), and orientation. Given that communication is generally considered to be critical in the development of relationships in the family, a more comprehensive examination of multiple parent-child communication variables is needed. Furthermore, recent research suggests that examining children's experiences in the family context is essential to understanding children's social competence and their ability to adapt to relationships with peers (Lereya, Samara, & Wolke, 2013). Therefore, examining *which* parent-child communication variables are associated with social competence is critical.

Social Competence and Relationships

Social competence arguably lays the foundation for healthy relationship development. It is a construct and a developmental competence that refers to effectiveness in interaction, constituting skills for interpersonal engagement, internalization of appropriate societal norms, and healthy mental and behavioural functioning (Hill, 2012; Rose-Krasnor, 1997). Social competence also encompasses the abilities to develop and maintain positive interactions with others and avoid negative experiences such as victimization, loneliness, or social anxiety (Ladd, & Pettit, 2002). From a behavioural perspective, social competence involves being able to partake in social interaction by initiating interactions, responding contingently to the social signals of others, and refraining from overtly negative behaviours that would impede reciprocal interaction (Creasey, Jarvis, & Berk, 1998; Dirks, Treat, & Weersing, 2007; Rose-Krasnor,

1997). By definition, social competence also encompasses the ability to be emotionally competent, therefore to use appropriate expression, recognition, regulation, and understanding of emotion (Denham, 2005).

Mother-child interactions can illuminate the early foundations of social and emotional competence. These interactions provide a context for children to learn relationship skills that are subsequently used in fostering and maintaining friendships (Clark & Ladd, 2000; Huston & Ripke, 2006). While parents are children's primary socialization agents in childhood, as children develop into adolescents and young adults, relationships with peers (friendships, dating, romantic relationships) become increasingly salient and have a significant impact on social development (Kobak & Herres, 2012).

Throughout childhood, communication is necessary in interactions with peers and in order to develop and maintain relationships. Research on children and peer relationships has shown that they begin to form close relationships around 8 to 10 years of age (Berndt, 2004). During this phase, peer relationships ascend in importance and significantly contribute to the process of socialization (Buhrmester, 1996). Given this knowledge, the importance of studying both parent-child and peer relationships becomes clear (Parke & Ladd, 1992). Parent-child and child-peer relationships are fundamentally different and serve distinct roles in socialization (Ladd & Pettit, 2002). Research has shown that families influence peer relationships. For example, parent-child attachment quality is associated with attachment with a best friend (Doyle, Lawford, & Markiewicz, 2009). However, less is known about exactly how skills learned in the mother-child relationship are transferred to the development of children's adaptive and maladaptive relationships with peers (Hill, 2012).

Intergenerational Studies

The transfer of skills from one generation to the next is an important focus of developmental research (Chapman & Scott, 2001; Kovan, Chung, & Sroufe, 2009). In order to investigate how one generation may contribute to the development of a subsequent generation, as well as variables or mechanisms that explain continuities and discontinuities over time, studies using prospective intergenerational research designs are essential (Bailey, Hill, Oesterle, & Hawkins, 2009; Shaw, 2003). In fact, the mechanisms by which mothers' childhood experiences put subsequent generations at risk for negative life trajectories have become an important focus of developmental research (Belsky, Conger, & Capaldi, 2009; Chapman & Scott, 2001). For example, intergenerational risk studies investigate how maladaptive behavioural styles in childhood predict outcomes and well-being in adulthood, including parenting behaviours and outcomes of the subsequent generation (Chapman & Scott, 2001; Neppl, Conger, Scaramella, & Ontai, 2009; Serbin & Stack, 1998; Stack, Serbin, Matte-Gagné, Kingdon, Dorion, & Schwarztman, 2014).

Maladaptive behaviour styles include problematic behaviour that is generally stable across time and places individuals at risk for negative sequelae and psychosocial outcomes. Aggression and social withdrawal are two behavioural styles that are stable across time, from childhood into adulthood, and even parenthood (Coie & Dodge, 1998; Rubin, Burgess, & Coplan, 2002; Serbin et al., 2004; Warman & Cohen, 2000). These social behavioural styles have been used as descriptors for children who move against the world by displaying conflictual behaviour (e.g. aggression) and as moving away from the world via social disengagement (e.g. withdrawn behaviour; Caspi, Elder, & Bem, 1988). Aggression, which includes a broad range of overt and covert behaviours intended to inflict harm to a person's body, emotional well-being, or social relations (Card, Stucky, Sawalani, & Little, 2008; Putallaz & Bierman, 2004), has been

associated with maladjustment later in life, including delinquency, crime, and substance abuse (Card et al., 2008; Stack, Serbin, Schwartzman, & Ledingham, 2005; Werner & Crick, 2004). Social withdrawal is associated with insecurity, negative self-perceptions, loneliness, and dependency, and is predictive of later internalizing difficulties (Coplan, Girardi, Findlay, & Frohlick, 2007; Rubin, Chen, McDougall, Bowker, & McKinnon, 1995). Furthermore, the interaction of aggression and social withdrawal has been shown to be the greatest risk factor for maladaptive outcomes. Children exhibiting co-occurring aggression and social withdrawal have been found to have learning difficulties, as well as other externalizing and internalizing problems (Farmer, Bierman, & CPPRG, 2002; Serbin et al., 2004; Stack et al., 2005). It has been well established that aggression and social withdrawal uniquely contribute to children's psychosocial outcomes and subsequent parenting. However, research has also demonstrated that the world may also move against or away from a person, supporting the influence of one's environment on the transfer of risk across generations (Gazelle & Rudolph, 2004).

Despite the research examining the intergenerational transfer of risk, it is important to acknowledge that risk is inherently probabilistic. Consistent with the developmental psychopathology framework, protective factors within the environment may ultimately decrease the chance that risk will be associated with negative outcomes (Cicchetti, 2013; Cicchetti, 2006; Cicchetti & Toth, 2009). Therefore, not all children deemed at risk for the development of negative developmental trajectories will exhibit problems later in life (Cairns & Cairns, 1994; Chase-Lansdale & Votruba-Drzal, 2004; Feinstein & Bynner, 2006; Saltaris et al., 2004; Serbin & Karp, 2004; Serbin et al., 1998; Serbin et al., 2004). Research seeking to identify factors underlying the transfer of risk is essential to promoting competence and preventing maladaptive outcomes in vulnerable families (Luthar & Cicchetti, 2000; Serbin & Karp, 2004; Serbin &

Stack, 1998).

The Concordia Longitudinal Risk Project

The Concordia Longitudinal Risk Project (hereafter referred to as the Concordia Project) began in 1976, and is an ongoing inter-generational investigation of families at psychosocial risk (De Genna, Stack, Serbin, Ledingham, & Schwartzman, 2007; Schwartzman, Ledingham, & Serbin, 1985; Serbin et al., 1998; Temcheff et al., 2008). The original participants comprised a large, community-based research sample of children living in disadvantaged neighbourhoods, who were assessed using peer-nomination measures of aggression and social withdrawal (Pekarik, Prinz, Leibert, Weintraub, & Neale, 1976), and have been followed until the present. Many of these original participants have since had children of their own, providing the unique opportunity to study women identified in childhood as aggressive and or socially withdrawn in an intergenerational framework.

Studies stemming from the Concordia Project have demonstrated that childhood histories of aggression and/or social withdrawal are predictive of poor outcomes such as school drop-out, delinquency, teen pregnancy, adult criminality, as well as mental illness (Serbin, Stack, & Schwartzman, 2000; Serbin et al., 2011; Stack et al., 2014). Furthermore, the combination of aggression and social withdrawal has been shown to demonstrate the highest risk in predicting negative outcomes for participants (Stack et al., 2005). As parents, women from the Concordia Project sample have been shown to be more unresponsive, hostile, and intrusive in their interactions with their children (Stack et al., 2012), provide less cognitive stimulation, and poorer home environments (Saltaris et al., 2004), and use less effective problem solving (Martin, Stack, Serbin, & Schwartzman, 2011) and parenting strategies (Grunzeweig, Stack, Serbin, Ledingham & Schwartzman, 2009). As such, it is important to consider the possible factors (e.g., behavioural

styles, mother-child communication) that may be associated with whether at-risk children will demonstrate social competence in the face of adverse circumstances (Jimenez, Dekovic & Hidalgo, 2009; Masten & Coatsworth, 1998).

The Present Studies

Given that communication is inherent to healthy relationships, which in turn are essential for social competence and well-being (Luthar, 2006), the present dissertation consisted of two studies designed to examine mother-child communication in a sample of families at-risk for negative psychosocial outcomes. Study 1 had three objectives. Given the paucity of research examining mother and child communication, the first objective was to gain an understanding of mother and child communication during naturalistic mother-child interactions and to examine the relations between mother and child communication behaviours. It was hypothesized that mothers and children would use similar communication behaviours and therefore, that their communication behaviours would be positively related That is, the more one partner used a given behaviour, the more the other person would also use it. The second objective focused on the intergenerational transfer of risk and associations with social competence. Specifically, mothers were all original participants of the Concordia Project. The objective was to examine the relationships between: (a) mothers' childhood histories of aggression and social withdrawal, (b) mother and child communication behaviours in a conflict task (measured in childhood), and (c) children's social competence (measured in childhood). It was hypothesized that mothers' childhood histories of aggression and social withdrawal would negatively contribute to the prediction of mother and child communication behaviours. Furthermore, it was expected that mother and child communication would be positively associated with children's social competence. Finally, the third objective was to examine longitudinal predictions of mother and

child communication behaviours in childhood to children's peer relationships in young adulthood. It was hypothesized that communication behaviours in childhood would predict better quality friendships. For example, more social communication would predict greater social acceptance.

Study 2 was designed to replicate and extend the findings of Study 1 as it employed a second, larger subsample from the Concordia Project in order to investigate longitudinal associations between mother-child communication and social competence and peer relationships. Furthermore, in Study 2, social competence was defined as a broad adaptive construct reflecting multiple components of social functioning (i.e., social skills, psychosocial behaviours, self-esteem, and social satisfaction), thereby extending our understanding of the associations between social functioning and communication. Study 2 also extended the observational methods used to assess mother-child communication to a game-playing task in addition to a conflict task. Furthermore, although Study 1 investigated multiple friendship qualities in same-sex friendships, it did not examine the associations between mother-child communication and maladaptive peer relationships, for example, bullying, and their distinct contribution to the socialization process. Bullying is known to be a relationship problem associated with a host of deleterious outcomes for youth (Pepler, Jiang, Craig, & Connolly, 2008). Although children involved in bullying are acknowledged as a heterogeneous group, research has demonstrated that bullies are often aggressors and that socially withdrawn children are often victims of aggression (Lyons, Serbin, & Marchessault, 1988; Roland & Idsoe, 2001; Sutton, Smith, & Swettenham, 1999; Vaillancourt, Brendgen, Boivin, & Tremblay, 2003). Investigating bullying in an at-risk sample of mothers with childhood histories of aggression and social withdrawal would contribute to understanding the transfer of risk across generations, and its impact on bullying behaviour (i.e. those who bully,

those who are bullied, and those who are bystanders).

Finally, while Study 1 investigated mothers who were original participants of the Concordia Project and their children, these mothers were all part of one subsample. By investigating a different sub-sample of original mothers from the Concordia project in Study 2, the breadth of our understanding pertaining to the association between communication and social relationships in at-risk families was increased.

Therefore, Study 2 of the current study had three main objectives. Using another sub-sample of the Concordia Project, the first objective was to examine the relationships between mother and child observed communication behaviours during naturalistic mother-child interactions across two interaction contexts. Consistent with Study 1, it was expected that mother and child behaviours would be positively related within contexts. In addition, given that communication has been found to be a relatively stable behaviour (Loeber et al., 2000), it was expected that mother and child communication in the game-playing task would generally be associated with that in the conflict task, with some variation in context-specific behaviours. For example, given the nature of the interaction tasks, it was expected that mother-child dyads would display more positive communication tone in the game-playing task.

The second objective of Study 2 focused on examining the intergenerational transfer of risk through parenting behaviours (communication) in order to replicate findings from Study 1 of the current study with a different sample from the Concordia Project. This objective was designed to examine the longitudinal relations between mothers' childhood histories of aggression and social withdrawal, and mother and child communication behaviours (measured in middle childhood). As in Study 1, it was hypothesized that mothers' childhood histories of aggression and social withdrawal would negatively contribute to the prediction of mother and

child communication behaviours (for example, more logistic themed, negative, indirect, and conformity-based communication).

The third objective extended the measure of social competence and peer relationship outcomes used in Study 1. It was designed to examine how mother and child communication variables in middle-childhood were predictive of children's social competence (social skills, psychosocial behaviour, self-esteem, and social satisfaction) in adolescence and young adulthood, and maladaptive relationships (bullying behaviour) in young adulthood. It was hypothesized that communication behaviours, specifically, theme (social, emotion), and function (direct), would positively predict children's social competence, and decrease their likelihood of taking part in bullying behaviour (e.g. being a bully, bystander, or victim).

Together, the present study contributed unique observational data to the literature on communication in mother-child interactions. Moreover, this is one of the few studies to longitudinally examine parent-child communication, social competence, and peer relationships. Consistent with transactional models of development and in the context of the developmental psychopathology framework, the present study marks an important contribution to studying socialization and trajectories of adaptive and maladaptive development in at- risk families.

Chapter 2: Dissertation Studies

Mother-Child Communication: Links to Maternal Childhood Histories of Risk, Concurrent Social Competence, and Friendships Over Time

Study 1

Communication is a central component of developing healthy relationships with others, which in turn, is fundamental to well-being (Luthar, 2006). Learning to communicate is vital to fostering and maintaining adaptive relationships, which is inherent to social and emotional competence. Studying communication and social-emotional competence is especially important in high-risk families, where the likelihood of negative developmental outcomes is increased (Serbin et al., 1998; Serbin & Karp, 2004). The present study was designed to investigate links between mother-child communication during interactions in childhood, and: (1) mothers' childhood histories of aggression and social withdrawal, (2) children's concurrent social competence, and (3) friendship quality in young adulthood, in at-risk families.

Communication in parent-child interactions plays an important role in children's development, especially in the process of socialization and the development of relationships (Zhang, 2007). The ability to communicate with others is at the core of social competence and plays an important role in attaining one of the primary goals of social competence; maintaining positive relationships with others (Rose-Krasnor, 1997). Social competence also involves appropriate expression, recognition, regulation, and understanding of emotion. In the literature, these skills are commonly referred to as emotional competence. Although difficult to separate social and emotional functioning from one another, emotional competence has been shown to impact children's social, behavioural, and academic functioning (Denham, 2005; Saarni, 2008; Denham, Salisch, Olthof, Kockanoff, & Caverly, 2002; Raver, 2002). Therefore, the

communication of emotion and emotional competence are believed to be a part of social competence since emotion communication also plays a pivotal role in the development and maintenance of positive relationships with others. Given that parent-child relationship quality is associated with adjustment later in life (Creasey et al., 1998; Dirks et al., 2007), childhood offers a valuable context for studying communication and the role it plays in children's developing social competence and subsequent relationship quality over time.

Mother-child interactions can illuminate the early foundations of social competence because family interactions provide a context for children to learn relationship skills that are subsequently used in fostering and maintaining relationships with peers (Clark & Ladd, 2000, Huston & Ripke, 2006). Positive peer relationships have the potential to provide a sense of belonging, self-identification, and affirmation (Faircloth & Hamm, 2005; Hill, 2012). Among relationships with peers, friendships are of great importance given their closeness and intimacy, and thus, have significant effects on children's overall well-being (Berndt, 2004). It has been established that parent-child and peer relationships serve important, although different functions in socialization, provide youth with unique developmental resources, and influence one another (Hill, 2012; Ladd & Pettit, 2002). Accordingly, research examining parent-child and peer relationships has generally shifted toward understanding how skills developed within one relationship context are transferred and used in another (Hill, 2012). The relative importance of specific communication skills used in each relationship context (i.e. parents/peers) shifts over time, however, the underlying conceptualization of social competence remains generally constant across the lifespan (Rose-Krasnor, 1997). Given that communication is central to social competence, investigating children's communication skills in mother-child interactions and tying these skills to social competence, is crucial to promoting children's wellbeing.

Behaviour problems are one useful index of social competence (Kerig, 2001; Smith, Calkins, Keane, Anastopoulos, & Shelton, 2004). Research has examined the negative effects of externalizing (overt) and internalizing (covert) behaviour problems on children's adjustment (Aunola & Nurmi, 2005). Externalizing behaviours (e.g. delinquency, impulsivity) are associated with aggressive behaviour, while internalizing behaviours (e.g. anxiety, depression) are associated with withdrawal. Over time, behaviour problems that occur consistently can be understood as a maladaptive behavioural style. Maladaptive behavioural styles such as aggression and social withdrawal have been shown to be important risk factors associated with adverse psychosocial outcomes that negatively affect life transitions and influence intergenerational cycles of risk (Caspi & Moffitt, 1995; Rubin, Burgess & Coplan, 2002). Childhood aggression and social withdrawal have the potential to undermine adaptive communication behaviours, and especially social competence. As a result, this undermining may further exacerbate the risk of maladaptive life trajectories for children with behavioural problems (Masten & Coatsworth, 1998; Masten et al., 2005). Moreover, children who grow up in adverse environments (such as those with parental problems and economic hardship) are at an even greater disadvantage, as poor environmental circumstances are associated with increased difficulty establishing and maintaining supportive relationships into adulthood (Boyle & Lipman, 2002; Conger & Donnellan, 2007; Pagani et al., 2006).

Childhood aggression can also persist into adulthood; it is a stable trait that has been found to influence parenting strategies (Patterson, 1982; Cairns, Cairns, Xie, Leung & Hearne, 1998). Childhood aggression has also been linked to increased risky behaviours such as cigarette smoking and drug and alcohol use, and poor peer relations (Serbin et al., 2000; Stack et al., 2005). Although the pathways to risk for social withdrawal may be harder to detect, research has

shown that it too is a stable trait (Cooperman, 1996) and associated with negative psychosocial outcomes. Socially withdrawn women place themselves at risk by withdrawing from social interactions thereby hindering their capacity to learn competent social skills (Serbin et al., 2004). Due to their negative life trajectories, aggressive and/or socially withdrawn mothers place their children at risk for behaviour problems, school drop-out and low self-esteem (Serbin et al., 2004). Given that maternal risk factors serve as significant predictors of parenting styles, and may therefore influence the outcomes of offspring, there has been a growing interest in studying the transfer of risk from one generation to the next. Such intergenerational studies provide the framework needed to explain how parents' experiences and behaviours are transferred to children, as well as examine the processes underlying intergenerational continuities.

Study 1 used a sample of high-risk mother-child dyads (n=74) from the Concordia Project in order to investigate the intergenerational transfer of risk, parent-child communication, and social competence from childhood to young adulthood. Given the study's focus on understanding relationships in addition to the established associations between communication and interpersonal skills identified in the communication literature, the following communication variables were examined: theme (social, emotion, or logistic-related communication) function, including direct (modeling, coaching, goal-oriented, command) and indirect (avoidant, playful, task related, distraction), tone (positive, neutral, negative), and orientation (conversation or conformity; based on Koerner & Fitzpatrick, 2002).

Study 1 had three objectives. Given the paucity of research examining mother and child communication, the first objective was to gain an understanding of mother and child communication during naturalistic interactions and to examine the relations between mother and child communication behaviours. Based in part on the theory of bidirectionality (Bell, 1968,

Kuczynski, 2003), which states that both partners in a relationship influence one another, it was hypothesized that mothers and children would influence one another and use similar communication behaviours. Given it is argued that both partners in a relationship influence one another, it was elected to examine mother and child separately in order to better understand each partner's unique behaviours when communicating during the interaction. It was hypothesized that mother and child behaviours would be positively related. That is, the more one partner used a given behaviour, the more the other person would also use it. The second objective focused on the intergenerational transfer of risk and associations to social competence. Mothers were all original participants of the Concordia Project, therefore the second objective was to examine the relationships between (a) mothers' childhood histories of aggression and social withdrawal, (b) mother and child communication behaviours (measured in childhood), and (c) children's social competence in childhood. It was hypothesized that mothers' childhood histories of aggression and social withdrawal would negatively contribute to the prediction of mother and child communication behaviours. Furthermore, it was expected that mother and child communication would be positively associated with children's social competence. Finally, the third objective examined the longitudinal prediction of mother and child communication behaviours and their relation to children's peer relationships in young adulthood. It was hypothesized that communication behaviours would predict friendship quality. For example, more social communication would predict more supportive friendships.

Method

Participants

The participants in the present study represent a subsample of the Concordia Project, which originated in 1976, when students in grades 1, 4, and 7 were recruited from French

language public schools in inner-city, low socioeconomic neighbourhoods in Montréal, Canada (Ledingham, 1981; Schwartzman et al., 1985). A total of 1774 children (864 boys; 910 girls) who met inclusion criteria were screened for aggression and social withdrawal by means of a French translation of the Pupil Evaluation Inventory (Pekarik et al., 1976), a peer-nomination instrument that compares children to their classmates (matched for age and sex). The PEI contains 34 items loading onto three factors: Aggression, Social Withdrawal, and Likeability (not used in the current study). Aggression items included statements such as "those who start a fight over nothing" and "those that are mean and cruel to other children". Withdrawal items included statements such as "those who have very few friends" and "those who aren't noticed much". Percentile cutoffs were used to establish which children were considered to be at high psychosocial risk (high on aggression and/or social withdrawal), relative to same sex peers. Children identified high on dimensions of aggression or withdrawal scored above the 95th percentile. Those children identified as high on dimensions of aggression and on withdrawal scored above the 75th percentile on both dimensions. A normative comparison group, those children from the same schools and neighborhoods who scored between the 25th – 75th percentiles, was also identified at the same time. A more detailed description of the original methodology can be found in Schwartzman et al. (1985) and Serbin et al. (1998).

Current Sample

Many of the original Concordia Project participants were followed into adulthood and subsequently became parents. As they became parents, they were incorporated into different waves of testing along with their offspring. The current study took place over two time points. The selection criteria at Time 1 were based on women from the Concordia project who had a first-born child of school age (5 through 13 years). Of the traceable women from the Concordia

Project, a group of 139 women met this demographic criteria and were contacted for continued participation. Of the 139 eligible women, 44 refused to participate at various phases of the project, and 11 could not be located or failed to participate in all aspects of data collection (Cooperman, 1996). Additional participants were excluded from the present study due to technical difficulties with the videotaped interactions (n=10). Consequently, the current study was comprised of a subsample of 74 mother-child dyads (children: 30 males, 44 females) from the Concordia Project.

Table 1 summarizes the participants' demographic characteristics, as well as mothers' childhood aggression and withdrawal scores. In order to verify the generalizability of the subsample, it was important to compare their demographic characteristics to those in the larger sample of participants from the Concordia Project from which they were drawn (participants whose data was obtained around the time of testing but did not have a child in the target age range for the current study; n=210). These mothers were compared along dimensions of aggression and withdrawal, as well as education received, occupational prestige, and age at birth of first child. Z scores indicate that mothers in the current sample were slightly younger when they gave birth to their first child and had received less education. Including a second time point in the current study allowed for longitudinal predictions of child outcomes. At Time 2, 55 potential participants from the initial phase of data collection for the Concordia Project (around Time 1) could be reached, however, 19 were excluded because they refused to participate in the study, at least at this time point. Of the 36 participants who agreed to take part in the study, 26 mothers and their 18-25 year-old children (8 males, 18 females, mean age = 20.7 years) had previously participated at Time 1 and as such, made up the sample for Time 2. Comparisons of participants' demographic characteristics from those who participated at Time 1 but not at Time

2 (n=48) to the subsample at Time 2 (n=26) were conducted. Mothers were compared along dimensions of aggression and withdrawal, as well as education received, occupational prestige, and age at birth of first child. Z scores revealed no significant differences.

Procedure

At Time 1, mothers and their children participated in a series of tasks at a Concordia University research laboratory (n= 68). In order to retain some dyads in the study, home visits were conducted to carry out the series of tasks (n=6). Testing was conducted by a graduate level experimenter or a research assistant, who were both blind to mothers' childhood risk status. Mothers gave informed written consent (Appendix A), participated in a series of videotaped interactions (i.e. a non-structured free play task, a teaching task, a structured task, and a conflict task) with their children, and completed a battery of questionnaires.

Mother-child dyads were seated during all interactions, which were videotaped using a Sony Video 8AF camera with directional microphone that was fixed on a tripod and placed in front of the dyad. Experimenters left the room during the interactions, but used a stopwatch to time the duration of each one. The focus of the present study was on the conflict task where mothers and children discussed an issue of conflict in their relationship. Prior to participating in the conflict task, mothers and their children completed The Conflict Questionnaire (Appendix B and C). This questionnaire requires parents and children to rate (separately) the degree to which the dyad is in conflict over 14 common age-appropriate issues (e.g., chores, homework, getting along with siblings). The issue rated most problematic by <u>both</u> mother and child was selected for discussion during the conflict task. Dyads were instructed to discuss the selected topic together for 6 minutes. It was explained that it was important that both partners participated in the discussion. The experimenter then left the room and returned in 6 minutes. Most dyads used the

allotted 6 minutes to discuss the conflict (mean length of task= 5.6 minutes, range= 3-6 minutes), however, some dyads still completed their discussion before the allotted time was up; in this case, the task was terminated at that point. Other dyads used additional time to complete their discussion; in this case, coding ceased after 6 minutes had elapsed. In order to account for individual differences in completion time, proportion scores were created for data obtained from the conflict task (see below for more information on observational coding).

At Time 2, when offspring were between 18-25 years of age, verbal consent was obtained and questionnaires assessing development and adjustment were subsequently mailed to the participants at home. They were provided with a pre-paid return envelope in order to return their completed questionnaires and written consent form. Upon receiving the completed research protocol, mothers and young adult offspring were compensated for their participation. All of the data collection was conducted in French.

Measures

Demographic Information at Times 1 and 2.

Mothers completed the Demographic Information Questionnaire (DIQ; Appendix D), in order to gather demographic information about the participating families (e.g., mothers' current age, age at birth of first child, marital status, number of years of education, occupational status, etc.). The DIQ, which was developed for the Concordia Project, has been shown to be an effective measure of participant demographics (e.g., Serbin et al., 1998; Saltaris et al., 2004; De Genna et al., 2007).

In addition, the *Prestige Measure* (Rossi, Sampson, Bose, Jaso, & Pasel, 1974) was used to measure the family's occupational status (defined as the occupational status of the parent who participated in the Concordia Project as a child). This widely used scale has satisfactory

psychometric properties (Nock & Rossi, 1979). The types of jobs corresponding to the mean scores of the subsample in the current study included: cashier, technician, and machine operative.

Social competence at Time 1

Recent intergenerational investigations (e.g., Shaffer et al., 2009), define social competence as a broad adaptive construct reflecting multiple components of social functioning (e.g. social skills, psychosocial behaviour). In the current study, the components of social functioning included were psychosocial behaviour (e.g. internalizing and externalizing) and social acceptance.

Psychosocial Behaviour. Mothers completed the Child Behaviour Checklist (CBCL, Achenbach, 1991), a widely used instrument that is part of the Achenbach System of Empirically Based Assessments (ASEBA). The CBCL is a 114-item parent-report measure of behavioural and emotional problems in children. The Total Problem scale score, which is comprised of the child's scores on Internalizing and Externalizing behaviour problems, with higher scores reflecting greater behaviour problems, was used in the statistical analyses. Evidence for satisfactory test-retest reliability, as well as content, construct, and criterion-related validity has been demonstrated (cronbach alpha (α) = .78-.97; Achenbach, 1991; Achenbach & Rescorla, 2001).

Social Acceptance. The Pictorial Scale of Perceived Competence and Social Acceptance for Young Children (Harter & Pike, 1984) was used in the present study. This self-report questionnaire is designed to measure perceived competence in children aged 4-7 years (n = 55) by using items and response sets that are pictorial. The measure consists of four separate subscales (e.g. physical competence, cognitive competence), however, only the social acceptance scale was of interest in the present study. This measure has been shown to have acceptable

reliability and validity (α = .73-.80; Harter & Pike, 1984).

The Self Perception Profile for Children (SPPC; Harter, 1985) was used to measure perceived competence across multiple domains, in children aged 8 years or older (n=18). This self- report questionnaire consists of five subscales (e.g. athletic competence, physical appearance), however, only the social acceptance scale was of interest in the present study. The measure has been shown to have satisfactory reliability and validity (Cronbach alpha (α) = .73-.81; Muris, Meesters, & Fijen, 2003; Granleese & Joseph, 1994).

The social acceptance scales from both measures, with higher scores reflecting greater perceived social acceptance, were converted to a standardized scale (Z-scores) and used in this way in the statistical analyses. It was elected to transform the scores into a standardized score to maximize interpretation of the results. Using different techniques (e.g. pictorial and self-report) as one measure of social acceptance in the current sample was based on previous research suggesting that children's self-concept as measured with the Self Perception Profile for Children, is relatively stable over time (Zafiropoulou, Sotiriou, & Mitsiouli, 2007). Therefore, we should not expect to see a difference in the measure of social acceptance using the pictorial scale compared to the self-report scale with slightly older children.

Observational Coding Measures at Time 1

A time line indicating hours, minutes, seconds, and milliseconds was edited onto the videotapes of the mother-child interactions. The start and stop times for each interaction were recorded in order to calculate the exact duration of the session in minutes and seconds. Mother-child interactions during the conflict task were subsequently coded by the author using the Communication Coding Scheme.

Communication Coding Scheme (CCS). The CCS (Barrieau & Stack, 2011) is an

observational coding measure of mothers' and children's communication quality developed for the purposes of this study, based in part on existing literature (e.g., Caughlin, 2010; Fitzpatrick & Ritchie, 1994; Reese, Bird, & Tripp, 2007). The objective of the CCS was to record mothers and children's statements reflecting the theme of their communication, its function, tone, and orientation. Communication theme was grouped into three categories: social, emotion, and logistic; communication function was grouped into two categories: direct (modeling, coaching, goal-oriented, command) and indirect (avoidant, playful, task related, distraction); communication tone was grouped into positive, neutral, negative; and communication orientation was grouped into conversation and conformity. Brief operational definitions of the observational codes can be found in Table 2. According to the CCS procedures, the coder watched the videotaped interaction and noted, for every 15-second interval, the theme function, tone, and orientation used by mothers and children. If mothers or children did not communicate during an interval, no codes were assigned.

In order to assess inter-rater reliability, 30% of the mother-child dyads were randomly selected and double-coded. The author of the present dissertation acted as the primary coder. An undergraduate research assistant, who was blind to the study's hypotheses as well as to the risk status of the mothers, acted as a secondary coder. Intraclass correlation coefficients (ICC), a well validated method of assessing reliability (Shrout & Fleiss, 1979; Bruton, Conway, & Holgate, 2000), were calculated in order to assess the scheme's codes. The reliability values (also found in Table 2) obtained are generally considered 'good' to 'excellent'; whereby above 0.70 is considered reliable, above 0.75 is good, and above 0.90 is excellent (Shrout & Fleiss, 1979; Bliese, 1998). After coding was completed, the data were reduced into analyzable variables. In order to account for individual differences in completion time, overall totals were obtained for

each dyad, on each variable, and a score was computed for each task as a proportion of the task duration (mean score calculated on the total of 15-second intervals; ranging from 16-24). Using an average score for each dyad assured that the variables remained on an interpretable scale and also took into account the length of time dyads discussed the conflict.

Peer Relations at Time 2.

Adolescents completed the Network of Relationships Inventory (NRI; Furman & Buhrmester, 1985), which examines a broad array of relationship characteristics across a number of different types of personal relationships (e.g. parent, sibling, grandparent). The NRI yields a matrix of "relationships by qualities" scores that is useful for describing each type of relationship in terms of a profile of qualities. The NRI contains 39 questions which make up ten scales including: Companionship, Instrumental Aid, Intimate Disclosure, Nurturance, Affection, Reassurance of Worth, Reliable Alliance, Conflict, Antagonism, and Relative Power. Research supports the use of two second-order factors that can be computed by averaging the items on the following scales: support features (Companionship, Instrumental Aid, Intimate Disclosure, Nurturance, Affection, Reassurance of Worth, Reliable Alliance), and negative interaction features (conflict, antagonism; Furman & Buhrmester, 1996). In order to reduce the number of analyses and for purposes of this study, the support features and the negative interaction features of friendships were examined separately for same-sex friends. The NRI has acceptable reliability and validity (α = .70-.85; Furman, 1996; Wang, 2014).

Results

Prior to conducting statistical analyses, descriptive statistics were used to assess the normality of the distribution, skewness for each variable, and to identify outliers. While some variables were slightly skewed, these variables tended to be naturally infrequent and therefore

would typically not be normally distributed. Consequently, it was elected not to transform them. Intercorrelations were used to explore the relations between mother and child coded variables (Table 3). Separate hierarchical multiple regressions were conducted for mother and child variables in order to address the specific research questions and to examine each partner's unique communication behaviours. The selection of predictor variables was guided by the research questions as well as the need to maximize statistical power. Predictors were limited to 1 per 10 participants, as recommended by Tabachnick and Fidell (2001). For the research questions involving aggression and withdrawal, the power of the analyses was maximized by treating mothers' childhood aggression and withdrawal scores as dimensions, consistent with previous research on the Concordia Project (e.g., Grunzeweig et al., 2009; Serbin et al., 1998; Stack et al., 2012).

In general, the predictor variables were entered into the hierarchical regression analyses following a chronological sequence; maternal childhood Aggression and Social Withdrawal were entered first, followed by maternal and child demographic variables (e.g., mothers' years of education, children's age and sex). Child age and sex and maternal education were included in order to control for the effects of these variables. Next, the appropriate observational coding variables were entered (when relevant). Finally, previous research from the Concordia Project has indicated that the presence of both childhood aggression and social withdrawal together may be more strongly predictive of outcomes than aggression or withdrawal alone (Serbin et al., 2004; Serbin et al., 1998). Therefore, an interaction term that was the cross-product of participants' scores of Aggression and Social Withdrawal was entered in the final step (when relevant), so that the influence of the main effects (i.e., aggression and withdrawal) could be considered first (Cohen & Cohen, 1983). Significant results ($p < .05$) that were relevant to the

research hypotheses are presented in the sections below. Results trending toward significance (p <. 10) were reported only if the results were central to this study or consistent with the hypotheses. All statistical analyses were conducted using the Statistical Package for the Social Sciences (IBM SPSS 20 for Mac, 2013).

Objective 1: Understanding mother and child communication variables

Objective 1 of this study was to gain a better understanding of mother-child communication within the conflict task. The section that follows is descriptive in nature, and illustrates general trends in the frequency of mother and child communication behaviours, not significant variance between variables. Table 3 contains the mean proportion of the frequency of the intervals each communication variables was used by mothers and children in the present study. Mothers and children had a higher frequency of intervals where they used social communication compared to emotion or logistic communication. Emotion communication was used the least. In general, mothers used more communication themes than children. With respect to communication functions, mothers and children used more direct functions of communication compared to indirect functions. Mothers used more direct functions than their children, while children used more indirect functions than mothers. In terms of communication tone, mothers and children used neutral communication the most, and positive and negative communication less frequently; suggesting that the majority of parent-child communication observed in the current study did not contain positive or negative affect. Moreover, mothers and their children used more conversation orientation compared to conformity orientation. Finally, mothers used more conversation orientation than children, while children used more conformity orientation than their mothers.

The relationship between mother and child communication variables was further examined. It was hypothesized that each mother communication behaviour would be positively related to the same child communication behaviour. Significant intercorrelations among mother and child communication variables are provided in Table 4. In general, mother and child communication variables were significantly positively related to one another.

O*bjective 2: Maternal childhood risk, mother and child communication, and psychosocial functioning*

Objective 2 of this study was designed to examine whether communication behaviours during mother-child interactions were predicted by mothers' histories of childhood aggression and social withdrawal. Objective 2 also examined the associations between mother and child communication and children's current social competence and problem behaviour. Separate analyses examined the contributions of maternal histories of aggression and social withdrawal to mother, as well as, to child communication behaviours. Separate analyses were also conducted to examine the associations of mother and child communication to children's social competence. It was hypothesized that maternal risk status would predict mother and child communication theme (logistic), function (indirect), tone (negative, neutral), and orientation (conformity) in middle-childhood and that mother-child communication theme (social, emotional), function (direct), tone (positive), and orientation (conversation) would be positively related to children's social competence and behaviour problems.

Maternal Histories of Risk

Communication Themes. Mothers' childhood histories of risk were examined as predictors of children's use of emotion related communication (Table 5; R^2 =12.1 %, R^2_{adj} = 4.2 %). At Step 2, mothers' histories of Aggression (sr^2 = 3.9%; β = -.21) and maternal Education

(sr^2 = 4.7%; β = -.22) emerged as trends. At Step 3, maternal Education was no longer a trend. After controlling for maternal Education, at Step 4, mothers' histories of Aggression became significant (sr^2 = 6.3%; β = -.28). Mothers with histories of Aggression had children who used less emotion related communication.

Communication Functions. Mothers' childhood histories of risk were examined as predictors of mothers' use of indirect communication (Table 6; R^2 =13.4 %, R^2_{adj} = 7.1 %). At Step 2, maternal Education emerged as significant (sr^2 = 5.5%; β = .24), however, it was no longer significant at Step 3. At Step 3, Child Age (sr^2 = 6.9 %; β = -.28) emerged as significant. Mothers were more likely to use indirect communication when their children were younger.

Mothers' childhood histories of risk were examined as predictors of *children's* use of indirect communication (Table 7; R^2 =20.8 %, R^2_{adj} = 13.7 %). At Step 2, maternal Education emerged as significant (sr^2 = 11.2%; β = .35). At Step 3, Child Age (sr^2 = 8.8 %; β = -.32) emerged as significant. Children were more likely to use indirect communication when their mothers had more education and if they themselves were younger.

Communication Tone. Mothers' childhood histories of risk were examined as predictors of mothers' negative communication tone (Table 8; R^2 =26.1 %, R^2_{adj} = 19.5 %). At Step 1, mothers' histories of Aggression emerged as significant (sr^2 = 9 %; β = .31). Mothers with childhood histories of Aggression used more negative communication tone. At Step 2, maternal Education emerged as significant (sr^2 = 9.7 %; β = -.32). Mothers with more education had children who used less negative communication.

Mothers' childhood histories of risk were also examined as predictors of mothers' positive communication tone (Table 9; R^2 =13 %, R^2_{adj} = 5.2 %). At Step 2, maternal Education

emerged as significant (sr^2 = 7.1 %; β = .28). Mothers with more education had children who used more positive communication.

Communication Orientation. Mothers' childhood histories of risk were examined as predictors of mothers' communication conformity orientation (Table 10; R^2 = 12.2 %, R^2_{adj} = 4.3 %). At Step 2, maternal Education emerged as significant (sr^2 = 5.7 %; β = -.25). Mothers with more education used less conformity orientation.

Mothers' childhood histories of risk were also examined as predictors of *children's* communication conformity orientation (Table 11; R^2 = 8.9 %, R^2_{adj} = 2.2 %). At Step 1, mothers' histories of aggression emerged as significant (sr^2 = 6.0 %; β = .25), however, at Step 2, it became a trend. Mothers with childhood histories of aggression had children who tended to use more conformity orientation.

Psychosocial Behaviours

Communication Themes. Children's logistic communication in the conflict task was examined as a predictor of children's behaviour problems (Table 12; R^2 = 20.3 %, R^2_{adj} = 13.2 %). At Step 2, maternal Education emerged as significant (sr^2 = 8.5 %; β = -.30). Mothers with more education had children with fewer reported behaviour problems. At Step 4 children's logistic communication emerged as significant (sr^2 = 7.0 %; β = -.27). Children who used more logistic communication had fewer behaviour problems, as reported by their mothers.

Communication Tone. Mothers' negative communication in the conflict task was also examined as a predictor of children's behaviour problems (Table 13; R^2 = 23.6 %, R^2_{adj} = 16.8 %). At Step 2, maternal Education emerged as significant (sr^2 = 8.5%; β = -.30). Mothers with more education had children with fewer reported behaviour problems. At Step 4, Mothers' negative communication emerged as significant (sr^2 = 10.3 %; β = .37). Mothers who used more

negative communication had children with more behaviour problems, as reported by their mothers.

Children's positive communication in the conflict task was examined as a predictor of their behaviour problems (Table 14; R^2 = 17.2 %, R^2_{adj} = 9.8 %). At Step 2, maternal Education emerged as significant (sr^2 = 8.5%; β = -.30). Mothers with more education had children with fewer reported behaviour problems. At Step 4, Children's positive communication (sr^2 = 3.7 %; β = -.20) emerged as a trend. Children who used more positive communication tended to have fewer behaviour problems as reported by their mothers.

Children's negative communication in the conflict task was examined as a predictor of their behaviour problems (Table 15; R^2 = 18.4 %, R^2_{adj} = 11.1 %). At Step 2, maternal Education emerged as significant (sr^2 = 8.5%; β = -.30). Mothers with more education had children with fewer reported behaviour problems. At Step 4, Children's negative communication emerged as significant (sr^2 = 5.1 %; β = .24). Children who used more negative communication had greater behaviour problems, as reported by their mothers.

Social Acceptance

Communication Functions. Children's direct communication in the conflict task was examined as a predictor of children's social acceptance (Table 16; R^2 = 8.9 %, R^2_{adj} = 0.6 %). At Step 4 children's direct communication emerged as a trend (sr^2 = 4.4 %; β = .23). Children who used more direct communication tended to have more self-reported social acceptance.

Communication Tone. Mothers' negative communication in the conflict task was also examined as a predictor of children's social acceptance (Table 17; R^2 = 9.8 %, R^2_{adj} = 1.7 %). At Step 4, Child Sex emerged as a trend (sr^2 = 4.6 %; β = -.22) and mothers' negative communication emerged as significant (sr^2 = 5.4 %; β = - .27). Children were more likely to have

greater social acceptance if their mothers used less negative communication or if they were younger.

Objective 3: Predicting children's peer relationships in young adulthood

Objective 3 was designed to examine longitudinal predictors of peer relationships. Specifically, the goal was to examine the associations between social competence in childhood (time 1) and friendships in young adulthood (time 2) and to examine how mother-child communication during childhood (time 1) was predictive of children's friendships (time 2). Separate analyses examined the prediction of mother and child communication behaviours on children's supportive friendships and negative friendship quality with same-sex friends. It was hypothesized that mother and child communication themes, functions, tone, and orientation in middle-childhood would predict the quality of children's friendships in young adulthood. Furthermore, it was expected that better social competence in childhood would be related to supportive friendships in young adulthood.

Communication Tone. Longitudinal predictions examined mothers' positive communication in the conflict task as a predictor of children's same-sex friendships quality (Table 18; R^2 = 17.0 %, R^2_{adj} = 8.2 %). At Step 2, Mothers' positive communication emerged as a trend (sr^2 = 16.9 %; β = .43). Mothers who used more positive communication had children with more supportive same-sex friendships in young adulthood.

Mothers' neutral communication in the conflict task was also examined as a longitudinal predictor of children's same-sex peer relationship quality (Table 19; R^2 = 13.6 %, R^2_{adj} = 5.8 %). At Step 2, mothers' neutral communication emerged as a trend (sr^2 = 13.4 %; β = .37). Mothers who used more neutral communication had children with more negative same-sex friendships in young adulthood.

Children's negative communication was also examined as a longitudinal predictor of their same-sex peer relationship quality (Table 20; R^2 = 15.7 %, R^2_{adj} = 6.8 %). At Step 2, children's negative communication emerged as a trend (sr^2 = 15.7 %; β = -.40). Children who used more negative communication had less supportive same-sex friendships in young adulthood.

Social competence and relationships

Intercorrelations revealed that one aspect of social competence, behaviour problems, was significantly negatively related to supportive same-sex (-.49*, $p < .05$) friendships. Increased behaviour problems in childhood were related to less supportive friendships in young adulthood.

In summary, Study 1 was designed to examine the associations between mother-child communication in childhood and: (1) mothers' childhood histories of risk, (2) social competence in childhood, and (3) friendship quality in young adulthood. Results indicated that: (1) although mothers generally used more communication behaviours than children, mother and child behaviours were positively related; (2) maternal risk factors (i.e., education, childhood histories of aggression and withdrawal) predicted mother and child communication quality in childhood and communication was associated with better social competence in children; and (3) mother and child communication themes, functions, and tone were predictive of friendship quality, in different ways, in young adulthood.

Study 2

Study 2 was designed to replicate and extend Study 1 by investigating links between communication in mother-child dyads and social relationships in adolescents in another sample of the Concordia Project. By doing so, some of the limitations in Study 1 were addressed. Study 2 employed a larger sample at Time 2 in order to investigate longitudinal associations between

mother-child communication and social competence and peer relationships. In addition, in Study 2, social competence was defined as a broad adaptive construct reflecting multiple components of social functioning (i.e., social skills (SSRS; Gresham & Elliott, 1990), psychosocial behaviours (YSR; Achenbach, 1991), self-esteem (SPPA; Harter, 1988), and social satisfaction (Illinois Loneliness and Social Dissatisfaction Questionnaire; Asher, Hymel, & Renshaw, 1984)), thereby extending our understanding of the associations between social functioning and communication.

While the results from Study 1 suggest that mother-child communication is important to child development, less is known about the stability of communication behaviours across interaction contexts. Study 2 extended the observational methods used to assess mother-child communication to a cooperative game-playing task, in addition to a conflict task. By integrating a cooperative task, which is more positive in nature, the potential impact of the type of task on communication behaviours can be better understood. For example, if the conflictual nature of the conflict task leads to the use of more negative communication tone by mothers and children, then a positive task should yield the use of more positive communication tone. If communication behaviours are associated across the interactions tasks, then an argument can be made for stability of communication across contexts.

Moreover, mother-child communication has been found to be associated with social competence (behaviour problems and social acceptance; Study 1). However, social competence is multifaceted; consequently, an examination of multiple components of social functioning is needed to more deeply understand how mother-child communication is related to children's social competence. During adolescence, humans begin to internalize their own identity by integrating self- and others-perceptions (Erikson, 1968). Thus, social competence includes not

only external indices such as social skills and behaviour problems, but also internalized perceptions such as social satisfaction and self-esteem.

Examining multiple facets of social competence will contribute to a more comprehensive understanding of adaptive relationships. However, consistent with the developmental psychopathology framework, which postulates that the mechanisms of dysfunctional as well as functional behavior need to be examined in order to best understand the pathways to adaptive and maladaptive developmental outcomes (Cicchetti & Toth, 2009; Kim & Cicchetti, 2010), it is essential to investigate how relationships go awry. Maladaptive relationships are associated with an elevated risk for serious adjustment difficulties later in life (Creasey et al., 1998; Dirks et al., 2007). Study 1 did not examine the associations between mother-child communication and maladaptive peer relationships, for example, bullying, and their distinct contribution to the socialization process. Investigating bullying in an at-risk sample of children and mothers with childhood histories of aggression and social withdrawal contributes to understanding the transfer of risk across generations, in at-risk families where the likelihood of negative outcomes is high.

Finally, Study 1 investigated one sub-sample of mothers who were among the original participants of the Concordia Project and their children. By investigating another sub-sample of original mothers from the Concordia project in Study 2, we increased the breadth of our understanding pertaining to the association between communication and social relationships in at-risk families. Furthermore, the age range of the children in Study 1 spanned the childhood period (5-12 years of age). Although it is an important developmental period, Study 2 was designed to include a narrower age range, namely, middle childhood (9-12 years of age); a developmental period where children transition from childhood into adolescence, which has been

largely neglected in the literature. By examining this period, Study 2 specifically contributed to the paucity of research on this group of children.

Study 2 was comprised of three objectives; the first objective was to examine the relationships between mother and child communication behaviours during naturalistic mother-child interactions across two contexts (a game-playing and conflict task). As in Study 1, it was expected that mother and child behaviours would be positively related. In addition, given that communication has been found to be a relatively stable behaviour (Loeber, et al., 2000), it was expected that mother and child communication in the game-playing task would generally be associated with that shown in the conflict task, with some variation in context-specific behaviours. For example, given the nature of the interaction tasks, it was expected that mother-child dyads would display more positive communication tone in the game-playing task.

The second objective focused on examining the intergenerational transfer of risk through parenting behaviours (communication) in order to replicate findings from Study 1. Specifically, the associations between mothers' childhood histories of risk and mother- child communication behaviours (measured in middle childhood) were examined. As in Study 1, it was hypothesized that mothers' childhood histories of aggression and social withdrawal would contribute to the prediction of mother and child communication behaviours (more logistic themed, negative, indirect, and conformity-based communication).

The third objective extended the measures of social competence and peer relationship outcomes that were used in Study 1. It was designed to examine how mother and child communication variables in middle-childhood were predictive of a) children's social competence (social skills, psychosocial behaviours, self-esteem, and social satisfaction) in adolescence/young adulthood, and b) maladaptive relationships (bullying behaviour) in young adulthood. It was

hypothesized that some aspects of communication behaviours (theme: social and emotional; tone: positive; function: direct; orientation: conversation) would positively predict children's social competence, and decrease their likelihood of taking part in bullying behaviour (e.g. being a bully, bystander, or victim).

Method

Participants

Current Sample

The participants in Study 2 of the present study represent a second subsample of the Concordia Project. These participants took part in a separate wave of testing from that which took place in Study 1. The selection criteria were based on women whose biological children were between the ages of 9 and 13 years (middle childhood) and still living with their mother at the time of recruitment. Of the 175 families that met these criteria and were first seen during the preschool period, 56 of the original 175 refused to participate at this time point, and 32 were spouses of original male participants and thus not included in the current study, as they were not the parent with childhood histories of aggression and/or social withdrawal. In addition, 17 only completed part of the data collection (e.g. questionnaire measures) and 6 were excluded due to technical difficulties with the videotaped interactions. Therefore, data for 64 mother-child dyads were available for the present study. Children (n = 64; 25 males, 39 females) were 9- to 13-years-old when they participated at the first time point in the current study.

In order to verify the representativeness of the subsample, it was important to compare these participants to those in the larger sample of participants from the Concordia Project from which they were drawn (participants whose data was obtained around the time of testing but did not meet the inclusion criteria for the current study; n= 250; refer to Table 21). These mothers

were compared along dimensions of aggression and withdrawal, as well as education, occupational prestige, and age at birth of first child. Z scores revealed no significant differences on these variables.

The sample in the current study was also compared to the sample of participants from Study 1 of the current study. Z scores indicated that mothers in the current sample (Study 2) were older when they gave birth to their first child, completed more education, and had a higher occupational prestige rating compared to the participants in Study 1 (Table 22). Based on these demographic characteristics, the two samples can be considered distinct and at different levels of risk; participants in Study 1 were at greater risk for negative psychosocial outcomes compared to participants in Study 2.

Including a second time point in the current study allowed for longitudinal predictions of children's outcomes. At Time 2, forty mothers and their 14-20 year-old children (10 males, 30 females) who had previously participated at Time 1 took part in the study. These participants' demographic characteristics were compared to those participants who completed the study at Time 1 but not at Time 2 (n=24). Mothers were compared along dimensions of aggression and withdrawal, as well as education received, occupational prestige, and age at birth of first child. Z scores revealed a significant difference between mothers' level of education; mothers who participated at Time 2 had higher levels of education.

Procedure

At Time 1 mothers and children were visited at home by a graduate-student level experimenter and a research assistant, both of whom were blind to mothers' childhood risk status. Mothers gave written informed consent (Appendix F), completed interviews and a battery

of questionnaires (assessing family demographics as well as children's development and adjustment), and participated in mother-child interactions.

At Time 2, after obtaining verbal consent, questionnaire packages (assessing development and adjustment) were sent to mothers and their adolescents. Upon completing the research protocol (questionnaires, written consent; Appendix G), they were compensated for their participation. All of the data collection was conducted in French.

Middle Childhood Interactions

The mother-child interactions at middle childhood included a game-playing task and a conflict task, which were videotaped at home while the research staff waited in a separate room. For the 4-minute game-playing task, the dyad was asked to play Jenga (a strategic block game whereby participants remove blocks one at a time from a previously assembled tower, and replace the blocks on top of the tower without letting it collapse). Most dyads used the allotted 4 minutes to engage in the game (mean length of task = 3.59 minutes, however, 1 dyad completed their game before the allotted time was up (completed after 2.45 minutes); in this case, the task was terminated. The 6-minute conflict task comprised a discussion about topics specifically selected according to the participants' individual ratings on the *Conflict Questionnaire*, which was completed prior to the interactions (Appendices B and C). The *Conflict Questionnaire* requires parents and children to rate (separately) the degree to which the dyad is in conflict over 14 common age-appropriate issues (e.g., chores, homework, getting along with siblings). The issue rated most problematic by both mother and child was selected for discussion. Dyads were instructed to discuss the selected topic together for 6 minutes. It was explained that it was important that both partners participated in the discussion. The experimenter then left the room and returned once the discussion elapsed. Most dyads used the allotted 6 minutes to discuss the

conflict (mean length of task= 5.43 minutes, range=3.15-6 minutes), however, some dyads completed their discussion before the allotted time was up and were given another topic of contention to discuss. Throughout both tasks, mothers and children remained seated at a table.

Measures

Demographics

At both time points, mothers completed the *Demographic Information Questionnaire* (DIQ; also used in Study 1), in order to gather demographic information about the participating families. See Study 1 for a further description. In addition, the *Prestige Measure* (Rossi, Sampson, Bose, Jaso, & Pasel, 1974) was used to measure the family's occupational status, as in Study 1. The types of jobs corresponding to the mean scores of the subsample in Study 2 of the current study include: mechanic and repairmen, textile operatives (e.g. motormen), food service workers (e.g. cooks), and health aids.

Observational Coding Measures at Time 1

A time line indicating hours, minutes, seconds, and milliseconds was edited onto the videotapes of the mother-child interactions. The start and stop times for each interaction were recorded in order to calculate the exact duration of the session in minutes and seconds. Mother-child interactions during the game-playing and conflict task were subsequently coded using the Communication Coding Scheme (CCS).

Mother-Child Communication. The CCS (Barrieau & Stack, 2011) was used as an observational coding measure of mothers' and children's communication quality. A detailed description of the measure was provided in Study 1. In order to assess inter-rater reliability, 30% of the mother-child dyads were randomly selected and double-coded. An undergraduate research assistant, who was blind to the study's hypotheses as well as mothers' childhood risk status,

acted as a secondary coder. Intraclass correlation coefficients (ICC), a well validated measure of assessing reliability (Shrout & Fleiss, 1979), were calculated in order to assess the CCS codes. The reliability values were as follows: 1) Communication theme: Emotion (Jenga: Mother: 0.84, Child: 0.75, Conflict: Mother: 0.70, Child: 0.88), Social (Jenga: Mother: 0.86, Child: 0.79, Conflict: Mother: 0.81, Child: 0.79), Logistic (Jenga: Mother: 0.70, Child: 0.70, Conflict: Mother: 0.71, Child: 0.70); 2) Communication Functions: direct (Jenga: Mother: 0.73, Child: 0.78, Conflict: Mother: 0.83, Child: 0.76), Indirect (Jenga: Mother: 0.72, Child: 0.69, Conflict: Mother: 0.72, Child: 0.80); 3) Communication Tone: Positive (Jenga: Mother: 0.86, Child: 0.82, Conflict: Mother: 0.77, Child: 0.70), Negative (Jenga: Mother: 0.98, Child: 0.96, Conflict: Mother: 0.92, Child: 0.82), Neutral (Jenga: Mother: 0.83, Child: 0.70, Conflict: Mother: 0.79, Child: 0.75); 4) Communication Orientation: Conversation (Jenga: Mother: 0.85, Child: 0.84, Conflict: Mother: 0.95, Child: 0.76), Conformity (Jenga: Mother: 0.78, Child: 0.70, Conflict: Mother: 0.94, Child: 0.70). The values obtained are generally considered 'good' to 'excellent'; above 0.70 is considered reliable, above 0.75 is good, and above 0.90 is excellent (Shrout & Fleiss, 1979; Bliese, 1998). Following the completion of coding, the observational data were converted into analyzable variables (see Study 1).

Social Competence Measures at Time 2

In this study, social competence was defined as a broad adaptive construct reflecting multiple components of social functioning (i.e., social skills, psychosocial behaviours, self-esteem, and social satisfaction).

Social skills. At Time 2, adolescents completed the 34-item self-report form of the *Social Skills Rating System* (SSRS, Gresham & Elliott, 1990), which assesses prosocial behaviours (e.g. cooperation, responsibility, assertion). The Total scale, with higher scores reflecting better social

skills, was employed in the analyses. The SSRS has acceptable internal consistency and reliability (cronbach alpha (α) = .86; Diperna & Volpe, 2005).

Psychosocial Behaviour. Adolescents completed the Youth Self-Report (YSR; Achenbach, 1991), which is part of the Achenbach System of Empirically Based Assessments (ASEBA) and is a widely used and well-validated instrument. The YSR is a 112-item self-report measure of behavioural and emotional problems in children completed. The Total behaviour problem scale score, with higher scores reflecting greater behaviour problems, was used in analyses. Evidence for satisfactory test-retest reliability, as well as content, construct, and criterion-related validity has been demonstrated (cronbach alpha (α) = .78-.97; Achenbach, 1991; Achenbach & Rescorla, 2001).

Self-esteem. Adolescents completed the Self-Perception Profile for Adolescents (SPPA; Harter, 1988). This instrument includes 45 items that tap eight specific self-concept domains important in adolescence. Of particular relevance for this study was the subscale tapping Global Self-Worth (or self-esteem; α =.80). The SPPA is a widely used, well-validated and reliable instrument (see Harter, 2012; Muris, Meesters, & Fijen, 2003).

Social satisfaction. Adolescents were administered the 24-item self-report Illinois Loneliness and Social Dissatisfaction Questionnaire (Asher, Hymel, & Renshaw, 1984), which assesses self-perception of loneliness and dissatisfaction with peer relationships (e.g. I have nobody to talk to). On a 5-point likert scale, the statements are rated as always true (1) to not true at all (5). The overall score, with higher scores reflecting greater loneliness and social dissatisfaction, was employed in the analyses. The overall score has acceptable internal consistency and reliability (α = .79; Cassidy & Asher, 1992).

Maladaptive Relationships

Bullying Behaviour. Adolescents were administered The Canadian Public Health Association (CPHA) Safe School Survey (Totten et al., 2004), which provides a standard measurement of the prevalence of bully-victim problems (physical, verbal, social, and electronic) in Canada. An adapted version of The Safe School Survey was translated into French and used in the current project and contained 54 items. For purposes of the current study, we were particularly interested in 16 items, all of which used a likert type scale for responses to questions including: Do you take part in: a) physically bullying other students at school? b) verbally bullying other students at school by insults, put-downs, or threats? c) socially bullying others at school by leaving them out, starting rumours, or by making them look bad? d) bullying others by using the internet, e-mail, phone, or cellular phone text messages? Other questions of interest measured being a victim and/or a bystander. The Safe School Survey is used as a measure of bullying in the literature (e.g., Connolly & Friedlander, 2009; Connolly & Josephson, 2007).

Results

The approach to statistical analyses is the same as that described in Study 1.

Objective 1: Understanding mother and child communication variables.

Objective 1 of this study was to obtain a better understanding of which mother and child communication behaviours occur, and how frequently, across different interaction contexts. The results are descriptive in nature, and describe general trends in the frequency of mother and child communication behaviours. Table 23 contains the mean proportion of intervals in which each communication variable was used by mothers and children in the present study. Mothers and children had a higher frequency of intervals where they used social communication compared to emotion or logistic communication in the Game-playing and Conflict tasks; emotion communication was used the least. In general, mothers and children had higher frequencies of

intervals of emotion and social communication in the Conflict than in the Game-playing task. However, mothers and children used more logistic communication in the Game-playing task. Regardless of the task, mothers generally had a higher frequency of intervals of emotion, social, and logistic communication than their children. Closer examination also revealed that across both interactions, mothers and children used more direct functions of communication compared to indirect functions. Mothers generally had a higher frequency of intervals for communication functions (direct and indirect) than children, however both mothers and children used more indirect functions in the game-playing than in the conflict task and used more direct functions in the conflict task. With respect to communication tone, mothers' and children's frequency of intervals for tone were similar. In addition, in the game-playing task, negative communication occurred the least for mothers and children, while positive communication occurred the most. In the conflict task, neutral communication occurred the most, while positive and negative communication occurred less frequently. A similar pattern was found for communication orientation. Mothers and children used more conversation orientation compared to conformity orientation. However, mothers used more conversation orientation than children, while children used slightly more conformity than their mothers. Furthermore, mothers and children used more conversation orientation in the Conflict task than in the game-playing task, but used more conformity orientation in the game-playing task than in the conflict task.

The relationship between mother and child communication variables was also examined. It was hypothesized that each mother communication behaviour would be positively related to the same child communication behaviour. Significant intercorrelations among mother and child communication variables are provided in Tables 24 and 25. In general, mother and child communication variables were positively related to one another in both tasks. In addition, mother

and child variables were related across tasks (Table 26 and 27). For example, mother's social communication in the Jenga task was related to her use of social communication in the Conflict task. Similarly mother's orientation and positive and neutral tone were related across tasks. This was also true for child behaviours. Intercorrelations revealed that social communication, orientation, and tone, were related across tasks. However, communication functions did not appear to be stable across tasks. For both mother and child variables, functions of communication were not related in the Jenga and Conflict task.

Objective 2: Maternal childhood risk predicting mother and child communication

The second objective of this study was to examine how communication behaviours during mother-child interactions were uniquely predicted by mothers' histories of childhood aggression and social withdrawal. In order to address the second objective and address the specific research questions, mother and child communication variables were examined separately. Significant results ($p < .05$) that were relevant to the research hypotheses are presented in the sections below. Results trending toward significance ($p <. 10$) were reported only if the results were central to this study or consistent with the hypotheses. If the interaction between aggression and withdrawal was significant, simple slope analyses were used to identify the source of the interaction.

Communication Themes. Mothers' childhood histories of risk were examined as predictors of mothers' use of social communication (Table 28; R^2 =23.3 %, R^2_{adj} = 15 %). At Step 1, mothers' histories of Social Withdrawal emerged as a trend (sr^2 = 1.2%; β = .01), however, it was no longer a trend at Step 2. At Step 4, the Aggression X Withdrawal interaction term emerged as significant (sr^2 = 17.6%; β = -.51). Follow up simple slope analyses showed that when mothers were high on Social Withdrawal, Aggression decreased the likelihood of their use

of social communication (Figure 1; Gradient of simple slope = 0.42, $t = 2.00$, $p < .05$), and when mothers were low on Social Withdrawal, Aggression increased the likelihood of their use of social communication (Figure 1; Gradient of simple slope = -0.30, $t = -2.72$, $p < .01$).

Mothers' childhood histories of risk were examined as predictors of *childrens'* use of emotion related communication (Table 29; R^2 =16.1 %, R^2_{adj} = 6.9 %). At Step 1, mothers' histories of Social Withdrawal emerged as significant (sr^2 = 13.2%; β = -.36). Mothers with histories of Social Withdrawal had children who used less emotion related communication in the Conflict task.

Mothers' childhood histories of risk were also examined as predictors of *childrens'* use of social communication (Table 30; R^2 =26.1 %, R^2_{adj} = 18.1 %). At Step 1, mothers' histories of Aggression emerged as significant (sr^2 = 10.7%; β = -.33); however, it was no longer significant at Step 4. At Step 4, Child Sex (sr^2 = 5.57%; β = .26) emerged as significant. Girls were more likely to use social communication. The Aggression X Withdrawal interaction term (sr^2 = 17.6%; β = -.51) also emerged as significant. Mothers with higher levels of childhood histories of aggression *and* social withdrawal had children who displayed the least amount of social communication in the Conflict task (Figure 2; Gradient of simple slope = -0.38, $t = -3.33$, $p < .05$). When mothers were high on Social Withdrawal, Aggression decreased the likelihood of children's use of social communication, but when mothers were low on Social Withdrawal, Aggression was not significantly related to children's use of social communication.

Communication Functions. Mothers' childhood histories of risk were examined as predictors of mothers' use of direct communication (Table 31; R^2 =14.5 %, R^2_{adj} = 5.2 %). At Step 4 the Aggression X Withdrawal interaction term (sr^2 = 9.9%; β = -.38) emerged as significant. As illustrated in Figure 3, when mothers were high on Social Withdrawal,

Aggression decreased their use of direct communication functions (Figure 3; Gradient of simple slope = 0.50, $t = 2.31$, $p < .05$), whereas when mothers were low on social withdrawal, aggression was not significantly related to their use of direct communication functions.

Mothers' childhood histories of risk were examined as predictors of mothers' use of indirect communication (Table 32; R^2 =38.3 %, R^2_{adj} = 31.7 %). At Step 2, maternal education (sr^2 = 30.7%; β = -.60) emerged as significant. More educated mothers used fewer indirect communication functions in the Conflict task.

Mothers' childhood histories of risk were examined as predictors of *children's* use of indirect communication (Table 33; R^2 =28.7 %, R^2_{adj} = 21.0 %). At Step 2, maternal education (sr^2 = 14.1%; β = -.41) emerged as significant. Children were less likely to use indirect functions when their mothers had more education. At Step 3, Child Age (sr^2 = 5.0 %, β = -.25) and Sex (sr^2= 8.2%, β = -.31) emerged as significant. Children were more likely to use indirect communication in the Conflict task if they were younger or if they were boys.

Communication Tone. Mothers' childhood histories of risk were examined as predictors of mothers' negative communication tone (Table 34; R^2 =19.5 %, R^2_{adj} = 10.7 %). At Step 3, Child Age (sr^2 = 8.8 %, β = .33) emerged as significant. Mothers were more likely to use negative communication if their children were younger. At Step 4, Maternal Aggression (sr^2 = 4.4 %, β = .26) emerged as a trend and Child Age remained significant. Mothers with childhood histories of Aggression tended to use more negative communication tone during the conflict task.

Mothers' childhood histories of risk were examined as predictors of childrens' positive communication tone (Table 35; R^2 =14.0 %, R^2_{adj} = 4.7 %). At Step 4, Maternal Social Withdrawal (sr^2 = 4.5 %, β = -.25) emerged as a trend. Mothers with childhood histories of social withdrawal had children who used less positive communication tone in the conflict task.

Objective 3: Predicting children's social outcomes in adolescence

Objective 3 of this study was to examine how communication behaviours during mother-child interactions were predictive of children's social competence and maladaptive relationships with peers (measured via bullying behaviour).

In order to reduce the number of hierarchical regression analyses, and maximize power, a factor analysis was conducted in order to create scores reflecting children's social competencies and problems. A principal components factor analysis with Oblimin rotation (using eigenvalues greater than 1 criterion) was conducted on the following social competence measures: SSRS Total score (self-report), YSR total problems score (self-report), SPPA global self-worth (self-report), and the Illinois Loneliness and Social Dissatisfaction score (self-report). One factor was retained; with an Eigenvalue of 2.07, it explained 51.67% of the total variance and was labeled Poor Social Competence. The factor loadings were: -.56, .71, -.77, .81, respectively.

A second principal components factor analysis with an Oblimin rotation (using eigenvalues greater than 1 criterion) was conducted on the following questions examining bullying behaviour: Total score of being a bully (child- report), total score of witnessing bullying (child-report), total score of was not bullied (child report). One factor was retained; with an Eigenvalue of 1.91, it explained 63.56% of the total variance and was labeled Involved with Bullying Behaviour (i.e., was either bullied, witnessed bullying, or was the bully). The factor loadings were: .83, .82, -.75, respectively.

Using the factor scores as criterion measures, separate analyses examined the prediction of mother and child communication behaviours to childrens' social outcomes: (1) social competence (social skills, psychosocial behaviours, self-esteem, and loneliness and social dissatisfaction), and (2) bullying behavior.

Social Competence

Communication Themes. Mothers' social related communication in the Jenga task was examined as a predictor of children's perceived social competence (Table 36; R^2 =19.9 %, R^2_{adj} = 12.6 %). At Step 2, Mothers' social related communication (sr^2 = 11.5 %, β = -.34) emerged as significant. Mothers who used more social related communication had children with higher perceived social competence.

Children's social related communication in the Jenga task was examined as a predictor of children's perceived social competence (Table 37; R^2 =20.1 %, R^2_{adj} = 12.8 %). At Step 2, Children's social related communication (sr^2 = 11.6 %, β = -.35) emerged as significant. Children who used more social related communication had higher perceived social competence.

Children's logistic related communication in the Jenga task was examined as a predictor of children's perceived social competence (Table 38; R^2 =24.5 %, R^2_{adj} = 17.6 %). At Step 2, children's logistic related communication (sr^2 = 16.0 %, β = .40) emerged as significant. Children who used more logistic related communication had lower perceived social competence.

Communication Functions. Mothers' indirect communication functions in the Conflict task were examined as a predictor of children's perceived social competence (Table 39; R^2 =33 %, R^2_{adj} = 26.9 %). At Step 2, Mothers' indirect communication (sr^2 = 24.6 %, β = .51) emerged as significant. Mothers who used more indirect communication had children with lower perceived social competence.

Involvement with Bullying

Communication Themes. Mothers' emotion related communication in the Conflict task was examined as a predictor of children's involvement with bullying (Table 40; R^2 =13.3 %, R^2_{adj} = 5.4 %). At Step 2, Mother's emotion related communication (sr^2 = 10 %, β = -.33)

emerged as a trend. Mothers who used more emotion related communication had children with fewer reports of being involved with bullying.

Communication Functions. Mothers' direct communication functions in the Conflict task were examined as predictors of children's involvement with bullying (Table 41; R^2 =13.8 %, R^2_{adj} = 5.9 %). At Step 2, mothers' direct communication (sr^2 = 10.6 %, β = -.38) emerged as a trend. Mothers who used direct communication in the Conflict task were less likely to have children who reported being involved with bullying.

In summary, (1) mother and child communication behaviours remained generally consistent across different interaction tasks, (2) maternal histories of aggression and social withdrawal predicted mother and child communication quality in middle childhood, and (3) mother and child communication themes, functions, and tone were predictive of social competence in adolescence; communication themes and function were also predictive of involvement with bullying behaviour in adolescence. Results suggest that there are negative longitudinal associations between childhood histories of risk and mother-child communication. Furthermore, mother and child communication is associated with concurrent and longitudinal measures of social functioning. Results increase our understanding of parent-child interactions and social development.

Discussion

The current series of two studies was designed to examine the associations between mother-child communication in childhood, and: (1) mothers' childhood histories of psychosocial risk, (2) children's social competence, and (3) children's peer relationships. Consistent with the hypotheses, results revealed that mother-child communication themes, functions, tone, and orientation in childhood were predicted by maternal risk factors (i.e., education, childhood

histories of aggression and withdrawal). Moreover, communication themes, functions, and tone in mother- child interactions predicted children's social acceptance and behavior problems in childhood. Finally, communication tone in childhood predicted the quality of their friendships in young adulthood, while communication themes and functions predicted some measures of social competence and bullying behaviour in adolescence and young adulthood. By using two different subsamples of mother-child dyads across two interaction contexts (game-playing and conflict) with various measures of social competence (social acceptance, social skills, behaviour problems, self-esteem, and social satisfaction) and relationship types (adaptive: friendships, and maladaptive: bullying), the current series of two studies replicated and extended our knowledge of mother-child communication and socio-emotional functioning across the developmental spectrum.

Mother-Child Communication during Mother-Child Interactions

In Study 1, mothers generally used more communication (themes, functions, tone, and orientation) than children. This is not surprising given that it is developmentally appropriate for children to learn from their parents. Consistent with social learning theory (Patterson, 1982), mothers in the current study may have been serving as models from which their children were learning which may explain why mothers naturally used more communication than their children. Furthermore, as expected, mothers' communication was positively associated with children's communication during their interactions. Although the direction of the effect cannot be determined, when the frequency of mothers' overall use of communication behavior increased, so did children's overall frequency of using the same communication variable. This pattern of behaviours is in line with past research from the Concordia Project whereby children's behaviours in mother-child interactions were largely predicted by mothers' behaviours

(Grunzeweig, et al., 2014). In the current studies, children may have been mirroring their mothers' behaviour, or mothers or children may have been influenced by the behaviour their partners were using.

In addition, conversation orientation occurred more frequently than conformity, however children used more conformity than their mothers. Once again, this finding suggests that children may have been conforming to their parent's lead. Although mothers may influence their children's behaviour given the inherent power differential (verticality) in their relationship, some aspects of the parent-child relationship may become horizontal (having equal rights, cooperative, symmetrical, and fair) as children age (Russel, Petit, & Mize, 1998). Parenting must subsequently adapt as children strive to become more independent (Ng et al., 2004). This adaptation may reflect the transactional and bidirectional views of the parent-child relationship, whereby each partner and their environment influence the relationship.

Regardless of who (mother or child) was communicating, social communication was the most frequently used communication theme, while emotion communication was used least frequently. This is an important distinction given that less exposure to emotion communication (i.e. using emotion words) may impede children's learning about emotions, which subsequently hinders the development of adaptive emotion-processing skills (Pasalich, 2012). Moreover, in Study 1, direct communication functions were used more in comparison to indirect communication. Direct communication included coaching and goal-oriented communication, which seems appropriate given the nature of the conflict discussion task; dyads were instructed to discuss a conflict in their relationship and try to find a resolution to their conflict. Direct communication includes skills that would be essential for conflict resolution (Martin, Stack, Serbin, Schwartzman, & Ledingham, 2012), therefore, for dyads who were engaged in

discussing a conflict (many of whom naturally focused their discussion on finding a resolution), it would be adaptive to use more direct communication functions.

It was also revealed that mothers and children used neutral tone, as opposed to positive and negative tone, most frequently. Although using neutral communication tone may not seem to be maladaptive, the absence of positive and negative qualities of communication may not provide children with opportunities to pay attention to the affective qualities of human interaction (Dunn, Brown, & Beardsall, 1991; see Pasalich et al., 2012). Over time this neutral expression can become maladaptive (see Enns, 2013), and may therefore limit the development of adaptive social interactions and relationships.

Study 2 contributed to our understanding of mother-child communication by examining two different interaction contexts. Although descriptive in nature, when looking at the frequency of communication behaviours, some variability between interaction contexts was noted. For example, mothers and children used more social and emotion-based communication in the conflict task, and more logistic communication in the game-playing task. Logistic communication often included discussion of the task at hand. This finding suggests that during the game-playing task, mother-child dyads communicated mostly about the task itself, which may have included strategies for the game, and game rules. The communication during the game-playing task did not have as much emotional or social content as in the conflict task, where dyads were asked to discuss a topic on which they disagreed. Mothers and children also used positive communication the most in the game-playing task and used neutral communication the most in the conflict task. Thus, although the game-playing task did not yield very much emotion-related conversation, the dyads' communication tone suggested that they interacted positively during the task. Interestingly, although dyads discussed disagreements during the conflict task,

the task was generally not a negative or hostile one, as mothers and children used more neutral than negative tone. Furthermore, dyads used more indirect communication in the game-playing task and more direct communication in the conflict task. Given that the current study defined behaviours that were on-topic and goal-oriented as direct communication, while statements that detracted from the intended discussion topic as indirect communication, mother-child dyads appear to have been using largely adaptive communication behaviours. Finally, mothers and children used more conversation orientation in the conflict task and more conformity orientation in the game-playing task. The nature of the game-playing task may also explain this finding, as there may have been more opportunities for one player to question or comment about the other's game playing decisions, but fewer opportunities may have been taken to discuss or elaborate about these decisions, given the friendly, but somewhat playful, competitive nature of some dyads. An example of conformity included: Mother: 'Why did you put that one there?' Child: 'because'.

The frequency of some communication behaviours, however, did not appear to change as a function of the interaction context. For example, across both tasks, mothers used more communication themes than their children and generally, more direct functions and conversation orientation were used. Notably, across both interaction contexts, no differences were found between mothers' communication behaviours and their children's use of the same communication behaviours. For example, mothers and children both used more positive communication in the game-playing task. In fact, intercorrelations revealed that mothers and children's behaviours were positively correlated with one another. These findings are in line with findings from Study 1, suggesting that communication behaviours were used similarly across mother-child dyads in two different subsamples. Beyond examining the frequencies of these

behaviours, intercorrelations revealed that, while some aspect of specific communication variables are stable across task (e.g. theme, tone, and orientation), others appear to be context specific. For example, for both mothers and children, communication functions were not correlated across interaction contexts.

Mother-Child Communication: Links to Mothers' Histories of Risk and Associations to Children's Social Competence

In order to further investigate the adaptive and maladaptive qualities of communication, the association between mother and child communication behaviours and mothers' histories of risk (i.e., years of education, histories of aggression and social withdrawal) were examined. Longitudinal predictions revealed that mothers with more education had children who used more positive communication tone. Education has been shown to be an important factor influencing parenting. For example, parents with less education have been shown to emphasize parental authority and discipline, while parents with higher educational attainment have been shown to encourage self-direction and autonomy, perspective taking, and reasoning with their children (Conger & Dogan, 2007; Wray-Lake et al., 2010). Our finding is consistent with previous research supporting the positive effects of education on parenting and the intergenerational transfer of risk (Conger & Dogan, 2007; Neppl, Conger, Scaramella, & Ontai, 2009; Serbin et al., 1998; Serbin et al; 2011). In addition, mothers with greater educational attainment in the present study also had children with fewer reported behaviour problems, further highlighting the protective effects of education on maladaptive outcomes.

Results from Study 2 revealed that mothers who had more education used fewer indirect (e.g., avoidance, distraction) communication functions in the conflict task. Similarly, *children* whose mothers had more education used fewer indirect communication functions in the conflict task. Indirect communication functions may require fewer cognitive and problem solving skills,

given that they rely less on generating solutions, providing advice, etc. The latter are skills that are developed and refined through formal education and that are necessary to effectively communicate about a conflict (Van Dorn, Branje, & Meeus, 2007). Thus, this may explain why mother and child communication may be associated with maternal levels of education.

Mothers' childhood histories of aggression and social withdrawal were also predictive of communication behaviours. In Study 2, mothers with histories of aggression used more negative communication tone during the conflict task. These findings are in line with previous research from the Concordia project, whereby maternal histories of aggression have been shown to be associated with various problematic outcomes including parenting behaviours, and developmental, behavioral, and health problems in offspring (see Stack et al., 2005 for a review). Furthermore, negative parenting behaviours (e.g. criticism, hostility) have been associated with maladaptive social outcomes for children, while parenting characterized by responsiveness has been associated with better school performance and fewer adjustment difficulties (Ahmed & Braithwaite, 2004; Hay & Meldrum, 2010). Negative parenting behaviours associated with maternal childhood aggression might therefore be expected to prevent a child from receiving adequate modeling for appropriate communication skills.

Furthermore, in Study 1 children were less likely to display emotion-focused communication and used more conformity if their mothers had childhood histories of aggression, while, in Study 2, mothers with histories of social withdrawal had children who used less emotion related communication and less positive communication tone in the conflict task, providing support for the intergenerational transfer of risk via parenting behavior. For these mothers, their maladaptive behaviour styles (i.e. aggression, social withdrawal) may have reduced the opportunity for discussions where emotional expression was encouraged or modeled,

which is an important aspect of social competence (Pasalich et al., 2012). Moreover, the behaviours that were modeled by these mothers in interactions with their children may have been more controlling or negative in nature, thus making it more likely that their children's communication orientation would be more compliant and resemble conformist values and beliefs. In the long term, conformist beliefs may impact children's competence and lead to less optimal social development (Kuczynski, 1997).

In Study 2, the combination of maternal histories of aggression and social withdrawal also predicted mothers' and children's communication behaviours in the conflict task. These findings are in line with research suggesting that the combination of aggression and withdrawal has the most deleterious effects (Farmer, Bierman, et al., 2002; Ladd & Burgess, 1999). For example, when mothers were high on social withdrawal, aggression decreased their use of social communication. Therefore, when mothers were high on aggression and social withdrawal, they used the least amount of social communication. However, when mothers were low on social withdrawal, aggression increased their use of social communication. A similar pattern of results for child social communication was found for children whose mothers were both aggressive and withdrawn. Mothers with histories of social withdrawal may have experienced minimal social opportunities in childhood, thus hindering the practice of communicating about social behaviour. Furthermore, consistent with previous findings from the Concordia project when mothers were low on social withdrawal, aggression may have provided the confidence necessary to engage in social communication with others, thus increasing mothers' and subsequently, their children's, likelihood of using social communication (e.g., Grunzeweig et al., 2014).

Investigating the association between mother-child communication and children's social acceptance and psychosocial behaviours furthered our understanding of the adaptive and

maladaptive qualities of communication. Results indicated that mothers were more likely to report problem behaviours in children who used less logistic communication during mother-child interactions. Logistic communication entailed verbalizations about task requirements or questions about house rules, therefore, children who used this theme of communication may have been perceived as compliant and as having less problematic behaviour. In addition, given that logistic communication was the communication theme most frequently used by children in the interaction task, it may be normative at this developmental level. These children might be communicating with their mothers in a way that is perceived as socially acceptable, which is ultimately reflected in mothers' positive ratings of their children's behaviours.

Moreover, mothers reported problem behaviours in children who used more negative communication, suggesting that negative communication tone is associated with problematic outcomes. Interestingly, mothers who used more negative communication in interactions with their children also endorsed their children as having more problem behaviours and as being less socially accepted by their peers. It is possible that mothers who used more negative communication were more likely to elicit, or perceived, more problematic social behaviour in their children. Studies stemming from the Concordia Project support this notion (Grunzeweig et al., 2009; Barrieau, 2009).

Mother-Child Communication: Predictions to Social Competence and Relationships in Adolescence and Young Adulthood

In Study 1, mother-child communication in childhood was examined as a predictor of children's friendship quality in young adulthood. Findings suggest that mothers who used more positive communication had children who had more supportive same-sex friendships in young adulthood. However, mothers who used more neutral communication had children who reported more negative same-sex friendships in young adulthood. Communication that is devoid of

positive or negative valence (neutral communication) may not be providing children with the opportunity to develop the ability to understand others' affect (Pasalich et al., 2012), which is important in close relationships, such as friendships. Despite these potential implications, little is known about neutral communication in the literature and future research is clearly warranted.

Furthermore, children's negative communication predicted less supportive same-sex friendships in young adulthood. Interactions that are negative in nature may be more difficult to sustain, and thus may not develop to the point where they are able to provide supportive functions that come with close friendships.

Study 1 examined the longitudinal prediction of mother-child communication to children's friendships. However, it is important to consider maladaptive relationships separately from adaptive ones; therefore Study 2 examined longitudinal predictions of mother-child communication to bullying behaviour and social competence. Mothers who used direct communication tended to be less likely to have children who reported being involved with bullying behaviour in adolescence, whereas mothers who used more indirect communication functions (e.g. telling jokes, avoidance, and distraction) had children with lower perceived social competence in adolescence or adulthood. The parent-child relationship is a context whereby children's capacity to adapt and cope with later peer relationships is formed (Ladd, 1992). The use of indirect communication functions may not allow children to develop the skills they need to feel competent in social situations. This lack of competence may be further associated with a decreased sense of cohesion and identification within a peer group, which has been shown to place individuals at higher risk for bullying and poorer mental health outcomes (Cassidy, 2009). In contrast, our results also suggest that mothers who communicate about a conflict directly (e.g. generating suggestions, giving advice) are less likely to have children involved with bullying.

Direct communication functions rely on skills important for problem solving and conflict resolution, which are important for fostering positive social interactions and ultimately, developing healthy relationships. Bullying is well understood as a relationship problem, and children involved in bullying behaviour lack the foundational skills necessary for positive social interactions and developing healthy relationships (Pepler et al., 2008).

Communication themes were also associated with social competence. Mothers and children who used more social related communication in the game-playing task were associated with children having higher perceived social competence. Similarly, when children used more logistic communication in the game-playing task, children had lower perceived social competence. Social communication in mother-child dyads may be preparing children for how to communicate socially in interactions with their peers, while children who use more logistic communication may not be receiving these opportunities in the same way or in a sufficient amount. Instead, these children may be more focused on rules, guidelines, or logistics, thereby limiting their exposure to social content of interactions. While social and logistic communication in the game-playing task were found to be associated with later social competence, emotion communication in the conflict task was associated with bullying behaviour. Mothers who used more emotion related communication had children with fewer reports of being involved with bullying. Children who speak about emotional content within the context of a conflict may be better equipped with recognition, regulation, and understanding of other's emotions in situations of conflict and may therefore refrain from being involved with bullying and bullying-related behavior . This finding is in line with research suggesting that children's and adolescents' attitudes towards victims of bullying may influence their engagement in bullying behaviour (Rigby, 2005), and with the literature on the importance of emotional competence in healthy

relationships (Denham, 2005).

Mother-Child Communication: Effects of Age and Sex

Child characteristics (e.g. sex and age) were also included as predictors of communication. Girls tended to use more social communication than boys, whereas boys tended to use more indirect communication than girls. In addition, boys and younger children tended to use more indirect communication. In general, these findings seem to suggest that girls had more developed communication skills, and are in line with research suggesting that girls are more prosocial than boys (Hastings, Utendale, & Sullivan, 2007). Further, mothers were more likely to use negative communication with younger children. Younger children may have required more direction and prompts to stay on task. Moreover, mothers may have used more disciplinary strategies, which may have presented as more negative in nature. This is consistent with the literature that argues that, when children are younger, parents rely more on the power asymmetry that is inherent to their relationship; this power gradually decreases as children become older (Kuczynski, 2003).

Conclusions

The current set of two studies was designed to examine the associations between mother-child communication in childhood and: (1) mothers' childhood histories of risk, (2) social competence in childhood, and (3) friendship quality, social competence, and bullying in adolescence and young adulthood. Study 2 was designed to build on Study 1 by investigating communication in a different subsample of mother-child dyads across two interaction contexts (game-playing and conflict) and by extending the measures of social competence and bullying behaviour. Together, the findings provide some evidence to support the intergenerational transfer of risk through parenting behaviours, as well as contribute to the literature on parent-child

communication and its association with social competence and relationships (e.g., Pasalich et al., 2012; Babin & Palazzolo, 2012; Deater-Deckard & Petrill, 2004; Dix et al., 2007; Harrist & Waugh, 2002; Lindsey et al., 1997).

Specifically, results revealed that mothers' behaviours were positively related to children's behaviours, consistent with previous research supporting transactional interpretations of mother-child interactions. Second, maternal risk factors (i.e., childhood histories of aggression and withdrawal, educational attainment) and mother-child communication behaviours were associated with childrens' social competence and relationships. These findings are complimentary to a social learning perspective and consistent with an interactionist model (Conger & Donnellan, 2007), which proposes that a dynamic and reciprocal interaction between the environment and human characteristics determines human development. Results from the current studies suggest that communication plays an important role in the development of social-emotional outcomes in at-risk families.

Although the results represent noteworthy additions to the literature, it is important to acknowledge some limitations. First, the sample size, particularly at Time 2 (in Studies 1 and 2), was small, thus limiting the extent and interpretation of the statistical analyses. In particular, the sample size limited the exploration of the mediating or moderating roles of mother and child communication (Baron & Kenny, 1998; Fritz & MacKinnon, 2007). Second, maternal childhood aggression and social withdrawal did not emerge as consistent predictors of mothers' and children's behaviours. Despite not being consistent predictors of mother-child communication behaviours, some associations were found between maternal childhood aggression and social withdrawal and mothers' and children's behaviours, consistent with the literature linking behaviours in childhood to behaviour in early adulthood and in the next generation (e.g., Collins

& van Dulmen, 2006; Dubow, Huesmann, & Boxer, 2003; Feinstein & Bynner, 2006; Huesmann, Dubow, Eron, & Boxer, 2006; Masten et al., 2005; Conger et al., 2003). Investigating the longitudinal associations between mothers' histories of risk and mother-child communication is an important step in understanding child development, especially given the results linking mother-child communication to later social outcomes and relationships.

Surprisingly, although the findings suggest an association between some communication variables and children's social outcomes and relationships, other aspects of communication did not predict to these outcomes. It is possible that the interaction tasks and communication behaviours measured during childhood did not reflect how adolescents and young adults were using the same communication behaviours. Given that the observed communication behaviours in the current study have not previously been examined in the same way in the literature, their relation to children's social competence, friendship quality, and bullying behaviour in adolescence and young adulthood should be considered a first step. In childhood, communication behaviours may still be developing; therefore examining communication later in development may represent a more stable and engrained communication style, and may have yielded more associations to their concurrent social outcomes. This argument is consistent with a basic tenet of developmental research; in order to maximize results, similar behaviours and similar experimental tasks are required across multiple time points (Conger et al., 2003). Furthermore, the measures of social outcomes in the current study may not have been integrative. Using a broader definition, which might include information about the child, their behaviour, the situation, and the rater may have resulted in more variability (Dirks, Treat, Weersing, 2007). Future research should continue to investigate the evolution of observed child behaviours (i.e., communication), in normative and high-risk samples.

Despite some limitations, the present series of two studies was the first of its kind to use observational methods to assess multiple aspects (theme, function, tone, orientation) of communication in mother-child interactions in childhood. Moreover, the studies were unique in their longitudinal examination of communication quality in middle-childhood and social outcomes in adolescence and young adulthood. Our results mark an important contribution to our understanding of parent-child communication in childhood and its association to relationship development in at-risk families by identifying links between maternal histories of risk and mother-child communication as well as mother-child communication and social competence, friendship quality, and bullying. The results have implications for the design of preventive interventions targeting social and emotional development in at-risk families and take strides toward greater understanding of what constitutes healthy relationships.

Table 1

Demographic Variables for Mothers and Children at Time 1 in the Current Sample and the Larger Sub-Sample: Means and Standard Deviations (Study 1)

	Sample (N=74)		Concordia Project (N=213)		
Demographic Variable	M	SD	M	SD	Z
Childhood Aggression	0.53	1.11	0.33	1.07	1.59
Childhood Withdrawal	0.45	1.03	0.44	1.03	-0.02
Maternal Age at Birth of First Child	21.4	2.33	22.79	3.32	-3.61
Maternal Education (years)	10.84	2.19	11.42	2.18	-2.27
Occupational Prestige	31.79	10.68	32.7	10.03	-0.78

Note. Z-scores above 1.96 indicate significant differences between the study sample and women in the Concordia Project who did not form part of the sample.

Table 2

Brief Operational definitions and Intraclass Correlation Coefficient (ICC) values of the Communication Coding Scheme (CCS)

Code	**Description**	**ICC**	
Communication Theme: Content of Communication		Mother	Child
Emotion	Statements with reference to emotion words (e.g. "I'm frustrated ")	0.75	0.76
Social	Statements with reference to social words, social situations, and interactions between individuals (e.g. "you should have apologized to your sister", "Who was at the birthday party?")	0.86	0.81
Logistic	Statements with reference to task requirements or an individual's behaviour (e.g. " how much time is left?", "I could clean my room after I put my clothes away")	0.79	0.71
Communication Functions: Purpose of communication			
Direct	Statements intended to encourage, coach, advise, suggest, guide, explain, or negotiate a future plan (e.g. "keeping your room clean will be easier if you do a little each day")	0.97	0.70
Indirect	Statements intended to avoid or distract, or those including humour unrelated to the task, i.e. not problem/solution focused (e.g. " I might have more luck getting help with the dishes if I asked [pet name]; changing the topic)	0.90	0.79
Communication Tone: Climate of discussion			
Positive	Statements with reference to positive affect, events or *behaviors* such as smiling, laughing, high fives, etc. (e.g. "that party was fun")	0.84	0.83
Negative	Statements with reference to dislike for behavior/comment or criticism, reference to negative affect, events, or sarcasm (e.g. "that wasn't nice")	0.82	0.73
Neutral	Statements with neither positive or negative reference (e.g. "let's try sharing our idea with your sister and see what she thinks")	0.70	0.87
Communication Orientation: Central beliefs underlying communication			

Conversation	An environment in which unrestrained verbal interaction about a wide array of topics is encouraged. Includes open communication, explanations/extensions in response to questions or of opinions (e.g. "What do you think about our new plan?")	0.89	0.83
Conformity	An environment in which communication stresses homogeneity of attitudes, values, and beliefs, no discussion of causes/consequences or any explanation of an event, conflict, behavior, or emotion (e.g. "bedtime is at 9:00 pm because I said so")	0.85	0.74

Table 3

Mean Proportion of Frequency (of intervals) for Mother and Child Communication (Study 1)

Communication Variable	Mean	Communication Variable	Mean
Theme		**Tone**	
Mother Social	0.72	Mother Negative	0.16
Child Social	0.52	Child Negative	0.15
Mother Emotion	0.07	Mother Positive	0.16
Child Emotion	0.03	Child Positive	0.16
Mother Logistic	0.13	Mother Neutral	0.6
Child Logistic	0.06	Child Neutral	0.61
Functions		**Orientation**	
Mother Direct	0.75	Mother Conversation	0.83
Child Direct	0.45	Child Conversation	0.71
Mother Indirect	0.17	Mother Conformity	0.12
Child Indirect	0.24	Child Conformity	0.18

Table 4

Intercorrelations between Mother and Child Communication Variables (Study 1)

	Child Variables									
	1	2	3	4	5	6	7	8	9	10
Mother Variables										
1. Emotion Communication	.57**									
2. Social Communication		.60**								
3. Logistic Communication			.68**							
4. Direct Communication				.64**						
5. Indirect Communication					.85**					
6. Positive Tone						.45**				
7. Negative Tone							.44**			
8. Neutral Tone								.44**		
9. Conversation Orientation									.61**	
10. Conformity Orientation										.64**

$^{t}p < 0.10$, $*p < 0.05$, $**p < 0.01$

Table 5

Maternal Childhood Levels of Aggression and Social Withdrawal Predicting Child Emotion Communication in the Conflict Task (Study 1)

Variables	Beta	Sr^2	T	R^2_{ch}	F_{ch}
Step 1				0.03	0.95
Childhood Aggression	-0.16	-0.03	-1.35		
Childhood Withdrawal	0.00	0.00	0.00		
Step 2				0.05	3.52
Childhood Aggression	-0.21	-0.04	-1.72		
Childhood Withdrawal	-0.05	-0.00	-0.41		
Maternal Education	-0.22	-0.05	-1.88		
Step 3				0.02	0.85
Childhood Aggression	-0.23	-0.05	-1.86		
Childhood Withdrawal	-0.04	-0.00	-0.34		
Maternal Education	-0.19	-0.03	-1.49		
Child Age	0.13	0.02	1.08		
Child Sex[a]	-0.08	-0.01	-0.66		
Step 4				0.03	1.95
Childhood Aggression	-0.28	-0.06	-2.19		
Childhood Withdrawal	-0.08	-0.01	-0.63		
Maternal Education	-0.17	-0.02	-1.37		
Child Age	0.14	0.02	1.16		
Child Sex	-0.08	-0.01	-0.69		
Childhood Aggression x Withdrawal	0.17	0.03	1.40		
	R = .35	R^2_{Adj} = .04		F = 1.53	

[t]p < 0.10, *p < 0.05, **p < 0.01, ***p < .001
Note. [a]Child Sex: boys = 1, girls = 2.

Table 6

Maternal Childhood Levels of Aggression and Social Withdrawal Predicting Mother Indirect Communication in the Conflict Task (Study 1)

Variables	Beta	Sr^2	T	R^2_{ch}	F_{ch}
Step 1				0.01	0.33
Childhood Aggression	-0.98	0.00	-8.12		
Childhood Withdrawal	-0.30	0.00	-2.50		
Step 2				0.06	4.10*
Childhood Aggression	-0.05	0.00	-0.41		
Childhood Withdrawal	-0.02	0.00	0.20		
Maternal Education	0.24	0.05	2.02*		
Step 3				0.07	2.76[t]
Childhood Aggression	-0.04	0.00	-0.34		
Childhood Withdrawal	-0.02	0.00	0.15		
Maternal Education	0.15	0.02	1.17		
Child Age	-0.28	0.07	-2.33*		
Child Sex[a]	-0.05	0.00	-0.44		
Step 4				0.001	0.12
Childhood Aggression	-0.05	0.00	-0.42		
Childhood Withdrawal	0.01	0.00	0.07		
Maternal Education	0.15	0.02	1.19		
Child Age	-0.28	0.07	-2.29*		
Child Sex	-0.05	0.00	-0.45		
Childhood Aggression x Withdrawal	0.04	0.00	0.34		
	R = .37		R^2_{Adj} = .06		F = 1.76

[t]p < 0.10, *p < 0.05, **p < 0.01, ***p < .001
Note. [a]Child Sex: boys = 1, girls = 2.

Table 7

Maternal Childhood Levels of Aggression and Social Withdrawal Predicting Child Indirect Communication in Conflict Task (Study 1)

Variables	Beta	Sr^2	T	R^2_{ch}	F_{ch}
Step 1				0.00	0.04
Childhood Aggression	-0.02	0.00	-0.15		
Childhood Withdrawal	0.02	0.00	0.18		
Step 2				0.11	8.79**
Childhood Aggression	0.05	0.00	0.43		
Childhood Withdrawal	0.10	0.00	0.84		
Maternal Education	0.35	0.11	2.96**		
Step 3				0.09	3.74*
Childhood Aggression	0.07	0.00	0.61		
Childhood Withdrawal	0.09	0.00	0.78		
Maternal Education	0.24	0.05	2.04[t]		
Child Age	-0.36	0.09	-2.73**		
Child Sex[a]	-0.00	0.00	-0.02		
Step 4				0.01	0.61
Childhood Aggression	0.04	0.00	0.36		
Childhood Withdrawal	0.07	0.00	0.59		
Maternal Education	0.25	0.05	2.10*		
Child Age	-0.31	0.08	-2.67**		
Child Sex	-0.00	0.00	-0.04		
Childhood Aggression x Withdrawal	0.09	0.00	0.78		
	R = .46	R^2_{Adj} = .14		F = 2.92	

[t]p < 0.10, *p < 0.05, **p < 0.01, ***p < .001
Note. [a]Child Sex: boys = 1, girls = 2.

Table 8

Maternal Childhood Levels of Aggression and Social Withdrawal Predicting Mother Negative Communication in the Conflict Task (Study 1)

Variables	Beta	Sr^2	T	R^2_{ch}	F_{ch}
Step 1				0.09	3.67^t
Childhood Aggression	0.31	0.09	-1.43		
Childhood Withdrawal	0.12	0.01	-2.66*		
Step 2				0.10	8.39**
Childhood Aggression	0.24	0.05	2.16*		
Childhood Withdrawal	0.05	0.00	0.43		
Maternal Education	-0.32	0.10	-2.90**		
Step 3				0.05	2.08
Childhood Aggression	0.21	0.04	1.85		
Childhood Withdrawal	0.06	0.00	-2.60*		
Maternal Education	-0.33	0.09	-0.47		
Child Age	0.06	0.00	-0.36		
Child Sex[a]	-0.21	0.04	-0.81		
Step 4				0.2	2.16
Childhood Aggression	0.26	0.05	2.21*		
Childhood Withdrawal	0.10	0.00	1.85^t		
Maternal Education	-0.34	0.10	0.56		
Child Age	0.05	0.00	-2.81**		
Child Sex	0.21	0.04	0.53		
Childhood Aggression x Withdrawal	0.17	0.02	-1.93^t		
	R = .51		R^2_{Adj} = .20		F = 3.95

^{t}p < 0.10, *p < 0.05, **p < 0.01, ***p < .001
Note. [a]Child Sex: boys = 1, girls = 2.

Table 9

Maternal Childhood Levels of Aggression and Social Withdrawal Predicting Mother Positive Communication in the Conflict Task (Study 1)

Variables	Beta	Sr^2	T	R^2_{ch}	F_{ch}
Step 1				0.02	0.73
Childhood Aggression	-0.10	0.00	-0.80		
Childhood Withdrawal	-0.13	0.01	-1.04**		
Step 2				0.07	5.47*
Childhood Aggression	-0.04	0.00	-0.35		
Childhood Withdrawal	-0.06	0.00	-0.53		
Maternal Education	0.28	0.07	2.34*		
Step 3				0.03	1.22
Childhood Aggression	-0.01	0.00	-0.12		
Childhood Withdrawal	-0.07	0.00	-0.63		
Maternal Education	0.25	0.05	1.98[t]		
Child Age	-0.13	0.02	-1.08		
Child Sex[a]	0.12	0.01	1.05		
Step 4				0.01	0.54
Childhood Aggression	-0.04	0.00	-0.33		
Childhood Withdrawal	-0.09	0.00	-0.77		
Maternal Education	0.26	0.05	2.03*		
Child Age	-0.13	0.01	-1.04		
Child Sex	0.12	0.01	0.74		
Childhood Aggression x Withdrawal	0.09	0.00	0.81		
	R = .36		R^2_{Adj} = .05		F = 1.66

[t]p < 0.10, *p < 0.05, **p < 0.01, ***p < .001
Note. [a]Child Sex: boys = 1, girls = 2.

Table 10

Maternal Childhood Levels of Aggression and Social Withdrawal Predicting Mother Conformity Communication in the Conflict Task (Study 1)

Variables	Beta	Sr^2	T	R^2_{ch}	F_{ch}
Step 1				0.05	1.76
Childhood Aggression	0.19	0.03	1.60		
Childhood Withdrawal	0.15	0.02	1.28		
Step 2				0.06	4.42*
Childhood Aggression	0.14	0.02	1.18		
Childhood Withdrawal	0.10	0.00	0.82		
Maternal Education	-0.25	0.06	-2.10*		
Step 3				0.01	0.43
Childhood Aggression	0.15	0.02	1.22		
Childhood Withdrawal	0.09	0.00	0.78		
Maternal Education	-0.28	0.07	-2.25*		
Child Age	-0.11	0.01	-0.93		
Child Sex[a]	0.01	0.00	0.05		
Step 4				0.01	0.54
Childhood Aggression	0.12	0.01	0.96		
Childhood Withdrawal	0.07	0.00	0.60		
Maternal Education	-0.27	0.06	-2.17*		
Child Age	-0.11	0.01	-0.88		
Child Sex	0.00	0.00	0.03		
Childhood Aggression x Withdrawal	0.09	0.00	0.74		
	R = .35		R^2_{Adj} = .04		F = 1.55

[t]p < 0.10, *p < 0.05, **p < 0.01, ***p < .001
Note. [a]Child Sex: boys = 1, girls = 2.

Table 11

Maternal Childhood Levels of Aggression and Social Withdrawal Predicting Child Conformity Communication in the Conflict Task (Study 1)

Variables	Beta	Sr^2	T	R^2_{ch}	F_{ch}
Step 1				0.07	2.85^t
Childhood Aggression	0.25	0.06	2.15*		
Childhood Withdrawal	0.17	0.03	1.45		
Step 2				0.01	0.36
Childhood Aggression	0.24	0.05	1.98^t		
Childhood Withdrawal	0.15	0.02	1.27		
Maternal Education	-0.07	0.00	-0.60		
Step 3				0.01	0.39
Childhood Aggression	0.23	0.05	1.85^t		
Childhood Withdrawal	0.16	0.02	1.29		
Maternal Education	-0.10	0.00	-0.79		
Child Age	-0.06	0.00	-0.48		
Child Sex[a]	-0.09	0.00	-0.79		
Step 4				0.01	0.80
Childhood Aggression	0.19	0.03	1.51		
Childhood Withdrawal	0.13	0.02	1.06		
Maternal Education	-0.09	0.01	-0.71		
Child Age	-0.05	0.00	-0.42		
Child Sex	-0.09	0.01	-0.79		
Childhood Aggression x Withdrawal	0.11	0.01	0.90		
	R = .30	R^2_{Adj} = .02		F = 1.34	

^{t}p < 0.10, *p < 0.05, **p < 0.01, ***p < .001
Note. [a]Child Sex: boys = 1, girls = 2.

Table 12

Maternal Childhood Levels of Aggression and Social Withdrawal Predicting Child Logistic Communication in the Conflict Task (Study 1)

Variables	Beta	Sr^2	T	R^2_{ch}	F_{ch}
Step 1				0.01	0.22
Childhood Aggression	0.07	0.00	0.59		
Childhood Withdrawal	0.05	0.00	0.41		
Step 2				0.09	6.52*
Childhood Aggression	0.01	0.00	0.09		
Childhood Withdrawal	-0.02	0.00	-0.15		
Maternal Education	-0.30	0.08	-0.25**		
Step 3				0.04	1.68
Childhood Aggression	-0.00	0.00	-0.02		
Childhood Withdrawal	-0.01	0.00	-0.12		
Maternal Education	-0.37	0.11	-2.99**		
Child Age	-0.16	0.02	-1.36		
Child Sex[a]	-0.15	0.02	-1.31		
Step 4				0.07	5.88*
Childhood Aggression	0.05	0.00	0.41		
Childhood Withdrawal	-0.02	0.00	-0.15		
Maternal Education	-0.40	0.13	-3.34*		
Child Age	-0.19	0.03	-1.60		
Child Sex	-0.12	0.01	-1.08		
Child Logistic Communication	-0.27	0.07	-2.43		
	R = .45		R^2_{Adj} = .13		F = 2.85*

[t]p < 0.10, *p < 0.05, **p < 0.01, ***p < .001
Note. [a]Child Sex: boys = 1, girls = 2.

Table 13

Maternal Childhood Levels of Aggression and Social Withdrawal and Mother Negative Communication Predicting Child Behaviour Problems in the Conflict Task (Study 1)

Variables	Beta	Sr^2	T	R^2_{ch}	F_{ch}
Step 1				0.06	0.22
Childhood Aggression	0.07	0.00	0.59		
Childhood Withdrawal	0.05	0.00	0.41		
Step 2				0.09	6.52*
Childhood Aggression	0.01	0.00	0.09		
Childhood Withdrawal	-0.02	0.00	-0.15		
Maternal Education	-0.03	0.08	-2.55		
Step 3				0.04	1.68
Childhood Aggression	0.00	0.00	-0.02		
Childhood Withdrawal	-0.01	0.00	-0.12		
Maternal Education	-0.37	0.11	-2.99		
Child Age	-0.16	0.02	-1.36		
Child Sex[a]	-0.15	0.02	-1.31		
Step 4				0.10	9.04**
Childhood Aggression	-0.08	0.00	-0.68		
Childhood Withdrawal	-0.04	0.00	-0.33		
Maternal Education	-0.25	0.05	-2.03		
Child Age	-0.19	0.03	-1.63		
Child Sex	-0.07	0.00	-0.66		
Mother Negative Communication	0.37	0.10	3.00		
	R = .24		R^2_{Adj} = .17		F = 3.46*

[t]p < 0.10, *p < 0.05, **p < 0.01, ***p < .001
Note. [a]Child Sex: boys = 1, girls = 2.

Table 14

Maternal Childhood Levels of Aggression and Social Withdrawal and Child Positive Communication Predicting Child Behaviour Problems in the Conflict Task (Study 1)

Variables	Beta	Sr^2	T	R^2_{ch}	F_{ch}
Step 1				0.01	0.22
Childhood Aggression	0.07	0.00	0.59		
Childhood Withdrawal	0.05	0.00	0.41		
Step 2				0.09	6.52*
Childhood Aggression	0.01	0.00	0.09		
Childhood Withdrawal	-0.02	0.00	-0.15		
Maternal Education	-0.30	0.08	-2.55*		
Step 3				0.04	1.68
Childhood Aggression	-0.00	0.00	-0.02		
Childhood Withdrawal	-0.01	0.00	-0.12		
Maternal Education	-0.37	0.11	-2.99*		
Child Age	-0.16	0.02	-1.36		
Child Sex[a]	-0.15	0.02	-1.31		
Step 4				0.14	3.20t
Childhood Aggression	-0.01	0.00	-0.08		
Childhood Withdrawal	-0.01	0.00	-0.05		
Maternal Education	-0.36	0.11	-0.73*		
Child Age	-0.15	0.02	-2.96		
Child Sex	-0.11	0.01	-1.29		
Child Positive Communication	-0.20	0.04	-1.97 t		
	R = .42		R^2_{Adj} = .10		F = 2.33*

tp < 0.10, *p < 0.05, **p < 0.01, ***p < .001
Note. [a]Child Sex: boys = 1, girls = 2.

Table 15

Maternal Childhood Levels of Aggression and Social Withdrawal, and Child Negative Communication Predicting Child Behaviour Problems in the Conflict Task (Study 1)

Variables	Beta	Sr^2	T	R^2_{ch}	F_{ch}
Step 1				0.06	0.22
Childhood Aggression	0.07	0.00	0.59		
Childhood Withdrawal	0.05	0.00	0.41		
Step 2				0.09	6.52*
Childhood Aggression	0.01	0.00	0.09		
Childhood Withdrawal	-0.02	0.00	-0.15		
Maternal Education	-0.30	0.08	-2.55*		
Step 3				0.04	1.68
Childhood Aggression	0.00	0.00	-0.02		
Childhood Withdrawal	-0.01	0.00	-0.12		
Maternal Education	-0.37	0.11	-2.99**		
Child Age	-0.16	0.02	-1.36		
Child Sex[a]	-0.15	0.02	-1.31		
Step 4				0.05	4.15*
Childhood Aggression	-0.03	0.00	-0.23		
Childhood Withdrawal	-0.05	0.00	-0.44		
Maternal Education	-0.32	0.08	-2.60*		
Child Age	-0.16	0.02	-1.40		
Child Sex	-0.09	0.01	-0.75		
Child Negative Communication	0.24	0.05	2.04*		
	R = .43		R^2_{Adj} = .11		F = 2.52*

[t]p < 0.10, *p < 0.05, **p < 0.01, ***p < .001
Note. [a]Child Sex: boys = 1, girls = 2.

Table 16

Child Direct Communication and its Association with Child Social Competence in the Conflict Task (Study 1)

Variables	Beta	Sr^2	T	R^2_{ch}	F_{ch}
Step 1				0.01	0.36
Childhood Aggression	0.08	0.00	0.66		
Childhood Withdrawal	0.08	0.00	0.65		
Step 2				0.01	0.54
Childhood Aggression	0.06	0.00	0.50		
Childhood Withdrawal	0.06	0.00	0.47		
Maternal Education	-0.09	0.00	-0.74		
Step 3				0.03	0.94
Childhood Aggression	0.04	0.00	0.33		
Childhood Withdrawal	0.07	0.00	0.56		
Maternal Education	-0.13	0.01	-0.99		
Child Age	-0.07	0.00	-0.54		
Child Sex[a]	-0.16	0.02	-1.30		
Step 4				0.04	3.20^t
Childhood Aggression	0.04	0.00	0.33		
Childhood Withdrawal	0.07	0.00	0.57		
Maternal Education	-0.10	0.00	-0.73		
Child Age	-0.15	0.02	-1.11		
Child Sex	-0.18	0.03	-1.51		
Child Direct Communication	0.23	0.04	1.79^t		
	R = .30	R^2_{Adj} = .01		F = 1.07	

^{t}p < 0.10, *p < 0.05, **p < 0.01, ***p < .001
Note. [a]Child Sex: boys = 1, girls = 2.

Table 17

Mother Negative Communication and its Association with Child Social Competence in the Conflict Task (Study 1)

Variables	Beta	Sr^2	T	R^2_{ch}	F_{ch}
Step 1				0.01	0.36
Childhood Aggression	0.08	0.00	0.66		
Childhood Withdrawal	0.08	0.00	0.65		
Step 2				0.01	0.54
Childhood Aggression	0.06	0.00	0.50		
Childhood Withdrawal	0.06	0.00	0.47		
Maternal Education	-0.09	0.00	-0.74		
Step 3				0.03	0.94
Childhood Aggression	0.04	0.00	0.33		
Childhood Withdrawal	0.07	0.00	0.56		
Maternal Education	-0.13	0.01	-0.99		
Child Age	-0.07	0.00	-0.54		
Child Sex[a]	-0.16	0.02	-1.30		
Step 4				0.05	3.95^t
Childhood Aggression	0.10	0.00	0.76		
Childhood Withdrawal	0.09	0.00	0.75		
Maternal Education	-0.22	0.04	-1.61		
Child Age	-0.06	0.00	-0.46		
Child Sex	-0.22	0.04	-1.79^t		
Mother Negative Tone	-0.27	0.05	-1.99^t		
	R = .31	R^2_{Adj} = .02		F = 1.20	

^{t}p < 0.10, *p < 0.05, **p < 0.01, ***p < .001
Note. [a]Child Sex: boys = 1, girls = 2.

Table 18

Mother Positive Communication and its Association with Child Supportive Friendship in the Conflict Task (Study 1)

Variables	Beta	Sr^2	T	R^2_{ch}	F_{ch}
Step 1				0.00	0.00
Child Age at Time 2	0.01	0.00	0.03		
Step 2				0.17	3.88^t
Child Age at Time 2	0.11	0.01	0.52		
Mother Positive Tone	0.43	0.17	1.97^t		
	R = .41		R^2_{Adj} = .08		F = 1.94

^{t}p < 0.10, *p < 0.05, **p < 0.01, ***p < .001

Table 19

Mother Neutral Communication and its Association with Supportive Friendship in the Conflict Task (Study 1)

Variables	Beta	Sr^2	T	R^2_{ch}	F_{ch}
Step 1				0.00	0.00
Child Age at Time 2	0.01	0.00	0.03		
Step 2				0.02	0.43
Child Age at Time 2	0.02	0.00	0.09		
Mother Neutral Tone	-0.15	0.02	-0.66		
	R = .15		R^2_{Adj} = .08		F = 0.22

$^{t}p < 0.10$, $*p < 0.05$, $**p < 0.01$, ***p < .001

Table 20

Child Negative Communication and its Association with Supportive Friendship in the Conflict Task (Study 1)

Variables	Beta	Sr^2	T	R^2_{ch}	F_{ch}
Step 1				0.00	0.00
Child Age at Time 2	0.01	0.00	0.03		
Step 2				0.16	3.53^t
Child Age at Time 2	-0.07	0.00	-0.32		
Child Negative Tone	-0.40	0.16	-1.88^t		
	R = .40		R^2_{Adj} = .07		F = 1.76

^{t}p < 0.10, *p < 0.05, **p < 0.01, ***p < .001

Table 21

Demographic Variables for Mothers and Children at Time 1 in the Current Sample and the Larger Sub-Sample: Means and Standard Deviations (Study 2)

	Sample (N=64)		Concordia Project (N=250)		
Demographic Variable	M	SD	M	SD	Z
Childhood Aggression	0.29	1.07	0.39	1.06	-0.98
Childhood Withdrawal	0.57	1.03	0.3	0.94	0.56
Maternal Age at Birth of First Child	26.04	3.61	24.78	3.44	1.38
Maternal Education (years)	12.39	2.59	12.17	2.4	0.02
Occupational Prestige	43.21	11.63	53.71	27.85	1.28

Note. Z-scores above 1.96 indicate significant differences.

Table 22

Demographic Variables for Mothers and Children in Study 1 and Study 2: Means and Standard Deviations (Study 2)

	Sample Study 1 (N=74)		Sample Study 2 (N=64)		
Demographic Variable	M	SD	M	SD	Z
Childhood Aggression	0.53	1.11	0.29	1.07	-1.76
Childhood Withdrawal	0.45	1.03	0.57	1.03	0.94
Maternal Age at Birth of First Child	21.4	2.33	26.04	3.61	15.96
Maternal Education (years)	10.84	2.19	12.39	2.59	5.65
Occupational Prestige	31.79	10.68	43.21	11.63	8.55

Note. Z-scores above 1.96 indicate significant differences.

Table 23

Mean Proportion of Frequency (of intervals) for Mother and Child Communication across Interaction Contexts (Study 2)

Communication Variable	Mean		Communication Variable	Mean	
Theme			**Tone**		
	Game-playing Task	Conflict Task		Game-playing Task	Conflict Task
Mother Social	0.43	0.83	Mother Negative	0.07	0.20
Child Social	0.34	0.51	Child Negative	0.07	0.20
Mother Emotion	0.02	0.03	Mother Positive	0.42	0.20
Child Emotion	0.01	0.03	Child Positive	0.41	0.17
Mother Logistic	0.42	0.16	Mother Neutral	0.31	0.51
Child Logistic	0.35	0.12	Child Neutral	0.28	0.46
Functions			**Orientation**		
Mother Direct	0.41	0.93	Mother Conversation	0.60	0.82
Child Direct	0.26	0.53	Child Conversation	0.53	0.68
Mother Indirect	0.46	0.09	Mother Conformity	0.16	0.12
Child Indirect	0.44	0.11	Child Conformity	0.19	0.17

Table 24

Intercorrelations between Mother and Child Communication Variables in the Jenga Task (Study 2)

	Child Variables									
	1	2	3	4	5	6	7	8	9	10
Mother Variables										
1. Emotion Communication	.32*									
2. Social Communication		.76**								
3. Logistic Communication			.56**							
4. Direct Communication				.38**						
5. Indirect Communication					.60**					
6. Positive Communication						.76**				
7. Negative Communication							.27*			
8. Neutral Communication								.68**		
9. Conversation Orientation									.55**	
10. Conformity Orientation										.61**

$^{t}p < 0.10$, $*p < 0.05$, $**p < 0.01$

Table 25

Intercorrelations between Mother and Child Communication Variables in the Conflict Task (Study 2)

	Child Variables									
	1	2	3	4	5	6	7	8	9	10
Mother Variables										
1. Emotion Communication	.69**									
2. Social Communication		.76**								
3. Logistic Communication			.91**							
4. Direct Communication				.39**						
5. Indirect Communication					.70**					
6. Positive Communication						.72**				
7. Negative Communication							.65**			
8. Neutral Communication								.84**		
9. Conversation Orientation									.51**	
10. Conformity Orientation										.55**

$^{t}p < 0.10$, $*p < 0.05$, $**p < 0.01$

Table 26

Intercorrelations of Mother Communication Variables across Jenga and Conflict Task (Study 2)

	Mother-Conflict Task									
	1	2	3	4	5	6	7	8	9	10
Mother-Jenga Task										
1. Emotion Communication	.14									
2. Social Communication		.39**								
3. Logistic Communication			.38**							
4. Direct Communication				0.16						
5. Indirect Communication					-.09					
6. Positive Tone						.36**				
7. Negative Tone							.17			
8. Neutral Tone								.38**		
9. Conversation Orientation									.38**	
10. Conformity Orientation										.26*

$^{t}p < 0.10$, $*p < 0.05$, $**p < 0.01$

Table 27

Intercorrelations of Child Communication Variables across Jenga and Conflict Task (Study 2)

	Child-Conflict Task									
	1	2	3	4	5	6	7	8	9	10
Child-Jenga Task										
1. Emotion Communication	.14									
2. Social Communication		.40**								
3. Logistic Communication			.12							
4. Direct Communication				0.23						
5. Indirect Communication					-.01					
6. Positive Tone						.54**				
7. Negative Tone							.63**			
8. Neutral Tone								.38**		
9. Conversation Orientation									.52**	
10. Conformity Orientation										.33**

$^{t}p < 0.10$, $*p < 0.05$, $**p < 0.01$

Table 28

Maternal Childhood Levels of Aggression and Social Withdrawal Predicting Mother Social Communication in the Conflict Task (Study 2)

Variables	Beta	Sr^2	T	R^2_{ch}	F_{ch}
Step 1				0.05	1.42
Childhood Aggression	-0.21	-0.04	-1.67		
Childhood Withdrawal	0.01	0.00	0.09		
Step 2				0.001	0.06
Childhood Aggression	-0.21	-0.04	-1.60		
Childhood Withdrawal	0.02	0.00	0.17		
Maternal Education	0.03	0.00	0.24		
Step 3				0.01	0.31
Childhood Aggression	-0.22	-0.05	-1.66		
Childhood Withdrawal	0.06	0.00	0.40		
Maternal Education	0.06	0.00	0.37		
Child Age	0.08	0.00	0.52		
Child Sex[a]	0.10	0.01	0.72		
Step 4				0.18	12.62***
Childhood Aggression	0.07	0.00	0.46		
Childhood Withdrawal	0.14	0.01	1.01		
Maternal Education	0.09	0.01	0.62		
Child Age	0.10	0.01	0.73		
Child Sex	0.03	0.00	0.25		
Childhood Aggression x Withdrawal	-0.51	-0.18	-3.55***		
	R = .48	R^2_{Adj} = .15		F = 2.79*	

[t]p < 0.10, *p < 0.05, **p < 0.01, ***p < .001
Note. [a]Child Sex: boys = 1, girls = 2.

Figure 1

Frequency of intervals of Mothers' Social Communication as a Function of Mothers' Childhood Histories of Aggression and Social Withdrawal (Study 2)

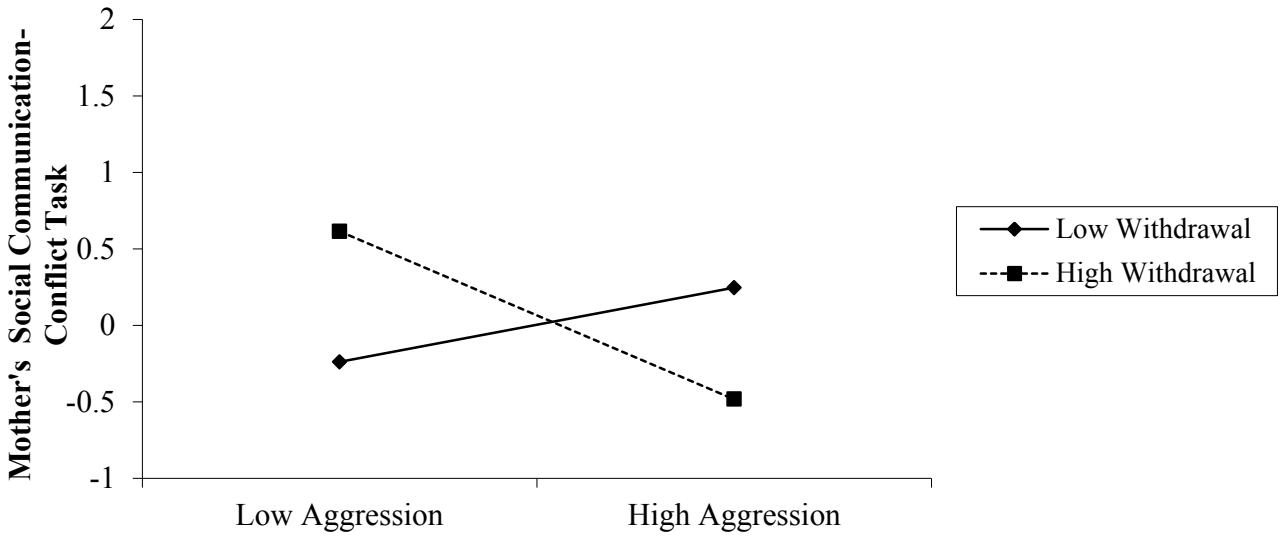

Table 29

Maternal Childhood Levels of Aggression and Social Withdrawal Predicting Child Emotion Communication (Study 2)

Variables	Beta	Sr^2	T	R^2_{ch}	F_{ch}
Step 1				0.14	4.63**
Childhood Aggression	-0.95	0.01	-0.78		
Childhood Withdrawal	-0.36	0.13	-2.99**		
Step 2				0.01	0.36
Childhood Aggression	-0.08	0.01	-0.67		
Childhood Withdrawal	-0.34	0.10	-2.57*		
Maternal Education	0.08	0.01	0.60		
Step 3				0.01	0.33
Childhood Aggression	-0.07	0.00	-0.56		
Childhood Withdrawal	-0.37	0.10	-2.60*		
Maternal Education	0.07	0.00	-0.47		
Child Age	-0.05	0.00	-0.36		
Child Sex[a]	-0.11	0.01	-0.81		
Step 4				0.01	0.65
Childhood Aggression	-0.14	0.35	-0.91		
Childhood Withdrawal	-0.39	0.01	-2.69**		
Maternal Education	0.06	0.01	-0.42		
Child Age	-0.06	0.02	-0.40		
Child Sex	-0.09	0.01	-0.67		
Childhood Aggression x Withdrawal	0.12	0.01	0.81		
	R = .40	R^2_{Adj} = .07		F = 1.76	

[t]p < 0.10, *p < 0.05, **p < 0.01, ***p < .001
Note. [a]Child Sex: boys = 1, girls = 2.

Table 30

Maternal Childhood Levels of Aggression and Social Withdrawal Predicting Child Social Communication in the Conflict Task (Study 2)

Variables	Beta	Sr^2	T	R^2_{ch}	F_{ch}
Step 1				0.12	3.56*
Childhood Aggression	-0.33	0.11	-2.66		
Childhood Withdrawal	0.00	0.00	0.00		
Step 2				0.01	0.04
Childhood Aggression	-0.32	0.10	-2.57*		
Childhood Withdrawal	0.01	0.00	0.07		
Maternal Education	0.03	0.00	0.20		
Step 3				0.09	3.24*
Childhood Aggression	-0.35	0.12	-2.87**		
Childhood Withdrawal	0.04	0.00	0.31		
Maternal Education	-0.01	0.00	-0.06		
Child Age	-0.05	0.00	-0.36		
Child Sex[a]	0.30	0.08	2.31*		
Step 4				0.06	4.53*
Childhood Aggression	-1.83	0.02	-1.28		
Childhood Withdrawal	0.09	0.00	0.66		
Maternal Education	0.01	0.00	0.07		
Child Age	-0.04	0.00	-0.27		
Child Sex	0.26	0.06	2.03*		
Childhood Aggression x Withdrawal	-0.30	0.06	-2.13*		
	R = .51		R^2_{Adj} = .18		F = 3.25*

[t]p < 0.10, *p < 0.05, **p < 0.01, ***p < .001
Note. [a]Child Sex: boys = 1, girls = 2.

Figure 2

Frequency of Intervals of Children's Social Communication as a Function of Mothers' Childhood Histories of Aggression and Social Withdrawal (Study 2)

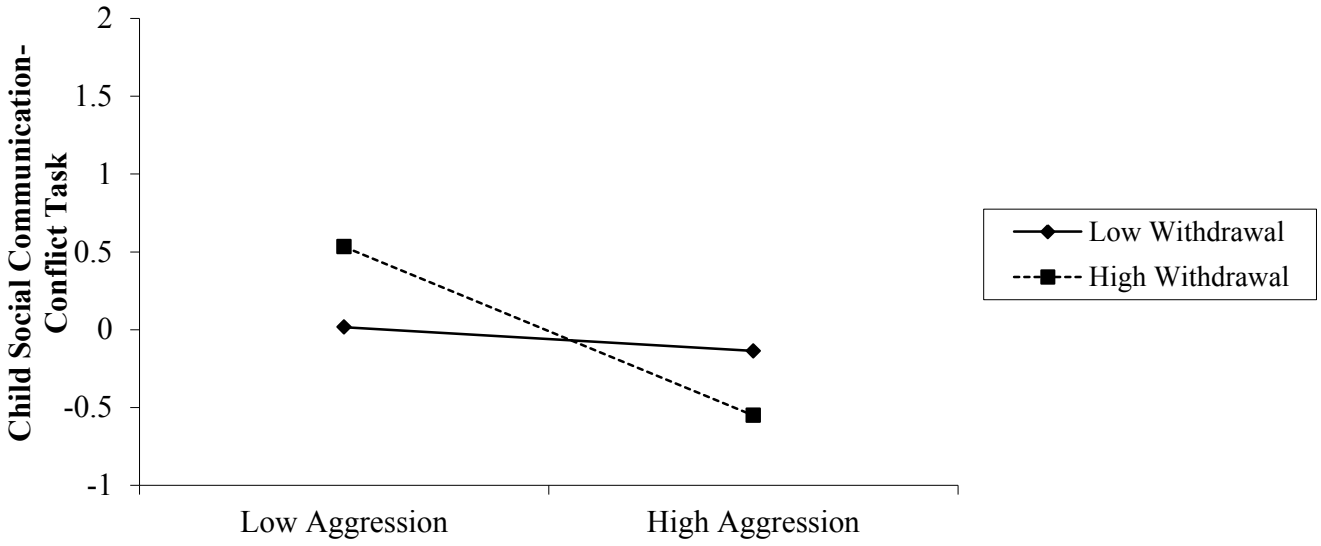

Table 31

Maternal Childhood Levels of Aggression and Social Withdrawal Predicting Mother Direct Communication in the Conflict Task (Study 2)

Variables	Beta	Sr^2	T	R^2_{ch}	F_{ch}
Step 1				0.001	0.03
Childhood Aggression	0.02	0.00	0.12		
Childhood Withdrawal	-0.02	-0.00	-0.18		
Step 2				0.01	0.82
Childhood Aggression	0.04	0.00	0.27		
Childhood Withdrawal	0.02	0.00	0.16		
Maternal Education	0.13	0.01	0.90		
Step 3				0.03	0.92
Childhood Aggression	0.04	0.00	0.27		
Childhood Withdrawal	0.06	0.00	0.40		
Maternal Education	0.19	0.03	1.27		
Child Age	0.17	0.02	1.12		
Child Sex[a]	-0.06	-0.00	-0.40		
Step 4				0.01	6.38*
Childhood Aggression	0.25	0.04	1.63		
Childhood Withdrawal	0.12	0.01	0.82		
Maternal Education	0.21	0.03	1.48		
Child Age	0.18	0.03	1.29		
Child Sex	-0.11	-0.01	-0.79		
Childhood Aggression x Withdrawal	-0.38	-0.10	-2.53*		
	R = .38	R^2_{Adj} = .05		F = 1.56	

[t]p < 0.10, *p < 0.05, **p < 0.01, ***p < .001
Note. [a]Child Sex: boys = 1, girls = 2.

Figure 3

Frequency of Intervals of Mothers' Direct Communication as a Function of Mothers' Childhood Histories of Aggression and Social Withdrawal (Study 2)

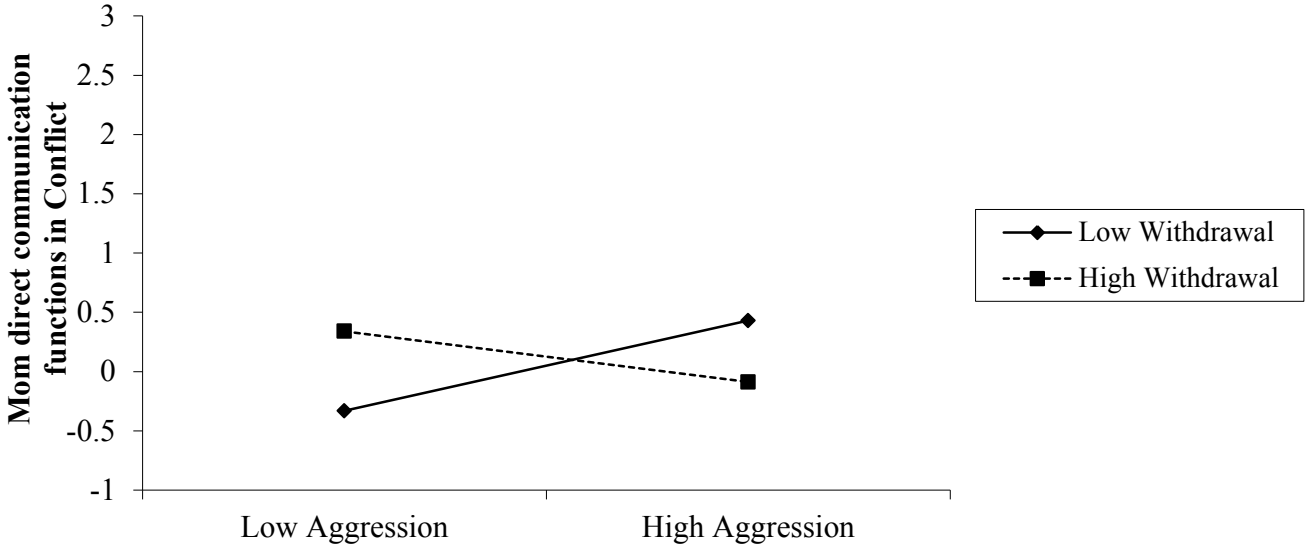

Table 32

Maternal Childhood Levels of Aggression and Social Withdrawal Predicting Mother Indirect Communication in the Conflict Task (Study 2)

Variables	Beta	Sr^2	T	R^2_{ch}	F_{ch}
Step 1				0.03	0.91
Childhood Aggression	0.15	0.02	1.14		
Childhood Withdrawal	0.11	0.01	0.83		
Step 2				0.31	27.31***
Childhood Aggression	0.05	0.00	0.49		
Childhood Withdrawal	-0.10	0.00	-0.91		
Maternal Education	-0.60	0.30	-5.23***		
Step 3				0.04	1.94
Childhood Aggression	0.07	0.00	0.67		
Childhood Withdrawal	-0.19	0.03	-1.57		
Maternal Education	-0.67	0.34	-5.62***		
Child Age	-0.23	0.04	-1.92[t]		
Child Sex[a]	-0.11	0.01	-0.99		
Step 4				0.00	0.38
Childhood Aggression	0.03	0.00	0.21		
Childhood Withdrawal	-0.20	0.03	-1.63		
Maternal Education	-0.68	0.35	-5.62***		
Child Age	-0.23	0.04	-1.94[t]		
Child Sex	-0.10	0.01	-0.89		
Childhood Aggression x Withdrawal	0.08	0.00	0.62		
	R = .62		R^2_{Adj} = .32	F =5.80***	

[t]p < 0.10, *p < 0.05, **p < 0.01, ***p < .001
Note. [a]Child Sex: boys = 1, girls = 2.

Table 33

Maternal Childhood Levels of Aggression and Social Withdrawal Predicting Child Indirect Communication in the Conflict Task (Study 2)

Variables	Beta	Sr^2	T	R^2_{ch}	F_{ch}
Step 1				0.04	1.26
Childhood Aggression	0.03	0.00	0.20		
Childhood Withdrawal	0.20	0.04	1.59		
Step 2				0.14	10.21**
Childhood Aggression	-0.04	-0.00	-0.32		
Childhood Withdrawal	0.06	0.00	0.47		
Maternal Education	-0.41	-0.14	-3.20**		
Step 3				0.10	4.16*
Childhood Aggression	0.00	0.00	0.02		
Childhood Withdrawal	-0.07	-0.00	-0.53		
Maternal Education	-0.48	-0.18	-3.76***		
Child Age	-0.25	-0.05	-2.00*		
Child Sex[a]	-0.31	-0.08	-2.56*		
Step 4				0.001	0.05
Childhood Aggression	-0.01	-0.00	-0.10		
Childhood Withdrawal	-0.07	-0.00	-0.55		
Maternal Education	-0.49	-0.18	-3.73***		
Child Age	-0.26	-0.05	-2.00		
Child Sex	-0.30	-0.08	-2.48*		
Childhood Aggression x Withdrawal	0.03	0.00	0.21		
	R = .54		R^2_{Adj} = .21		F = 3.75**

[t]p < 0.10, *p < 0.05, **p < 0.01, ***p < .001
Note. [a]Child Sex: boys = 1, girls = 2.

Table 34

Maternal Childhood Levels of Aggression and Social Withdrawal Predicting Mother Negative Communication in the Conflict Task (Study 2)

Variables	Beta	Sr^2	T	R^2_{ch}	F_{ch}
Step 1				0.04	1.29
Childhood Aggression	0.15	0.02	1.18		
Childhood Withdrawal	-0.13	-0.02	-0.98		
Step 2				0.00	0.18
Childhood Aggression	0.16	0.02	1.22		
Childhood Withdrawal	-0.11	-0.01	-0.76		
Maternal Education	0.06	0.00	0.42		
Step 3				0.13	4.42*
Childhood Aggression	0.16	0.02	1.29		
Childhood Withdrawal	-0.03	-0.00	-0.22		
Maternal Education	0.19	0.03	1.33		
Child Age	0.33	0.09	2.44*		
Child Sex[a]	-0.12	-0.01	-0.92		
Step 4				0.02	1.36
Childhood Aggression	0.26	0.04	1.73 ^{t}		
Childhood Withdrawal	-0.01	-0.00	-0.03		
Maternal Education	0.20	0.03	1.41		
Child Age	0.34	0.09	2.49*		
Child Sex	-0.14	-0.02	-1.08		
Childhood Aggression x Withdrawal	-0.17	-0.02	-1.17		
	R = .44	R^2_{Adj} = .11		F = 2.22^t	

^{t}p < 0.10, *p < 0.05, **p < 0.01, ***p < .001
Note. [a]Child Sex: boys = 1, girls = 2.

Table 35

Maternal Childhood Levels of Aggression and Social Withdrawal Predicting Child Positive Communication in the Conflict Task (Study 2)

Variables	Beta	Sr^2	T	R^2_{ch}	F_{ch}
Step 1				0.07	2.05
Childhood Aggression	-0.20	-0.04	-1.57		
Childhood Withdrawal	-0.18	-0.03	-1.41		
Step 2				0.001	0.05
Childhood Aggression	-0.19	-0.04	-1.50		
Childhood Withdrawal	-0.17	-0.02	-1.23		
Maternal Education	0.03	0.00	0.23		
Step 3				0.07	2.26
Childhood Aggression	-0.19	-0.03	-1.50		
Childhood Withdrawal	-0.23	-0.04	-1.63		
Maternal Education	-0.07	-0.00	-0.48		
Child Age	-0.26	-0.05	-1.88		
Child Sex[a]	0.05	0.00	0.40		
Step 4				0.01	0.31
Childhood Aggression	-0.24	-0.04	-1.55		
Childhood Withdrawal	-0.25	-0.04	-1.69		
Maternal Education	-0.07	-0.00	-0.51		
Child Age	-0.27	-0.06	-1.89		
Child Sex	0.07	0.00	0.48		
Childhood Aggression x Withdrawal	0.09	0.00	0.56		
	R = .38	R^2_{Adj} = .05		F = 1.50	

$^{t}p < 0.10$, $*p < 0.05$, $**p < 0.01$, $***p < .001$
Note. [a]Child Sex: boys = 1, girls = 2.

Table 36

Mother Social Communication and its Association with Child Perceived Social Competence in the Jenga Task (Study 2)

Variables	Beta	Sr^2	T	R^2_{ch}	F_{ch}
Step 1				0.09	1.57
Child Age	0.20	0.04	1.19		
Child Sex[a]	-0.20	0.04	-1.21		
Step 2				0.12	4.73*
Child Age	0.15	0.03	0.98		
Child Sex	-0.25	0.06	-1.55		
Mother Social Communication		0.34	0.11	-2.17	
	R = .45	R^2_{Adj} = .13		F = 2.74[t]	

[t]p < 0.10, *p < 0.05, **p < 0.01, ***p < .001
Note. [a]Child Sex: boys = 1, girls = 2.

Table 37

Child Social Communication and its Association with Child Perceived Social Competence in the Jenga Task (Study 2)

Variables	Beta	Sr^2	T	R^2_{ch}	F_{ch}
Step 1				0.09	1.57
Child Age	0.20	0.04	1.19		
Child Sex[a]	-0.20	0.04	-1.21		
Step 2				0.12	4.81*
Child Age	0.27	0.07	-1.71 ^{t}		
Child Sex	-0.19	0.03	-1.19		
Child Social Communication	-0.35	0.12	-2.19*		
	R = .45	R^2_{Adj} = .13		F = 2.77^t	

^{t}p < 0.10, *p < 0.05, **p < 0.01, ***p < .001
Note. [a]Child Sex: boys = 1, girls = 2.

Table 38

Child Logistic Communication and its Association with Child Perceived Social Competence in the Jenga Task (Study 2)

Variables	Beta	Sr^2	T	R^2_{ch}	F_{ch}
Step 1				0.09	1.57
Child Age	0.20	0.04	1.19		
Child Sex[a]	-0.20	0.04	-1.46		
Step 2				0.16	7.00*
Child Age	0.19	0.04	1.26		
Child Sex	-0.22	0.05	-1.46		
Child Logistic Communication	0.40	0.16	2.65		
	R = .45	R^2_{Adj} = .18		F = 3.57*	

[t]p < 0.10, *p < 0.05, **p < 0.01, ***p < .001
Note. [a]Child Sex: boys = 1, girls = 2.

Table 39

Mother Indirect Communication and its Association with Child Perceived Social Competence in the Conflict Task (Study 2)

Variables	Beta	Sr^2	T	R^2_{ch}	F_{ch}
Step 1				0.09	1.57
Child Age	0.20	0.04	1.19		
Child Sex[a]	-0.20	0.04	-1.21		
Step 2				0.25	12.10***
Child Age	0.09	0.00	0.59		
Child Sex	-0.27	0.07	-1.88[t]		
Mother Indirect Communication	0.51	0.25	-3.48***		
	R = .58		R^2_{Adj} = .27	F = 5.42**	

[t]p < 0.10, *p < 0.05, **p < 0.01, ***p < .001
Note. [a]Child Sex: boys = 1, girls = 2.

Table 40

Mother Emotion Communication and its Association with Child Involvement with Bullying in the Conflict Task (Study 2)

Variables	Beta	Sr^2	T	R^2_{ch}	F_{ch}
Step 1				0.03	0.57
Child Age	0.00	0.00	0.02		
Child Sex[a]	-0.18	0.03	-1.05		
Step 2				0.10	3.83 [t]
Child Age	-0.00	0.00	0.00		
Child Sex	-0.26	0.06	-1.55		
Mother Emotion Communication	-0.33	0.10	-1.96[t]		
	R = .37	R^2_{Adj} = .05		F = 1.67	

[t]p < 0.10, *p < 0.05, **p < 0.01, ***p < .001
Note. [a]Child Sex: boys = 1, girls = 2.

Table 41

Mother Direct Communication and its Association with Child Involvement with Bullying in the Conflict Task (Study 2)

Variables	Beta	Sr^2	T	R^2_{ch}	F_{ch}
Step 1				0.03	0.57
Child Age	0.00	0.00	0.02		
Child Sex[a]	-0.18	0.03	-1.05		
Step 2				0.11	4.03 [t]
Child Age	0.01	0.00	0.08		
Child Sex	-0.22	0.05	-1.33		
Mother Direct Communication	-0.33	0.11	-2.01 [t]		
	R = .37	R^2_{Adj} = .06		F = 1.76	

[t]p < 0.10, *p < 0.05, **p < 0.01, ***p < .001
Note. [a]Child Sex: boys = 1, girls = 2.

Chapter 3: General Discussion

The goal of the current studies was to further understand mother-child communication and its role in the process of socialization and the development of relationships. This was accomplished by examining multiple measures of social competence and different types of relationships (i.e. parent-child, child-peers), both adaptive (friendships) and maladaptive (bullying), in a prospective longitudinal design of at-risk mother-child dyads from the Concordia Project across two generations. Associations were made between mother-child communication and adaptive and maladaptive relationships. This knowledge is critical for our understanding of healthy development given that, as social beings, relationships serve as a foundation for positive adjustment (Luthar, 2006; Luthar & Barkin, 2012). In addition, mothers' childhood histories of risk (aggression and social withdrawal) predicted communication during interactions with their children, contributing to our understanding of the intergenerational transfer of risk. Taken together, the results highlight the roles of psychosocial risk and parent-child communication in relationship development.

Mother-Child Communication

The two studies in the current dissertation contributed to the literature on parent-child communication. Given that there is a relative lack of consistency in studies that examine parent-child communication, and that most studies rely on parent or child self-reports of communication quality, the investigation of communication using observational measures filled an important gap. In the present studies, observational measures of mother and child communication behaviours were used during two interaction contexts, and consequently provided a more naturalistic picture of mother-child communication and its impact in socialization. Results revealed that mothers generally used more communication (themes, functions, tone, and orientation) than children. This is not surprising given that it is developmentally appropriate for children to learn from their

parents. Consistent with social learning theory (Patterson, 1982), mothers in the current studies may have been serving as models from which children were learning, which may explain why mothers naturally used more communication than their children. Moreover, the parent–child relationship has been theorized as vertical in nature, characterized by unequal distributions of power or authority and interactions that are complementary and asymmetrical (Russell, Petit, & Mize, 1998). Mothers believe that exerting their power in conflict situations is critical for their children's socialization (Della Porta & Howe, 2012), therefore, mothers may have been leading the way in terms of communicating with their children while children generally conceded to their mother's lead. However, it is well established that mother-child relationships are best understood through a bilateral framework, which argues that the integration of numerous theoretical assumptions help to more fully understand the complex nature of the parent-child relationship (Kuczynski, 2003). Therefore, in addition to a social learning perspective, transactional (Sameroff, 2009) and bidirectional (Bell, 1968) models, which argue that children are active agents in influencing their relationship with their parents, contribute to the conceptualization of the parent-child relationship. Therefore, although some aspects of the relationship may initially be vertical, in line with mother's use of communication behaviours in the current study, they may become horizontal (having equal rights, being cooperative, symmetrical, and fair) as children age and become more independent. Further support for horizontal features in what is inherently a vertical relationship, comes from research demonstrating that, as children progress through childhood, neither parents or children generally perceive themselves to have more power in their relationship (Della Porta & Howe, 2012). Parenting is thus continuously adapting as children strive to become more independent (Ng et al., 2004). This adaptation is reflective of the effects that child characteristics and the environment have on the parent child-relationship (Kuczynski, 2003).

Furthermore, in the current studies, mothers and their children engaged in two different interaction contexts (game-playing and conflict tasks), which allowed for a context specific examination of communication. Results revealed that communication generally varied dependent on what type of context the dyads were engaged in. For example, more logistic communication was used in the jenga task, while more social communication was used in the conflict task. This suggests that mother and child communication behaviours are somewhat context specific. Despite this result, some behaviours (e.g. communication orientation) appeared relatively consistent across tasks. This finding suggests that beliefs central to mother-child communication (orientation) may remain the same, while specific communication behaviours adapt to different contexts. Results also revealed that mothers and children in two different subsamples from the Concordia project used communication theme, function, tone, and orientation with similar frequencies. For example, social communication was used most frequently across samples, while emotion communication was used least frequently. This result suggests that communication is experienced similarly across mother-child dyads, allowing for the replication of findings across two subsamples from an at-risk community population, and greater generalizability of results. However, it is important to recognize that the patterns revealed in this study may only be specific to mother-child dyads and dyads from an at-risk community sample. While we know that fathers play an important role in child socialization (Adamson, 2013; Lamb, 2010), and that they have unique effects on their children's development (Pougnet, Serbin, Stack, & Schwartzman, 2011), it is unclear whether parent sex moderates the association to parent-child communication. Future research is required to replicate this study with fathers and in different types of families (at-risk, low-risk) in order to better understand the role of parent sex in parent-child communication across different populations.

Furthermore, the observation of communication in the present study was limited to

contexts with emotional valence (conflict and game-playing tasks). The conflict task may pull for negative interactions and therefore may not generalize to other situations that typically characterize the mother-child relationship. Similarly, the game-playing task may pull for positive interactions. Future research should investigate communication across multiple contexts and topics. For example, a neutral task (e.g. puzzle) or a non-conflict related topic of discussion was not considered in the current study. This type of task could potentially illustrate which communication theme (emotion, social, logistic) or tone (positive, negative, neutral) is used most in a context that might not pull for these particular behaviours. Multiple contexts and topics would ultimately provide a more comprehensive understanding of how mother and child communication varies as a function of topic and/or context.

Finally, while the method of studying communication in mother-child dyads was an important contribution to how communication is measured in the literature, the current study did not use a purely dyadic measure of communication. Future studies should employ methodologies that more closely adhere to the tenets of transactional and dynamic systems models in the measurement of communication. Communication is a relational construct; by measuring mother and child separately, important information about how each partner interacts in response to the other may be lost. Dyadic codes that consider both partners may yield a deeper understanding of the nature of communication and a more accurate or more complete picture of the parent-child relationship.

Maternal Histories of Aggression and Withdrawal and the Transfer of Risk

Associations between mother-child communication and maternal histories of aggression and social withdrawal support the influence of communication in the transfer of risk across generations. This is especially important given that associations between mother-child communication and children's social competence and relationships (friendships, bullying) over

time were identified. By demonstrating that mother-child communication in childhood is linked to social competence and peer relationships in adolescence and young adulthood, important implications for understanding the development of social competence and relationships in at-risk populations was gained. Specifically, communication may influence the direction of children's developmental trajectories by enhancing social competence, and promoting positive relationships, thereby fostering positive outcomes in at-risk children (Pepler, Craig, Jiang, & Connolly, 2008). Similarly, failure to demonstrate adaptive communication behaviours in childhood may contribute to undermining social competence at this age, and potentially impede social relationships as they become more complex and intricate later in life. Relationship problems, such as bullying, typically involve one partner who is exerting power, and another that is powerless to control (Pepler, 2008). Adaptive communication, especially in mother-child relationships, may provide children with a base to test out and explore their communication abilities. In line with a developmental cascades framework, confidence in one's communication abilities, will lead to confidence in other developmental areas as well (Vaillancourt, 2013). Therefore, if children are successful communicators, they will likely be successful at school and with their peers as well. This cascading effect suggests that an understanding of adaptive communication in childhood has further implications for the development of social and educational intervention programs. Results suggest that mother-child communication could be considered a central component of preventative efforts targeting families at-risk for negative psychosocial outcomes, although future research is warranted. That maternal childhood aggression and social withdrawal were associated with children's behaviour and outcomes supports the notion that these behavioural styles are part of a complex, intergenerational social pattern that threatens the quality of parenting and socialization (Serbin et al., 2004).

Despite the important findings linking maternal childhood histories of risk to mother-child communication and, the fact that these associations were obtained after 35 years, representing strengths of the present studies, histories of risk did not consistently predict communication behaviours. It may be that additional factors, outside of the parent-child dyad, account for this inconsistency. Future research should continue to examine whether other variables (e.g., children's IQ, SES, parenting stress, etc.) may help to explain intergenerational continuities and inconsistencies, and help explain some of the reasons that maternal histories of aggression and withdrawal did not consistently predict the behaviours investigated in this study (e.g. Enns, 2013, Martin, 2012). Detecting variables that moderate the association between childhood aggression or withdrawal and mother-child communication, as well as social competence and relationship development, would allow for the design of preventative interventions and improved policies targeting these variables.

Furthermore, while the current study examined how maternal histories of risk predict behaviour and relationship outcomes in offspring, this study could not examine the relationships between parent behaviour and the same behaviour in their offspring (e.g., parent-child relationship quality in childhood in one generation predicting the same measure of parent-child relationship quality in childhood in the next generation). Future research should seek to extend the current study by investigating the same behaviours across generations, using similar measures, and at the same time point. This type of investigation is characteristic of intergenerational research and would allow for a better understanding of the mechanisms involved in the transfer of risk (Conger, Belsky, & Capaldi, 2009).

Mother-Child Communication, Social Competence, and Relationships

The results of the current study highlight the role of communication in the development of relationships, which are central to socialization. Relationships are based on interactions that

constantly evolve, and therefore provide a context for socialization to occur. Furthermore, socialization is based on mutual influences of each partner over time and in moment-to-moment interactions (Laible & Thompson, 2007; Kuczynski, 2003; Kuczynski & Parkin, 2007). As such, by examining *mother* and *child* communication behaviours, separately, during two interaction tasks, and how these variables were associated, the current studies acknowledged the bidirectional nature of the mother-child relationship. Results from the current studies are consistent with some of the basic themes of bidirectional models of parent-child interactions and relationships. For example, results suggest that parent and children are active agents in their relationship with one another, that parents and children's behaviours are dynamic and reflect the history of their relationship as well as each other's current behaviour, and that family systems include power asymmetries which are constantly evolving (Kuczynski & Parkin, 2009; Laible & Thompson, 2007; Maccoby, 2007). Thus, behaviours that occur in parent-child interactions are not the product of a simple series of turn-taking exchanges or responses to particular behaviours, traits, or variables, but rather, recurrent, reciprocal interchanges between both partners developed from a history of interactions over time and perceptions of their relationship (Fogel & Garvey, 2007; Fogel, Garvey, Hsu, & West-Stromming, 2006; Kuczynski, 2003; Kuczynski & Parkin, 2009). For example, in Study 1, mothers with histories of aggression had children who used less emotion related communication. Mothers' aggressive nature may lead their children to withdraw from interactions, which in turn, may lead mothers to experience unsuccessful attempts at engaging their children in conversation, thereby limiting their children's use of emotion communication in the current study.

Although the developmental literature contains numerous assumptions that explain parent-child relations and that seek to better understand the causality of bidirectional relations, mother-child interactions are often explained from a transactional perspective (Sameroff, 2009).

These models describe processes underlying the relationships between the developing child and the social context in which development occurs, and have thus been adopted by theorists of developmental psychopathology, developmental cascades, and the intergenerational transfer of risk (Masten & Cicchetti, 2010; Sameroff & Mackenzie, 2003; Olson & Lunkenheimer, 2009). Transactional models emphasize how parents and children change as they interact over time, and that each partner affects one another, reflecting that parents and children are engaged in continual transformations (Sameroff, 2009). Over time, these transactions, although subtle, lead to larger transformations in the mother-child relationship (Bornstein, 2009). Transactions are not linear but rather arise from some initial change that eventually signifies the onset of a new pattern of behaviour (Olson & Lunkenheimer, 2009). Transactional theorists posit that childrens' and mothers' behaviours are also affected by a host of other factors including individual (e.g., age, temperament, ability) and environmental characteristics (e.g., culture, financial and life stressors). Therefore, in the current studies, the associations between individual and environmental characteristics (i.e. maternal histories of risk, maternal education, child sex and age), mother-child communication, and children's social competence and relationships, are best understood within a transactional model. However, including genetic markers in this study would have also allowed for the consideration of biological influences on parent-child communication and relationship outcomes and potential gene-environment interaction effects. Despite the absence of a model informed by genetic markers, children's individual and environmental factors have been demonstrated to be vital in longitudinal, intergenerational studies (Serbin & Karp, 2003; Stack et al., 2010). Taken together, transactional models suggest that developmental processes are dynamic, bidirectional, and transformational, continually evolving across time and social contexts (Fogel, 2009; Sameroff & Mackenzie, 2003). Results from the current studies shed light on the multiple factors involved in the development of relationships, while underscoring the

complexity of the mother-child relationship, as a dynamic and evolving process.

Parent-child interactions offer a window into an understanding of their relationship. The family systems literature contributes the concept of circular causality (Becvar, 1988) to understanding parent-child interactions. During socialization processes, parents and children are a part of a recursive interactional cycle of cause and effect in which a distinct beginning or end is difficult to identify. Researchers have used this model to explain the development of coercive processes in at-risk families where coercion plays a role in the life course of children (Patterson, Reid, & Dishion, 1992). This perspective on recursive coercive processes is particularly helpful in understanding the results from the current studies in terms of maternal histories of risk and the negative associations with parent-child communication.

Although the current study employed two subsamples of at-risk families, in future studies, communication should be examined in different types of at-risk populations. For example, in families with children who have a history of pervasive negative interactions or relationships (e.g. maltreated children; Cicchetti, 2013), or who have a developmental disability or disorder associated with social skills deficits (e.g. Autism Spectrum Disorder). These children are at greater risk to be victimized by their peers, and may require unique parenting strategies given the nature of the particular population. An understanding of how to promote positive social interactions and healthy relationships in these populations is essential for their well-being in childhood and into adulthood where maladaptive relationships can take different forms including such forms as dating aggression and sexual harassment (Pepler et al., 2008).

Researchers recognize that 'resilience rests on relationships', and that healthy relationships promote well-being (Luthar, 2006; Luthar & Barkin, 2012). Recent media attention highlights the role of bullying and victimization in tragic events in our society such as school shootings, and teenage suicides and in related problems such as dating aggression, sexual

harassment and drug and alcohol abuse. Therefore, reducing bullying and victimization in society involves promoting the development of healthy relationships (Pepler et al., 2008). This can be achieved by understanding the transfer of violence and risk across generations, including the developmental outcomes associated with aggression and social withdrawal. Such knowledge could help to identify precursors of bullying and victimization, and develop preventative interventions for families and youth.

Conclusions

The present series two studies employed a sample of at-risk mothers from the Concordia Project interacting with their children in order to examine the longitudinal associations between mother-child communication in childhood and social and relationship outcomes in adolescence and young adulthood. Results from this research make a valuable contribution to our knowledge of child development and the effects of parenting in the transfer of risk across generations. Given its design, results from the two studies demonstrated possible pathways toward social competence and adaptive and maladaptive relationships through parent-child interactions and communication. As such, the results have implications for the development of preventative efforts, education and social policies, and interventions for at-risk youth.

The results highlight factors that may place individuals at risk for developing negative life trajectories. However, by definition, risk is probabilistic, thus these results also shed light on possible protective factors which can be fostered in order to optimize outcomes and break the negative cycle of risk. To best understand developmental pathways, results from the present dissertation provide evidence for a comprehensive model that incorporates individual and environmental factors (i.e. behavior, education, social learning, individual and group characteristics; Brendgen, Girard, Vitaro, Dionne, Boivin, 2013).

In conclusion, the studies comprising this dissertation make a substantive contribution to

the developmental literature and the growing body of work on mother-child interactions. The current research moves the field forward by contributing a novel measurement of mother-child communication via observational coding during mother-child interactions, and through its longitudinal examination of mother-child communication, social competence, and relationships from childhood to young adulthood. By examining predictions of mother-child communication from mothers' own histories of risk, the present study underscores the importance of conceptualizing child development as a dynamic, integrative process that begins before birth and evolves within the context of the family and the larger social environment.

References

Achenbach, T. M. (1991a). Manual for the Child Behavior Checklist/4-18 and 1991 Profile. Burlington, VT: University of Vermont Department of Psychiatry.

Achenbach, T. M., & Rescorla, L. A. (2001). The manual for the ASEBA school-age forms & profiles. Burlington, VT: University of Vermont, Research Center for Children, Youth, and Families.

Adams, R. E., & Laursen, B. (2007). The correlates of conflict: Disagreement is not necessarily detrimental. Journal of Family Psychology, 21(3), 445-458. doi:10.1037/0893-3200.21.3.445

Ahmed, E., & Braithwaite, V. (2004). "What, me ashamed?" Shame management and school bullying', Journal of Research in Crime and Delinquency, 41(3), 269-294. doi:10.1177/0022427804266547

Asher, S. R., Hymel, S., & Renshaw, P. D. (1984). Loneliness in children. Child Development, 55(4), 1456-1464. doi:10.2307/1130015

Aunola, K., & Nurmi, J. (2005). The role of parenting styles in children's problem behavior. Child Development, 76(6), 1144-1159. doi: 10.1111/j.1467-8624.2005.00840.x-i1

Babin, E. A., & Palazzolo, K. E. (2012). The relationships between parent communication patterns and sons' and daughters' intimate partner violence involvement: Perspectives from parents and young adult children. Journal of Family Communication, 12(1), 4-21. doi:10.1080/15267431.2011.607740

Bailey, J. A., Hill, K. G., Oesterle, S., & Hawkins, J. D. (2009). Parenting practices and problem behavior across three generations: Monitoring, harsh discipline, and drug use in the intergenerational transmission of externalizing behavior. Developmental Psychology, 45(5), 1214-1226. doi:10.1037/a0016129

Barber, B. K., & Harmon, E. L. (2002). Violating the self: Parental psychological control of children and adolescents. In B. K. Barber (Ed.), Intrusive parenting: How psychological control affects children and adolescents (pp. 15-52). Washington, DC: American Psychological Association.

Barrieau, L. (2009). The influence of mother-child communication and relationship factors in promoting healthy development in high risk children. (Unpublished master's thesis). Concordia University, Montreal, Quebec, Canada. Barrieau, L., & Stack, D. M. (2011). Communication Coding Scheme (CCS). Unpublished document, Concordia University, Montreal, Quebec, Canada.

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. Journal of Personality and Social Psychology, 51(6), 1173-1182. Bell R.Q. (1968). A reinterpretation of the direction of effects in studies of socialization. Psychological Review, 75(2), 81–95. doi: 10.1037/h0025583

Becvar, R. J., & Becvar, D. S. (1988). Toward a unified concept of reality for the social sciences. Journal of Strategic & Systemic Therapies, 7(4), 67-72. Bell R.Q. (1968). A reinterpretation of the direction of effects in studies of socialization. Psychological Review, 75(2), 81–95. doi: 10.1037/h0025583

Bell R.Q. (1968). A reinterpretation of the direction of effects in studies of socialization. *Psychological Review*, *75*(2), 81–95. doi: 10.1037/h0025583

Belsky, J., Conger, R., & Capaldi, D. M., (2009). The intergenerational transmission of parenting: Introduction to the special section. Developmental Psychology, 45(5), 1201-1204. doi:10.1037/a0016245

Bentley, V. M. N. (2002). The influence of parental and contextual factors on the quality of the mother-child relationship and child cognitive and behavioural outcomes: Implications for the

intergenerational transfer of risk. (Unpublished doctoral dissertation). Concordia University, Montreal, Quebec, Canada.

Berndt, T. J. (2004). Children's friendships: Shifts over a half-century in perspectives on their development and their effects. Merrill Palmer Quarterly, 50(3), 206-223. Retrieved from http://digitalcommons.wayne.edu/mpq/vol50/iss3/2/

Blechman, E. A. (1991). Effective communication: Enabling multiproblem families to change. In P. A. Cowan, E. Hetherington (Eds.), Family transitions (pp. 219-244). Hillsdale, NJ England: Lawrence Erlbaum Associates, Inc.

Bliese, P. D. (1998). Group size, ICC values, and group-level correlations: A simulation. Journal of Management, 24(2), 157-172. doi:10.1177/014920639802400202

Bornstein, M. H. (2009). Toward a model of culture – parent-child transactions. In A. Sameroff (Ed.), The transactional model of development: How children and contexts shape each other (pp. 139-161). Washington, DC: American Psychological Association.

Boyle, M. H., & Lipman, E. L. (2002). Do places matter? Socioeconomic disadvantage and behavioral problems of children in Canada. Journal of Consulting and Clinical Psychology, 70(2), 378-389. doi:10.1037/0022-006X.70.2.378

Brendgen, M., Girard, A., Vitaro, F., Dionne, G., Boivin, M. (2013). Do peer group norms moderate the expression of genetic risk for aggression? Journal of Criminal Justice, 41 (5), 324-330.

Brown, A. M., Fitzgerald, M. M., Shipman, K., & Schneider, R. (2007). Children's expectations of parent-child communication following interparental conflict: Do parents talk to children about conflict? Journal of Family Violence, 22(6), 407-412. doi:10.1007/s10896-007-9095-x

Bruton, A., Conway, J. H., & Holgate, S. T. (2000). Reliability: What is it and how is it measured? Physiotherapy, 86(2), 94-99. doi:10.1016/S0031-9406(05)61211-4

Buhrmester, D. (1996). Need fulfillment, interpersonal competence and the development of contexts of early adolescent friendship. In W.M. Bukowski, A.F. Newcomb & W.W.Hartup (Eds.). The company they keep: Friendship in childhood and adolescence. New York, NY: Cambridge University Press.

Cairns, R. B., & Cairns, B. D. (1994). Lifelines and risks: Pathways of youth in our time. New York, NY: Cambridge University Press.

Cairns, R. B., Cairns, B. D., Xie, H., Leung, M. C., & Hearne, S. (1998). Paths across generations: Academic competence and aggressive behaviors in young mothers and their children. Developmental Psychology, 34(6), 1162-1174. doi:10.1037/0012-1649.34.6.1162

Card, N. A., Stucky, B. D., Sawalani, G. M., & Little, T. D. (2008). Direct and indirect aggression during childhood and adolescence: A meta-analytic review of gender differences, intercorrelations, and relations to maladjustment. Child Development, 79(5), 1185-1229. doi:10.1111/j.1467-8624.2008.01184.x

Caspi, A., Elder, G. H., Jr., & Bem, D. J. (1988). Moving away from the world: Life-course patterns of shy children. Developmental Psychology, 24(6), 824-831. doi: 10.1037/00121649.24.6.824

Caspi, A., & Moffitt, T. E. (1995). The continuity of maladaptive behavior: From description to understanding in the study of antisocial behaviour. In D. Cicchetti, & D. J. Cohen (Eds.), Developmental psychopathology: Vol. 2 (pp. 472-511). New York, NY: Wiley.

Caughlin, J. P. (2010). A multiple goals theory of personal relationships: Conceptual integration and program overview. Journal of Social and Personal Relationships, 27(6), 824-848. doi:10.1177/0265407510373262

Chapman, D. A., & Scott, K. G. (2001). The impact of maternal intergenerational risk factors on adverse developmental outcomes. Developmental Review, 21(3), 305-325. Retrieved from http://dx.doi.org/10.1006/drev.2000.0523

Chase-Lansdale, P. L., & Votruba-Drzal, E. (2004). Human development and the potential for change from the perspective of multiple disciplines: What have we learned? In P. L. Chase-Lansdale, K. Kiernan, & R. J. Friedman (Eds.), Human development across lives and generations: The potential for change (pp. 343-362). New York, NY: Cambridge University Press.

Cicchetti, D. (2013). The legacy of development and psychopathology. Development and psychopathology, 25(4), 1199-1200. doi:10.1017/S0954579413000552

Cicchetti, D. (2006). Development and Psychopathology. In D. Cicchetti (Ed.), Developmental Psychopathology: Theory and Method (2nd ed., Vol. 1, pp. 1-23). New York: Wiley.

Cicchetti, D., & Toth, S. L. (2009). A developmental psychopathology perspective on adolescent depression. In S. Nolen-Hoeksema, L. M. Hilt (Eds.), Handbook of depression in adolescents (pp. 3-32). New York, NY US: Routledge/Taylor & Francis Group.

Cicchetti, D., & Toth, S. L. (2009). The past achievements and future promises of developmental psychopathology: The coming of age of a discipline. Journal of Child Psychology and Psychiatry, 50(1-2), 16-25. doi:10.1111/j.1469-7610.2008.01979.x

Clark, K. E., & Ladd, G. W. (2000). Connectedness and autonomy support in parent–child relationships: Links to children's socioemotional orientation and peer relationships. Developmental Psychology, 36(4), 485-498. doi:10.1037/0012-1649.36.4.485

Cohen, J., & Cohen, P. (2002). Applied multiple regression/correlation analysis for the behavioural sciences (3rd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.

Coie, J. D., & Dodge. K. A. (1998). Aggression and antisocial behaviour. In W. Damon & N. Eisenberg (Eds.), Handbook of child psychology: Social, emotional, and personality development (5th ed., Vol. 3, pp. 779-862). Hoboken, NJ: John Wiley & Sons Inc.

Collins, W. A., & Madsen, S. D. (2003). Developmental change in parenting interactions. In L. Kuczynski (Ed.), Handbook of dynamics in parent-child relations (pp. 49-66). Thousand Oaks, CA: Sage Publications, Inc.

Collins, W., Madsen, S. D., & Susman-Stillman, A. (2002). Parenting during middle childhood. In M. H. Bornstein (Ed.), Handbook of parenting:Children and parenting (2nd ed., Vol.1, pp. 73-101). Mahwah, NJ US: Lawrence Erlbaum Associates Publishers.

Collins, W. A., & van Dulmen, M. (2006). The significance of middle childhood peer competence for work and relationships in early adulthood. In A. C. Huston, & M. N. Ripke (Eds.), Developmental contexts in middle childhood: Bridges to adolescence and adulthood (pp. 23-40). New York, NY: Cambridge University Press.

Conger, R. D., Neppl, T., Kim, K. J., & Scaramella, L. (2003). Angry and aggressive behavior across three generations: A prospective, longitudinal study of parents and children. Journal of Abnormal Child Psychology, 31(2), 143-160. doi:10.1023/A:1022570107457

Conger, R. D., & Donnellan, M. B. (2007). An interactionist perspective on the socioeconomic context of human development. Annual Review of Psychology, 58, 175-199. doi:10.1146/annurev.psych.58.110405.05551

Conger, R. D., & Dogan, S. J. (2007). Social class and socialization in families. In J. E. Grusec, & P. D. Hastings (Eds.), Handbook of socialization: Theory and research (pp. 433-460). New York, NY: Guilford Press.

Cooperman, J.M. (1996). Maternal aggression and withdrawal in childhood: Continuity and intergenerational risk transmission. Masters Abstracts International, 35/36, 1895. (AAT MM18381). Coplan, R. J., Girardi, A., Findlay, L. C. and Frohlick, S. L. (2007). Understanding solitude: Young children's attitudes and responses toward hypothetical socially withdrawn peers. Social Development, 16(3), 390–409. doi: 10.1111/j.1467-9507.2007.00390.x

Creasey, G., Jarvis, P., & Berk, L. (1998). Play and social competence. In O. N. Saracho, & B. Spodek (Eds.), Multiple perspectives on play in early childhood education (pp. 116-143). Albany, NY: State University of New York Press.

Deater-Deckard, K., & Petrill, S. A. (2004). Parent-child dyadic mutuality and child behaviour problems: An investigation of gene-environment processes. Journal of Child Psychology and Psychiatry, 45(6), 1171-1179. doi:10.1111/j.1469-7610.2004.00309.x

De Genna, N. M., Stack, D. M., Serbin, L. A., Ledingham, J. E., & Schwartzman, A. E. (2007). Maternal and child health problems: The inter-generational consequences of early maternal aggression and withdrawal. Journal of Social Science and Medicine, 64(12), 2417-2426. Retrieved from http://dx.doi.org/10.1016/j.socscimed.2007.03.001

Denham, S. D. (2005). The emotional basis of learning and development in early childhood education. In B. Spodek & O. Saracho (Eds.), Handbook of research on the education of young children, (pp. 85-103). New York: Lawrence Erlbaum.

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: Blackwell Publishing. Diperna, J. C. & Volpe, R. J. (2005). Self-report on the social skills rating system: Analysis of reliability and validity for an elementary sample. Psychology in the Schools, 42(4), 345–354. doi: 10.1002/pits.20095

Dirks, M. A., Treat, T. A., & Weersing, V. R. (2007). Integrating theoretical, measurement, and intervention models of youth social competence. Clinical Psychology Review, 27(3), 327-347. doi:10.1016/j.cpr.2006.11.002

Dix, T., Stewart, A. D., Gershoff, E. T., & Day, W. H. (2007). Autonomy and children's reactions to being controlled: Evidence that both compliance and defiance may be positive markers in early development. Child Development, 78(4), 1204-1221. doi:10.1111/j.1467-8624.2007.01061.x

Doyle, A., Lawford, H., & Markiewicz, D. (2009). Attachment style with mother, father, best friend, and romantic partner during adolescence. Journal of Research on Adolescence, 19(4), 690-714. doi:10.1111/j.1532-7795.2009.00617.x

Dubow, E. F., Huesmann, L., & Boxer, P. (2003). Theoretical and methodological considerations in cross-generational research on parenting and child aggressive behavior. Journal of Abnormal Child Psychology: An Official Publication of the International Society for Research in Child and Adolescent Psychopathology, 31(2), 185-192. doi:10.1023/A:1022526325204

Dubow, E. F., Huesmann, L. R., & Boxer, P. (2003). Theoretical and methodological considerations in cross-generational research on parenting and child aggressive behavior. Journal of Abnormal Child Psychology, 31(2), 185-192. doi:10.1023/A:1022526325204

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

Erikson, E. H. (1968). Identity: youth and crisis. Oxford England: Norton & Co.

Faircloth, B. S., & Hamm, J. V. (2005). Sense of belonging among high school students representing 4 ethnic groups. Journal of Youth and Adolescence, 34(4), 293-309. doi:10.1007/s10964-005-5752-7

Farmer, A.D., Bierman, K.L., & The Conduct Problems Prevention Research Group (2002). Predictors and consequences of aggressive-withdrawn problem profiles in early grade school. Journal of Clinical Child Psychology, 31(3), 299-311. doi:10.1207/S15374424JCCP3103_02

Feinstein, L., & Bynner, J. (2006). Continuity and discontinuity in middle childhood: Implications for adult outcomes in the UK 1970 Birth cohort. Developmental contexts in middle childhood: Bridges to adolescence and adulthood (pp. 327-349). New York, NY: Cambridge University Press.

Fitzpatrick, M. A., & Ritchie, L. D. (1994). Communication schemata within the family: Multiple perspectives on family interaction. Human Communication Research, 20(3), 275-301. doi:10.1111/j.1468-2958.1994.tb00324.x

Fogel, A. (2009). What is a transaction? In A. Sameroff (Ed.), The transactional model of development: How children and contexts shape each other (pp. 271-280). Washington, DC: American Psychological Association.

Fogel, A., & Garvey, A. (2007). Alive communication. Infant Behavior and Development, 30(2), 251–257. Retrieved from http://dx.doi.org/10.1016/j.infbeh.2007.02.007

Fogel, A., Garvey, A., Hsu, H. - C., & West-Stroming, D. (2006). Change processes in relationships: A relational-historical research approach. New York, NY: Cambridge University Press.

Fogel, A., & Thelen, E. (1987). Development of early expressive and communicative action: Reinterpreting the evidence from a dynamic systems perspective. Developmental Psychology, 23(6), 747–761. doi:10.1037/0012-1649.23.6.747

Fritz, M. S., & MacKinnon, D. P. (2007). Required sample size to detect the mediated effect. Psychological Science, 18(3), 233-239.

Furman, W. (1996). The measurement of children and adolescents' perceptions of friendships: Conceptual and methodological issues. In W. M. Bukowski, A. F. Newcomb, & W. W. Hartup (Eds.), The company they keep: Friendships in childhood and adolescence (pp. 41-65), Cambridge, MA: Cambridge University Press.

Furman, W. & Buhrmester, D. (1985). Children's perceptions of the personal relationships in their social networks. Developmental Psychology, 21(6), 1016-1022. doi:10.1037/0012-1649.21.6.1016

Gazelle, H., & Rudolph, K. D. (2004). Moving toward and away from the world: Social approach and avoidance trajectories in anxious solitary youth. Child Development, 75(3), 829-849. doi:10.1111/j.1467-8624.2004.00709.x

Gresham, F. M., & Elliott, S. N. (1990). The Social Skills Rating System. Circle Pines, MN: American Guidance Service.

Grunzeweig, N. (2014). Developing autonomy and social competence from preschool to middle childhood in a high-risk sample of children: Links to mutuality and maternal childhood histories of risk. Manuscript submitted for publication.

Grunzeweig, N., Stack, D. M., Serbin, L. A., Ledingham, J., & Schwartzman, A. E. (2009). Effects of maternal childhood aggression and social withdrawal on maternal request strategies and child compliance and noncompliance. Journal of Applied Developmental Psychology, 30(6), 724-737. doi:10.1016/j.appdev.2009.02.001

Gumina, J. M. (2009). Communication of the decision to divorce: A retrospective qualitative study. Journal of Divorce & Remarriage, 50(3), 220-232. doi:10.1080/10502550902717921

Harrist, A. W., & Waugh, R. M. (2002). Dyadic synchrony: Its structure and function in children's development. Developmental Review, 22(4), 555-592. doi:10.1016/S0273-2297(02)00500-2

Harter (2012). Self-Perception Profile for Children: Manual. University of Denver. Unpublished manual.

Harter, S. (1988). The self-perception profile for adolescents. (Unpublished manual) University of Denver, Denver, Colorado, United States of America. Harter, S. (1985). The self-perception profile for children: Revision of the perceived competence scale for children. Denver, CO: University of Denver. Harter, S., & Pike, R. (1984). The pictorial scale of perceived competence and social acceptance for young children. Child Development, 55, 1969-1982.

Hastings, P. D., Utendale, W. T., & Sullivan, C. (2007). The socialization of prosocial development. In J. E. Grusec and P. D. Hastings (Eds.) Handbook of socialization: Theory and research (pp. 638-664). New York, NY: The Guilford Press. Hay, C., & Meldrum, R. (2010). Bullying, victimization and adolescent self-harm: Testing hypotheses from general strain theory. Journal of Youth and Adolescence, 39(5), 446-459. doi:10.1007/s10964-0099502-0

Hill, N. E. (2012). Parent-child and child-peer close relationships: Understanding parental influences on peer relations from a cultural context. In T. J. Loving & L. Campbell (Eds.), Close relationships across the lifespan (pp. 109-134). Washington DC: APA Books.

Huesmann, L. R., Dubow, E. F., Eron, L. D., & Boxer, P. (2006). Middle childhood family-contextual and personal factors as predictors of adult outcomes. In A. C. Huston, & M. N. Ripke (Eds.), Developmental contexts in middle childhood: Bridges to adolescence and adulthood (pp.62-86). New York, NY: Cambridge University Press.

Huston, A. C., & Ripke, M. N. (2006). Experiences in middle childhood and children's development: A summary and integration of research. In A. C. Huston, & M. N. Ripke (Eds.), Developmental contexts in middle childhood: Bridges to adolescence and adulthood (pp. 409-434). New York, NY: Cambridge University Press.

Jiménez, L., Dekovic, M., & Hidalgo, V. (2009). Adjustment of school-aged children and adolescents growing up in at-risk families: Relationships between family variables and individual, relational and school adjustment. Children and Youth Services Review, 31(6), 654-661. doi:10.1016/j.childyouth.2008.12.007

Jones, D. C., & Houts, R. (1992). Parental drinking, parent-child communication, and social skills in young adults. Journal of Studies on Alcohol and Drugs, 53(1), 48-56. Retrieved from http://www.jsad.com/jsad/downloadarticle/Parental_Drinking_ParentChild_Communication_and_Social_Skills_in_Young_A/1938.pdf

Kerig, P. K. (2001). Introduction and overview: Conceptual issues in family observational research. In P. K. Kerig, & K. M. Lindahl (Eds.), Family observational coding systems: Resources for systematic research (pp.1-22). Mahwah, NJ: Lawrence Erlbaum Associates.

Kernis, M. H., Brown, A. C., & Brody, G. H. (2000). Fragile self-esteem in children and its associations with perceived patterns of parent-child communication. Journal of Personality, 68(2), 225-252. doi:10.1111/1467-6494.00096

Kim, J., & Cicchetti, D. (2010). Longitudinal pathways linking child maltreatment, emotion regulation, peer relations, and psychopathology. Journal of Child Psychology and Psychiatry, 51(6), 706-716. doi:10.1111/j.1469-7610.2009.02202.x

Kobak, R., & Herres, J. (2012). Social networks and attachment bonds during adolescence: Implications for early pair bonding and risky behaviors. In L. Campbell, T. J. Loving (Eds.), Interdisciplinary research on close relationships: The case for integration (pp. 135-152). Washington, DC US: American Psychological Association. doi:10.1037/13486-006

Kochanska, G. (1992). Children's interpersonal influence with mothers and peers. Developmental Psychology, 28(3), 491-499. doi:10.1037/0012-1649.28.3.491

Koerner, A. F., & Fitzpatrick, M. (2002). Toward a theory of family communication. Communication Theory, 12(1), 70-91. doi:10.1111/j.1468-2885.2002.tb00260.x

Koerner, A. F., & Fitzpatrick, M. (2002). Understanding family communication patterns and family functioning: The roles of conversation orientation and conformity orientation. In W. B. Gudykunst (Ed.), Communication yearbook 26 (pp. 36-68). Mahwah, NJ US: Lawrence Erlbaum Associates Publishers.

Koesten, J. (2004). Family communication patterns, sex of subject, and communication competence. Communication Monographs, 71(2), 226-244. doi:10.1080/0363775052000343417

Koesten, J., Anderson, K. (2004). Exploring the influence of family communication patterns, cognitive complexity, and interpersonal competence on ddolescent risk behaviors. Journal of Family Communication, 4(2), 99-121. doi:10.1207/s15327698jfc0402_2

Kovan, N. M., Chung, A. L., & Sroufe, L. A. (2009). The intergenerational continuity of observed early parenting: A prospective, longitudinal study. Developmental Psychology, 45(5), 1205-1213.

Kuczynski, L. (2003). Beyond bidirectionality: Bilateral conceptual frameworks for understanding dynamics in parent-child relations. In L. Kuczynski (Ed.), Handbook of dynamics in parent-child relations (pp.3-48). Thousand Oaks, CA: Sage Publications.

Kuczynski, L. & Parkin, C.M. (2007). Agency and bidirectionality in socialization: Interactions, transactions, and relational dialectics. In J.E. Grusec & P. Hastings (Eds.) Handbook of Socialization, (pp. 259-283) New York, NY: Guilford.

Kuczynski, L., & Parkin, C. M. (2009). Pursuing a dialectical perspective on transaction: A social relational theory of micro family processes. In A. Sameroff (Ed.), The transactional model of development: How children and contexts shape each other (pp. 247-268). Washington, DC: American Psychological Association.

Ladd, G. W. (1992). Themes and theories: Perspectives on processes in family-peer relationships. In R. D. Parke and G. W. Ladd (Eds.), Family-peer relationships: Modes of Linkage (pp. 3-34). Hillsdale, N.J: Erlbaum.

Ladd, G. W., & Burgess, K. B. (1999). Charting the relationship trajectories of aggressive, withdrawn, and aggressive/withdrawn children during early grade school. Child Development, 70(4), 910-929. doi: 10.1111/1467-8624.00066

Ladd, G. W., & Pettit, G. S. (2002). Parenting and the development of children's peer relationships. In M. H. Bornstein (Ed.). Handbook of parenting: Practical issues in parenting (2nd ed., Vol.5, pp. 269-309). Mahwah, NJ US: Lawrence Erlbaum Associates Publishers.

Lamb, M. E. (Ed.) (2004). The role of the father in child development (4thed.). New York, NY: John Wiley & Sons.

Laursen, B., & Collins, W. (1994). Interpersonal conflict during adolescence. Psychological Bulletin, 115(2), 197-209. doi:10.1037/0033-2909.115.2.197

Lereya, S., Samara, M., & Wolke, D. (2013). Parenting behavior and the risk of becoming a victim and a bully/victim: A meta-analysis study. Child Abuse & Neglect. doi:10.1016/j.chiabu.2013.03.001

Lindsey, E. W., Mize, J., & Pettit, G. S. (1997). Mutuality in parent-child play: Consequences for children's peer competence. Journal of Social and Personal Relationships, 14(4), 523 – 538. doi:10.1177/0265407597144007

Loeber, R., Drinkwater, M., Yin, Y., Anderson, S. J., Schmidt, L. C., & Crawford, A. (2000). Stability of family interaction from ages 6 to 18. Journal of Abnormal Child Psychology, 28(4), 353-369. doi:10.1023/A:1005169026208

Luthar, S. S. (2006). Resilience in development: A synthesis of research across five decades. In D. Cicchetti, D. J. Cohen (Eds.), Developmental psychopathology: Risk, disorder, and adaptation, (2nd ed., Vol. 3, pp. 739-795). Hoboken, NJ US: John Wiley & Sons Inc.

Luthar, S. S., & Barkin, S. H. (2012). Are affluent youth truly "at risk"? Vulnerability and resilience across three diverse samples. Development and Psychopathology, 24(2), pp 429-449. doi:10.1017/S0954579412000089

Luthar, S. S., & Cicchetti, D. (2000). The construct of resilience: Implications for interventions and social policies. Development and Psychopathology, 12(4), 857-885. Retrieved from http://journals.cambridge.org/article_S0954579400004156

Lyons, J., Serbin, L. A., & Marchessault, K. (1988). The social behaviour of peer-identified aggressive, withdrawn, and aggressive/withdrawn children. Journal of Abnormal Child Psychology, 16(5), 539–552. doi: 10.1007/BF00914265

McElhaney, K. B., & Allen, J. P. (2001). Autonomy and adolescent social functioning: The moderating effect of risk. Child Development, 72(1), 220-235. doi: 10.1111/1467-8624.00275

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: Guilford Press.

Martin, J. P., Stack, D. M., Serbin, L. A., Schwartzman, A. E. (2011). Social problem solving in high-risk mother-child dyads: An intergenerational study. Social Development, 21(1). doi: 10.1111/j.1467-9507.2011.00600.x

Masten, A. S., & Cicchetti, D. (2010). Developmental cascades. Development and Psychopathology, 22(3), 491495. doi:10.1017/S0954579410000222

Masten, A. S., & Coatsworth, J. D. (1998). The development of competence in favorable and unfavorable environments: Lessons from research on successful children. American Psychologist, 53(2), 205-220. doi:10.1037/0003-066X.53.2.205

Masten, A. S., Roisman, G. I., Long, J. D., Burt, K. B., Obradovic, J., Riley, J. R., Boelcke-Stennes, K., & Tellegen, A. (2005). Developmental cascades: Linking academic achievement and externalizing and internalizing symptoms over 20 years. Developmental Psychology, 41(5), 733-746. doi:10.1037/0012-1649.41.5.733

Merton, R. K. (1948). The bearing of empirical research upon the development of social theory. American Sociological Review, 13, 505-515. doi:10.2307/2087142

Muris, P., Meesters, C., & Fijen, P. (2003). The self-perception profile for children: further evidence for its factor structure, reliability, and validity. Personality and Individual Differences, 35(8), 1791-1802. doi:10.1016/S0191-8869(03)00004-7

Neppl, T. K., Conger, R. D., Scaramella, L. V., & Ontai, L. L. (2009). Intergenerational continuity in parenting behavior: Mediating pathways and child effects. Developmental Psychology, 45(5), 1241-1256. doi:10.1037/a0014850

Ng, F., Kenney-Benson, G. A., & Pomerantz, E. M. (2004). Children's achievement moderates the effects of mothers' use of control and autonomy support. Child Development, 75(3), 764-780. doi:10.1111/j.1467-8624.2004.00705.x

Nock, S.L., & Rossi, P.H. (1979). Household types and social standing. Social Forces, 57 (4), 1325-1345. doi:10.1093/sf/57.4.1325

Olson, S. L., & Lunkenheimer, E. S. (2009). Expanding concepts of self-regulation to social relationships: Transactional processes in the development of early behavioral adjustment. In A. J. Sameroff (Ed.), The Transactional Model of Development (pp. 55-76). Washington, DC: APA Press.

Otten, R., Harakeh, Z., Vermulst, A. A., Van den Eijnden, R. M., & Engels, R. E. (2007). Frequency and quality of parental communication as antecedents of adolescent smoking cognitions and smoking onset. Psychology of Addictive Behaviors, 21(1), 1-12. doi:10.1037/0893-164X.21.1.1

Pagani, L. S., Japel, C., Girard, A., Farhat, A., Cote, S., & Tremblay, R. E. (2006). Middle childhood life course trajectories: Links between family dysfunction and children's behavioral development. In A. C. Huston, & M. N. Ripke (Eds.), Developmental contexts in middle childhood: Bridges to adolescence and adulthood (pp. 130-149). New York: Cambridge University Press.

Parke, R. D., & Ladd, G. W. (1992). Family–peer relationships: Modes of linkage. Hillsdale, NJ England: Lawrence Erlbaum Associates, Inc.

Pasalich, D. S., Dadds, M. R., Vincent, L. C., Cooper, F. A., Hawes, D. J., & Brennan, J. (2012). Emotional communication in families of conduct problem children with high versus low callous-unemotional traits. Journal of Clinical Child and Adolescent Psychology, 41(3), 302-313. doi:10.1080/15374416.2012.668844

Patterson, G. R. (1982). A social learning approach: 3. Coercive Family Process. Eugene, OR: Castalia Publishing Company.

Patterson, G. R., DeBaryshe, B. D. & Ramsey, E. (1989). A developmental perspective on antisocial behavior. American Psychologist, 44(2), 329-335. doi:10.1037/0003-066X.44.2.329

Patterson, G. R., Reid, J. B, and Dishion, T.J., (1992). Antisocial Boys. Eugene, OR: Castalia Publishing Company.

Pekarik, E. G., Prinz, R. J., Leibert, D. E., Weintraub, S., & Neale, J. M. (1976). The pupil evaluation inventory: A sociometric technique for assessing children's social behaviour. Journal of Abnormal Child Psychology, 4(1), 83-97. doi:10.1007/BF00917607

Pepler, D., Jiang, D., Craig, W., & Connolly, J. (2008). Developmental trajectories of bullying and associated factors. Child Development, 79(2), 325-338. doi:10.1111/j.1467-8624.2007.01128.x

Porta, S. D., & Howe, N. (2012). Assessing mothers' and children's perceptions of power through personal, conventional, and prudential conflict situations. Merrill-Palmer Quarterly, 58(4). Retrieved from http://digitalcommons.wayne.edu/mpq/vol58/iss4/5

Pougnet, E., Serbin, L. A., Stack, D. M., & Schwartzman, A. E. (2011). Fathers' influence on children's cognitive and behavioural functioning: A longitudinal study of Canadian families. Canadian Journal of Behavioural Science, 43(3), 173-182. doi: 10.1037/a0023948

Porta, S. D., & Howe, N. (2012). Assessing mothers' and children's perceptions of power through personal, conventional, and prudential conflict situations. Merrill-Palmer Quarterly, 58(4). Retrieved from http://digitalcommons.wayne.edu/mpq/vol58/iss4/5

Putallaz, M. & Bierman, K. L. (2004). Preface. In M. Putallaz & K. L. Bierman (Eds.), Aggression, antisocial behaviour, and violence among girls: A developmental perspective (pp. 262-288). New York, NY: Guilford Press.

Raver, C. C. (2002). Emotions matter: Making the case for the role of young children's emotional development for early school readiness. Social Policy Report, 16, 3–18. Retrieved from http://srcd.org/sites/default/files/documents/spr16-3.pdf

Recchia, H. E., & Howe, N. (2009). Sibling relationship quality moderates the associations between parental interventions and siblings' independent conflict strategies and outcomes. Journal of Family Psychology, 23, 551-561.

Recchia, H. E., & Howe, N. (2009). Associations between social understanding, sibling relationship quality, and siblings' conflict strategies and outcomes. Child Development, 80, 1564-1578.

Reese, E., Bird, A., & Tripp, G. (2007). Children's self-esteem and moral self: Links to parent-child conversations. Social Development, 16(3), 460-478. doi:10.1111/j.1467-9507.2007.00393.x

Reis, H. T., & Shaver, P. (1988). Intimacy as an interpersonal process. In S. Duck, D. F. Hay, S. E. Hobfoll, W. Ickes, B. M. Montgomery (Eds.), Handbook of personal relationships: Theory, research and interventions (pp. 367-389). Oxford England: John Wiley & Sons.

Rigby, K. (2005). Bullying in schools and the mental health of children. Australian Journal of Guidance & Counselling, 15(2), 195-208. doi:10.1375/ajgc.15.2.195

Roland, E., & Idsøe, T. (2001). Aggression and bullying. Aggressive Behavior, 27(6), 446-462. doi:10.1002/ab.1029

Rose-Krasnor, L. (1997). The nature of social competence: A theoretical review. Social Development, 6(1), 111-135. doi:10.1111/j.1467-9507.1997.tb00097.x

Ross, H., & Howe, N. (2009). Family influences on children's peer relationships. In K. H. Rubin, W. M. Bukowski, B. Laursen (Eds.), Handbook of peer interactions, relationships, and groups (pp. 508-527). New York, NY: Guilford Press.

Rossi, P. H., Sampson, W. A., Bose, C. E., Jasso, G., & Passel, J. (1974). Measuring household social standing. Social Science Research, 3(3), 169-190. Doi:10.1016/0049089X(74)90011-8

Rubin, K. H., Burgess, K. B., & Coplan, R. J. (2002). Social withdrawal and shyness. In P. K. Smith (Ed.), Blackwell handbook of childhood social development (pp.330-352). Malden, MA: Blackwell Publishers.

Rubin, K. H. (1993). The Waterloo Longitudinal Project: Correlates and consequences of social withdrawal from childhood to adolescence. In K. H. Rubin & J. B. Asendorpf (Eds.), Social withdrawal, inhibition, and shyness in childhood (pp. 291-314). Hillsdale, NJ: Lawrence Erlbaum Associates Inc.

Rubin, K. H., Chen, X., McDougall, P., Bowker, A., & McKinnon, J. (1995). The Waterloo Longitudinal Project: Predicting internalizing and externalizing problems in adolescence. Development and Psychopathology, 7(4), 751-764. doi:10.1017/S0954579400006829

Russell, A., Pettit, G. S., & Mize, J. (1998). Horizontal qualities in parent–child relationships: Parallels with and possible consequences for children's peer relationships. Developmental Review, 18(3), 313-352. doi:10.1006/drev.1997.0466

Saarni, C. (2008). The interface of emotional development with social context. In M. Lewis, J. Haviland-Jones & L. Feldman Barrett (Eds.), The handbook of emotions (3rd ed., pp. 332-347). New York, NY: Guilford.

Saltaris, C., Serbin, L. A., Stack, D. M., Karp, J. A., Schwartzman, A. E., & Ledingham, J. E. (2004). Nurturing cognitive competence in preschoolers: A longitudinal study of intergenerational continuity and risk. International Journal of Behavioral Development, 28(2), 105-115. doi:10.1080/01650250344000316

Sameroff, A. (1975). Transactional models in early social relations. Human Development, 18(1-2), 65-79. doi:10.1159/000122384

Sameroff, A. (2009). The transactional model. In A. Sameroff (Ed.), The transactional model of development: How children and contexts shape each other (pp. 3-21). Washington, DC: American Psychological Association.

Sameroff, A., & Mackenzie, M. J. (2003). Research strategies for capturing transactional models of development: The limits of the possible. Development and Psychopathology, 15(3) 613-640. doi:10.1017/S0954579403000312

Sameroff, A. J., Chandler, M. J. (1975). Reproductive risk and the continuum of caretaking casualty. In F. D. Horowitz, M. Hetherington, S. Scarr-Salapatek, & G. Siegel (Eds.), Review of child development research, 4. Chicago, IL: University of Chicago Press.

Schrodt, P., Ledbetter, A. M., & Ohrt, J. K. (2007). Parental confirmation and affection as mediators of family communication patterns and children's mental well-being. Journal of Family Communication, 7(1), 23-46. doi:10.1207/s15327698jfc0701_3

Schwartzman, A. E., Ledingham, J. E., & Serbin, L. A. (1985). Identification of children at risk for adult schizophrenia: A longitudinal study. International Review of Applied Psychology, 34(3), 363-380. doi:10.1111/j.1464-0597.1985.tb01333.x

Serbin, L. A., & Karp, J. (2004). The intergenerational transfer of psychosocial risk: Mediators of vulnerability and resilience. Annual Review of Psychology, 55, 333-363. doi:10.1146/annurev.psych.54.101601.145228

Serbin, L. A., Cooperman, J. M., Peters, P. L., Lehoux, P. M., Stack, D. M., & Schwartzman, A. E. (1998). Intergenerational transfer of psychosocial risk in women with childhood histories of aggression, withdrawal, or aggression and withdrawal. Developmental Psychology, 34(6), 1246-1262. doi:10.1037/0012-1649.34.6.1246

Serbin, L. A., & Stack, D. M. (1998). Introduction to the special section: Studying intergenerational continuity and the transfer of risk. Developmental Psychology, 34(6), 1159-1161. doi:10.1037/0012-1649.34.6.1159

Serbin, L. A., Stack, D. M., De Genna, N. M., Grunzeweig, N., Temcheff, C. E., Schwartzman, A. E., & Ledingham, J. (2004). When aggressive girls become mothers: Problems in parenting, health, and

development across two generations. In M. Putallaz & K. L. Bierman (Eds.), Aggression, antisocial behaviour, and violence among girls: A developmental perspective (pp. 262-288). New York, NY: Guilford Press.

Serbin, L.A., Stack, D.M., Kingdon, D., Mantis, I., & Enns, L.N. (2011). Unpacking the effects of childhood poverty: A psychosocial approach to intergenerational risk. Under the direction of Frechet, G., Gauvreau, D., and Poirier, J. Social Exclusion, Poverty and Social Statistics: Perspectives from Quebec, Canada and Abroad (pp 113-122). A collection of papers highlighting Paul Bernard's contribution to social statistics and the study of social and health inequalities. Les presses de l'Université de Montréal.

Serbin, L. A., Stack, D. M., Schwartzman, A. E. (2000). Identification and prediction of risk and resiliency in high-risk preschoolers: An intergenerational study. (Unpublished grant proposal-Final Report Health Canada). Concordia University, Montreal, Quebec, Canada. Serbin, L. A., Stack, D. M., Schwartzman, A. E., Cooperman, J., Bentley, V., Saltaris, C., & Ledingham, J. E. (2002). A longitudinal study of aggressive and withdrawn children into adulthood. In R.J. McMahon and R. D. Peters (Eds.), The effects of parental dysfunction on children, 43-69.

Shaw, D. S. (2003). Advancing our understanding of intergenerational continuity in antisocial behavior. Journal of Abnormal Child Psychology, 31(2), 193-199. doi:10.1023/A:1022578309274

Shrout, P. E., & Fleiss, J. L. (1979). Intraclass correlations: Uses in assessing rater reliability. Psychological Bulletin, 86(2), 420-428. doi:10.1037/0033-2909.86.2.420

Sillars, A., Canary, D. J., & Tafoya, M. (2004). Communication, conflict, and the quality of family relationships. In A. L. Vangelisti (Ed.), Handbook of family communication (pp. 413-446). Mahwah, NJ US: Lawrence Erlbaum Associates Publishers.

Smith, C. L., Calkins, S. D., Keane, S. P., Anastopoulos, A. D., & Shelton, T. L. (2004). Predicting stability and change in toddler behavior problems: Contributions of maternal behaviour and child gender. Developmental Psychology, 40(1), 29-42. doi:10.1037/0012-1649.40.1.29

Stack. D. M., Serbin, L. A., Grunzeweig, N., Temcheff, C. E., De Genna, N. M., Ben-Dat Fisher, D., Hodgins, S., Schwartzman, A. E., & Ledingham, J. (2005). A 30-year longitudinal study of aggressive girls to motherhood: Trajectories of girlhood aggression, predictors of parenting, and offspring development. Criminologie, 38(1), 39-65.

Stack, D.M., Serbin, L.A., Girouard, N., Enns, L., Bentley, V., Ledingham, J., & Schwartzman, A.E. (2012). The quality of the mother-child relationship in high-risk dyads: Application of the Emotional Availability Scales in an intergenerational, longitudinal study. As part of a special section: A Developmental psychopathology perspective on Emotional Availability research, Z. Biringen & M.A. Easterbrooks (Eds.), Development and Psychopathology, 24, 93-105.

Stack, D.M., Serbin, L.A., Matte- Gagné, C., Kingdon, D., Doiron, K., & Schwartzman, A.E. (in press). Development under adverse circumstances as a risk for psychopathology: An intergenerational study of children from disadvantaged high-risk backgrounds. In L.M. Centifanti & D. Williams (Eds.), *Handbook of Developmental Psychopathology*. UK: Wiley-Blackwell.

Sutton, J., Smith, P. K., & Swettenham, J. J. (1999). Social cognition and bullying: Social inadequacy or skilled manipulation? British Journal of Developmental Psychology, 17(3), 435-450. doi:10.1348/026151099165384 Tabachnick, B. G., & Fidell, L. S. (2001). Using multivariate statistics.

Tabak, I., Mazur, J., del Carmen Granado Alcón, M., Örkenyi, Á., Zaborskis, A., Aasvee, K., & Moreno, C. (2012). Examining trends in parent-child communication in Europe over 12 years. The Journal of Early Adolescence, 32(1), 26-54. doi:10.1177/0272431611419509

Temcheff, C. E., Serbin, L. A., Martin-Storey, A., Stack, D. M., Hodgins, S., Ledingham, & J., Schwartzman, A. E. (2008). Continuity and pathways from aggression in childhood to family violence in adulthood: A 30-year longitudinal study. Journal of Family Violence, 23(4), 231-242. doi:10.1007/s10896-007-9147-2

Vaillancourt, T., Brendgen, M., Boivin, M., & Tremblay, R. E. (2003). A longitudinal confirmatory factor analysis of indirect and physical aggression: Evidence of two factors over time? Child Development, 74(6), 1628-1638. doi:10.1046/j.1467-8624.2003.00628.x

Van Doorn, M. D., Branje, S. T., & Meeus, W. J. (2007). Longitudinal transmission of conflict resolution styles from marital relationships to adolescent-parent relationships. Journal of Family Psychology, 21(3), 426-434. doi:10.1037/0893-3200.21.3.426

Wang, J. (2014). Psychometric Properties of the Network of Relationships Inventory-Social Provision Version in Chinese Youth. Child Psychiatry and Human Development, 10.1007/s10578-014-0438-6.

Warman, D. W., & Cohen, R. (2000). Stability of aggressive behaviours and children's peer relationships. Aggressive Behavior 26(4), 277-290. doi:10.1002/1098-2337(2000)26

Weinfield, N. S., Ogawa, J. R., & Egeland, B. (2002). Predictability of observed mother-child interaction from preschool to middle childhood in a high-risk sample. Child Development, 73(2), 528-543. doi:10.1111/1467-8624.00422

Werner, N. E., & Crick, N. R. (2004). Maladaptive peer relationships and the development of relational and physical aggression during middle childhood. Social Development, 13(4), 495-514. doi:10.1111/j.1467-9507.2004.00280.x

Wray-Lake, L., Crouter, A. C., & McHale, S. M. (2010). Developmental patters in decision-making autonomy across middle childhood and adolescence: European American parents' perspectives. Child Development, 81(2), 636-651. doi:10.1111/j.1467-8624.2009.01420.x

Zafiropoulou, M., Sotiriou, A., & Mitsiouli, V. (2007). Relation of Self-Concept in Kindergarten and First Grade to School Adjustment. *Perceptual and Motor Skills*, 1313-1327 (104). doi: 10.2466/pms.104.4.1313-1327

Zhang, Q. (2007). Family communication patterns and conflict styles in Chinese parent-child relationships. Communication Quarterly, 55(1), 113-128. doi:10.1080/01463370600998681

Zimmer-Gembeck, M. J., & Collins, W. A. (2003). Autonomy and development during adolescence. In G. R. Adams, & M. D. Berzonsky (Eds.), Blackwell Handbook of Adolescence (pp.175-204). Oxford, UK: Blackwell Publishing.

Appendix A

Informed Consent Form (Study 1)

FORMULAIRE DE CONSENTEMENT

Je,_____ et mon enfant_____ nous engageons volontairement à participer à l'étude "L'individu dans son milieu; La mère et son enfant" de l'Université Concordia. Les buts du projet nous ont été expliqués et nous comprenons que toutes les informations que nous fournissons sont strictement confidentielles. Nous comprenons aussi que toute information est utilisée pour fins de recherche et possiblement pour fins éducatives. Dans toutes les circonstances, nous sommes assurées que l'anonymat sera conservé. Cependant, selon la loi sur la protection de la jeunesse, toute information indiquant de l'abus physique ou sexuel devra être divulgué à l'Òffice de la Protection de la Jeunesse. Nous comprenons aussi que nous sommes libres de cesser notre participation à n'importe quel moment.

L'étude comprend une série de questionnaires ainsi qu'une tâche qui sera observée et filmée. L'étude est d'une durée maximale de 2 heures et une rémunération totale de $25.00 me sera remise aussitôt que la session sera terminée.

Nom:_____

Date:_____

Signature:_____

Assistant(e) de recherche:_____

Appendix B

Conflict Questionnaire (Mother)

Numéro D'identification: _____

Questionnaire sur les conflits
(parent)

Voici une liste d'éléments à propos desquels les enfants et les parents sont souvent en désaccord. Nous voulons savoir jusqu' à quel point votre enfant et vous êtes en désaccord sur ces sujets à la maison. Veuillez évaluer chaque item sur une échelle de 0 à 5 où 0 = "Je ne suis pas en désaccord" et 5 = "Je suis très en désaccord".

1. Tâches ménagères / aide à la maison.	1	2	3	4	5
2. Travail à l'école / devoirs, notes ou mauvaise conduite à l'école.	1	2	3	4	5
3. Inimité / être capable de garder certaines choses pour lui/elle-même.	1	2	3	4	5
4. Écouter / respecter les demandes et les conseils de ses parents.	1	2	3	4	5
5. L'heure à laquelle l'enfant doit être à la maison le soir.	1	2	3	4	5
6. Apparence physique / façon dont il/elle s'habille.	1	2	3	4	5
7. L'heure du coucher.	1	2	3	4	5
8. Passer du temps ensemble en temps que famille.	1	2	3	4	5
9. Les ami(e)s de mon enfant / les gens avec qui il/elle se tient.	1	2	3	4	5
10. S'entendre avec son/ses frère(s) et sa/ses soeur(s).	1	2	3	4	5
11. L'argent.	1	2	3	4	5
12. Parler au téléphone / regarder la télévision.	1	2	3	4	5
13. Garder sa chambre en ordre.	1	2	3	4	5
14. Prendre un bain / une douche.	1	2	3	4	5
15. _____	1	2	3	4	5
16. _____	1	2	3	4	5
17. _____	1	2	3	4	5
18. _____	1	2	3	4	5

Appendix C

Conflict Questionnaire (Child)

Numéro D'identification: _____

Questionnaire sur les conflits
(Enfant)

Voici une liste d'éléments à propos desquels les enfants et les parents sont souvent en désaccord. Nous voulons savoir jusqu' à quel point ta mère et toi êtes en désaccord sur ces sujets à la maison. Évalue chaque item sur une échelle de 0 à 5 où 0 = "Je ne suis pas en désaccord" et 5 = "Je suis très en désaccord".

1. Mes tâches ménagères / aide à la maison.	1	2	3	4	5
2. Mon travail à l'école / devoirs, notes ou mauvaise conduite à l'école.	1	2	3	4	5
3. Mon inimité / être capable de garder certaines choses pour moi.	1	2	3	4	5
4. Écouter / respecter les demandes et les conseils de mes parents.	1	2	3	4	5
5. L'heure à laquelle je dois être à la maison le soir.	1	2	3	4	5
6. Mon apparence physique / la façon dont je m'habille.	1	2	3	4	5
7. L'heure à laquelle je dois me coucher.	1	2	3	4	5
8. Passer du temps ensemble en temps que famille.	1	2	3	4	5
9. Mes ami(e)s / les gens avec qui je me tiens	1	2	3	4	5
10. M'entendre avec mon/mes frère(s) et ma/mes soeur(s).	1	2	3	4	5
11. L'argent.	1	2	3	4	5
12. Parler au téléphone / regarder la télévision.	1	2	3	4	5
13. Garder ma chambre en ordre.	1	2	3	4	5
14. Prendre un bain / une douche.	1	2	3	4	5
15. _____	1	2	3	4	5
16. _____	1	2	3	4	5
17. _____	1	2	3	4	5
18. _____	1	2	3	4	5

Appendix D

Informed Consent (Study 1 ; Time 2)

«L'INDIVIDU DANS SON MILIEU: Les parents et leurs enfants»
Directeurs du projet: -Dale M. Stack, Ph.D.
-Lisa A. Serbin, Ph.D.

Numéro d'identification: _____

Formulaire de consentement

Je, soussigné(e) autorise les chercheurs du projet «*L'individu dans son milieu*» de l'Université Concordia à m'envoyer des questionnaires portant sur ma vie familiale, ma santé, mon comportement et mon tempérament. Une rémunération totale de $30.00 me sera allouée lorsque les questionnaires seront complétés et retournés dans l'enveloppe pré-affranchie à l'équipe de recherche.

Je comprends que toutes les informations que nous fournissons, qu'elles soient écrites, verbales, enregistrées ou filmées, sont strictement confidentielles et qu'elles ne serviront qu'à des fins de recherche. Cependant, si après évaluation il semblait que je requérais une attention spéciale, les chercheurs de l'Université Concordia s'engagent à faire le suivi de la rencontre afin de référer les services nécessaires. Dans toutes les circonstances, je suis assuré(e) que l'anonymat sera conservé. Toutefois, selon la loi sur la protection de la jeunesse, toute information indiquant de l'abus physique ou sexuel devra être divulguée à l'Office de la protection de la jeunesse.

Dans l'éventualité où j'aurais des questions concernant cette recherche, je pourrai m'adresser à Julie Coutya (514-848-2424, ext. 7547, courriel électronique claude.senneville@concordia.ca ou Dr. Dale Stack (514-848-2424, ext. 7565).

Nom:_____ Date:_____
EN LETTRES MOULÉES

Signature: _____

****

Appendix E

Demographic Questionnaire

N° d'identification _____

Date: _____

L'INDIVIDU DANS SON MILIEU

Renseignements sociodémographiques

Tous ces renseignements sont traités de façon totalement confidentielle

1. **Sexe** □ M □ F

2. **Âge** _____ ans Date de naissance AN ____ MO ____ JR ____

3. **État civil**

Note: "Conjoints de fait": désigne deux personnes qui vivent ensemble comme si elles étaient mariées. Il s'agit de ton état actuel; même si tu es légalement divorcé(e) ou autre, mais que tu vis avec un(e) conjoint(e) présentement, inscris conjoint de fait.

		Depuis quelle date?
□ Célibataire	□ Conjoint	
□ Marié(e)	□ Séparé(e)	AN MO JR
□ Divorcé(e)	□ Veuf/veuve	_____ _____ _____

4. **Nombre d'enfants** _____

Si enceinte (ou conjointe enceinte), bébé attendu pour: ____ ____
AN MO

Sinon, prévoyez-vous avoir un enfant dans les prochains 12 mois? OUI _____
NON ____

dans les prochains 24 mois? OUI _____
NON ____

Pour <u>chaque enfant</u>:

1 - Inscrire le nom, le sexe, la date de naissance
2 - Encercler "**TE**" si c'est ton enfant (tu es le parent biologique)
"**EC**" si l'enfant du conjoint (le conjoint actuel est le parent biologique)
"**EA**" si c'est un enfant adopté /"**FA**" en foyer d'accueil et qui vit chez toi
Si "TE" et "EC" sont vrais, encercler les deux.
3 - Indiquer si l'enfant vit avec toi, **OUI** ou **NON** ou **GP** (garde partagée)
4 - Inscrire l'année scolaire (si applicable) ainsi que si l'enfant fréquente une classe ou une école spéciale.

(Si tu as plus de quatre enfants, inscrire leurs informations sur une feuille séparée.)

1 NOM SEXE AN MO JR
_____ □ M □ F ____ ____ ____

L'enfant est: TE EC EA / FA Vit avec toi: OUI □ NON □ GP □

Année scolaire: _____ Classe spéciale: _____

2 NOM SEXE AN MO JR
_____ □ M □ F ____ ____ ____

L'enfant est: TE EC EA / FA Vit avec toi: OUI □ NON □ GP □

Année scolaire: _____ Classe spéciale: _____

3 NOM SEXE AN MO JR
_____ □ M □ F ____ ____ ____

L'enfant est: TE EC EA / FA Vit avec toi: OUI □ NON □ GP □

Année scolaire: _____ Classe spéciale: _____

4 NOM SEXE AN MO JR
_____ □ M □ F ____ ____ ____

L'enfant est: TE EC EA / FA Vit avec toi: OUI □ NON □ GP □

Année scolaire: _____ Classe spéciale: _____

5. **Ta scolarité** complétée (dernière année terminée):
En quoi? (spécialisation/général): _____

Étudies-tu présentement? OUI : Temps plein □ partiel □ NON □
Si oui, quel diplôme postules-tu _____ pour quand?___/___/___/

6. **As-tu un emploi** (rappel: renseignements gardés confidentiels)?

OUI □ NON □
Occupation: _____ As-tu déjà eu un emploi?
_____

Oui □ Non □
⇓
Tes tâches: _____ En quoi?
_____
_____

Combien d'heures/sem.? _____ Pendant combien de temps?
____ an(s) ____ mois

Salaire de l'heure _____ $

Depuis quand es-tu à cet emploi? inscrire la date

Quand as-tu arrêté de travailler:
date: ____/____/
AN MO

Au cours des 12 derniers mois, as-tu bénéficié de:

Oui □ Non □ l'Assurance chômage?

Oui □ Non □ Prestations d'aide sociale?

Oui □ Non □ la CSST? (préciser:_____)

7. **Informations sur le conjoint (renseignements gardés confidentiels):**

AN MO JR

a) Son nom:_____ Date de naissance ____ ____

Son occupation:_____

Ses tâches:_____

Son salaire: _____ $/ heure Nombre d'heures _____ / semaine

AN MO

Il/Elle travaille là depuis: date ____ ____

b) Au cours des 12 derniers mois, a-t-il/elle bénéficié de:
Oui □ Non □ l'Assurance chômage?
Oui □ Non □ Prestations d'aide sociale?
Oui □ Non □ la CSST? (préciser:_____)

c) Sa scolarité complétée (dernière année terminée):
En quoi? (spécialisation/général):_____

Étudie-t-il (elle) présentement? OUI : Temps plein □ partiel □ NON □

Si oui, diplôme postulé?_____ pour quand? (date) ____/____/

8. **Informations sur le père\la mère de tes enfants (si n'habite pas avec toi)**

AN MO JR

a) Son nom:_____ Date de naissance ____ ____

Son occupation:_____

Ses tâches:_____

Son salaire: _____ $/ heure Nombre d'heures _____ / semaine

AN MO

Il/Elle travaille là depuis: date ____ ____

b) Au cours des 12 derniers mois, a-t-il/elle bénéficié de:
Oui □ Non □ l'Assurance chômage?
Oui □ Non □ Prestations d'aide sociale?
Oui □ Non □ la CSST? (préciser:_____)

c) Sa scolarité complétée (dernière année terminée):
En quoi? (spécialisation/général):_____

Étudie-t-il (elle) présentement? OUI : Temps plein □ partiel □ NON □

Si oui, diplôme postulé?_____ pour quand? (date) ____/____/

9. **Disponibilité pour l'entrevue**: un bloc de 2-3 heures

□ Le matin □ L'après-midi
□ Le soir □ La fin de semaine

10. **Je préfère aller à** _____ Guy et Maisonneuve (centre-ville)
_____ 7141 Sherbrooke ouest (N.D.G.)

S.V.P. Vérifier l'adresse et les numéros de téléphone.

_____ _____
No Rue app.

_____ _____ _____
Ville Code postal

Téléphones: Personnel: (_____) _____ - _____
Travail: (_____) _____ - _____
Parents: (_____) _____ - _____
Autre _____: (_____) _____ - _____

Ton numéro de téléphone est B quel nom dans l'annuaire téléphonique: Nom complet et lien avec toi:

_____

Adresse électronique: _____

Adresse des parents: _____

Appendix F

Informed Consent Form (Study 2)

L'INDIVIDU DANS SON MILIEU: Les parents et leurs enfants
Directeurs du projet: Lisa A. Serbin, Ph.D., Dale M. Stack, Ph.D.

Numéro d'identification:
Formulaire de consentement

Je, soussigné(e), autorise les chercheurs du projet **L'individu dans son milieu+* de l'université Concordia à rencontrer mon enfant à l'école, en deux sessions, durant la période de classe. Je comprends que mon enfant remplira des tests de fonctionnement intellectuel et académique ainsi que des questionnaires sur son comportement et son tempérament. J'autorise également les chercheurs à recueillir des informations sur la vie scolaire de mon enfant de la part de son professeur et à avoir une copie du dernier bulletin de l'année en cours. Finalement, lors d'une troisième visite, je consens à rencontrer les chercheurs de l'université Concordia à la maison avec mon enfant afin de remplir des questionnaires additionnels portant sur notre vie familiale et de recueillir des échantillons de salive sur moi-même, lors de la rencontre, et sur mon enfant, lors de la rencontre et pendant deux jours de la semaine. J'accepte aussi d'être filmé(e) avec mon enfant lors d'une session incluant un jeu et des discussions portant sur des résolutions de problèmes.

Je comprends que toute l'information recueillie demeurera confidentielle et qu'elle ne servira qu'à des fins de recherche. Cependant, si après évaluation des examens votre enfant requérait une attention spéciale, les chercheurs de l'université Concordia s'engagent à faire le suivi de la rencontre afin de référer les services nécessaires.

Dans l'éventualité où j'aurais des questions concernant cette recherche, je pourrai m'adresser soit à Julie Aouad ou bien à Nadine Girouard au (514) 848-2424 extension 2254.

Nom: _____ Date:
EN LETTRES MOULÉES

Signature:

****

Nom de l'enseignant/e:
Année:
Nom du directeur/de la directrice:
Nom de l'école:
Numéro de téléphone: (_____)
code régional

Adresse: _____
rue

_____
ville code postal

Appendix G

Informed Consent Forms (Study 2 ; Time 2)

«L'INDIVIDU DANS SON MILIEU: Les parents et leurs adolescents»
Version adolescent (18 ans et moins)

Directrices du projet LOI: -Lisa A. Serbin, Ph.D.
-Dale M. Stack, Ph.D.

Numéro d'identification:

Formulaire de consentement

Je,_____, soussigné(e), autorise les chercheurs du projet *«L'individu dans son milieu»* de l'université Concordia à rencontrer mon enfant soit à l'école durant la période de classe ou bien à la maison. Je comprends que mon enfant remplira des tests de rendement ainsi que des questionnaires sur son comportement et son tempérament. J'autorise également les chercheurs à avoir une copie du dernier bulletin de l'année en cours. Finalement, je consens à ce que les chercheurs recueillent des échantillons de salive sur mon enfant durant la rencontre à l'école. De plus, si mon enfant désire participer à la cueillette de salive pendant deux jours de la semaine, sa participation consistera à remplir les salivettes et à les retourner, après quoi il recevra un chèque de $25.00 pour cette participation.

Ma participation consiste à remplir et à retourner une série de questionnaires, après quoi je recevrai par courrier pour la série de questionnaires un chèque de $35.00. Concernant la participation de mon enfant, il recevra un montant total de $50.00 qui lui sera remis de la façon suivante : un chèque de $20.00 lui sera remis lors de la rencontre à l'école ainsi qu'un chèque de $30.00 pour les questionnaires qu'il a à remplir et à retourner.

Je comprends que ma participation à cette étude est volontaire et que je peux m'y soustraire ainsi que mon enfant en tout temps et cela, sans avoir à donner d'autres explications. De plus, le montant accordé pour ma participation et celle de mon enfant sera proportionnel au nombre de partie complétée au protocole de recherche.

Je comprends que toute l'information recueillie demeurera confidentielle et qu'elle ne servira qu'à des fins de recherche. Cependant, si après évaluation des examens votre enfant requérait une attention spéciale, les chercheurs de l'université Concordia s'engagent à faire le suivi de la rencontre afin de référer les services nécessaires. Toutefois, en accord avec la loi sur la protection de la jeunesse, toute information laissant croire à de l'abus physique ou sexuel doit être rapportée à l'Office de la protection de la jeunesse.

Dans certains cas, si mon enfant présente une problématique particulière, la coordonnatrice du projet, Dre Nadine Girouard, entrera en communication avec moi pour y donner suite. Le cas échéant, il pourra y avoir deux entrevues téléphoniques, une avec moi et une autre avec mon enfant, ou même une visite à la maison.

Dans l'éventualité où j'aurais des questions concernant cette recherche, je pourrai m'adresser au Dre Nadine Girouard au (514) 848-2424 extension 2254. De plus, si j'ai des questions au sujet de mes droits et ceux de mon enfant à titre de participant(e) volontaire ou une plainte à formuler, je peux appeler au bureau de la recherche de l'Université au

(514) 848-2424, poste 7481**.** Mme Adela Reid sera la personne-ressource de ma famille pour ce projet.

Nom: _____ Date:
EN LETTRES MOULÉES

Signature:

SVP, veuillez compléter la page suivante concernant les informations de l'école fréquentée par votre enfant.

INFORMATIONS CONCERNANT L'ÉCOLE

Nom de l'enseignant/e(Titulaire du groupe):_____

Année scolaire:_____

Nom du directeur/de la directrice: _____

Nom de l'école:_____

Adresse:_____

Numéro de téléphone:_____

Numéro de fax : _____

«L'INDIVIDU DANS SON MILIEU: Les parents et leurs adolescents»
Version adolescent (18 ans et plus)

Directrices du projet LOI: -Lisa A. Serbin, Ph.D.
-Dale M. Stack, Ph.D.

Numéro d'identification:

Formulaire de consentement

Je,_____, soussigné(e), autorise les chercheurs du projet *«L'individu dans son milieu»* de l'université Concordia à me rencontrer soit à l'école durant la période de classe ou bien à la maison. Je comprends que je remplirai des tests de rendement ainsi que des questionnaires sur mon comportement et mon tempérament. J'autorise également les chercheurs à avoir une copie du dernier bulletin de l'année en cours. Finalement, je consens à ce que les chercheurs recueillent des échantillons de ma salive durant la rencontre à l'école ou à la maison.

De plus, si je désire participer à la cueillette de salive pendant deux jours de la semaine, ma participation consistera à remplir les salivettes et à les retourner, après quoi je recevrai un chèque de $25.00 pour cette participation.

Ma participation consiste à remplir et à retourner une série de questionnaires, après quoi je recevrai par courrier un chèque de $30.00. De plus, un chèque de $20.00 me sera remis lors de la rencontre.

Je comprends que ma participation à cette étude est volontaire et que je peux m'y soustraire en tout temps et cela, sans avoir à donner d'autres explications. De plus, le montant accordé pour ma participation sera proportionnel au nombre de parties complétées au protocole de recherche.

Je comprends que toute l'information recueillie demeurera confidentielle et qu'elle ne servira qu'à des fins de recherche. Cependant, si après évaluation des examens, j'ai besoin d'une attention spéciale, les chercheurs de l'université Concordia s'engagent à faire le suivi de la rencontre afin de référer les services nécessaires. Enfin, en accord avec la loi sur la protection de la jeunesse, toute information laissant croire à de l'abus physique ou sexuel doit être rapportée à l'Office de la protection de la jeunesse.

Dans certains cas, si je présente une problématique particulière, la coordonnatrice du projet, Dre Nadine Girouard, entrera en communication avec moi pour y donner suite. Le cas échéant, il pourra y avoir deux entrevues téléphoniques, une avec ma mère et une autre avec moi, ou même une visite à la maison.

Dans l'éventualité où j'aurais des questions concernant cette recherche, je pourrai m'adresser au Dre Nadine Girouard au (514) 848-2424 extension 2254. De plus, si j'ai des questions au sujet de mes droits et ceux de mon enfant à titre de participant(e) volontaire ou une plainte à formuler, je peux appeler au bureau de la recherche de l'Université au (514) 848-2424, poste 7481**.** Mme Adela Reid sera la personne-ressource de ma famille pour ce projet.

Nom: _____ Date:
EN LETTRES MOULÉES

Signature:

Participation à remplir les salivettes pendant deux jours : oui : _____ non : _____

SVP, veuillez compléter la page suivante concernant les informations de l'école que vous fréquentez.

INFORMATIONS CONCERNANT L'ÉCOLE

Nom de l'enseignant/e(Titulaire du groupe):_____

Année scolaire:_____

Nom du directeur/de la directrice: _____

Nom de l'école:_____

Adresse:_____

Numéro de téléphone:_____

Numéro de fax : _____