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Links among maternal emotion socialization, and children's emotional competence and social behaviour

Sara Eileen O'Neil Woods

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LINKS AMONG MATERNAL EMOTION SOCIALIZATION, AND CHILDREN'S
EMOTIONAL COMPETENCE AND SOCIAL BEHAVIOUR

by

Sara Eileen O'Neil Woods

A Dissertation
Submitted to the Faculty of Graduate Studies
through the Department of Psychology
in Partial Fulfillment of the Requirements for
the Degree of Doctor of Philosophy at the
University of Windsor

Windsor, Ontario, Canada

2012

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by

Sara Eileen O'Neil Woods

APPROVED BY:

R. Casey, External Examiner
Wayne State University

K. Gorey
School of Social Work

P. Fritz
Department of Psychology

J. Hakim-Larson
Department of Psychology

R. Menna, Advisor
Department of Psychology

T. Basok, Chair of Defense
Faculty of Graduate Studies

DECLARATION OF ORIGINALITY

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ABSTRACT

Young children's prosocial behaviour has been linked with later social and academic competence; whereas aggression in early childhood is predictive of later psychopathology, academic problems, and crime. In a sample of 136 mother-child pairs, associations among maternal emotion socialization, emotional competence, social behaviour, and perceived social acceptance were explored. Results revealed that mothers' expressive encouragement responses and children's emotion regulation skills predicted children's prosocial behaviour. In addition, children's prosocial behaviour was positively associated with their perceived peer acceptance. Children's emotion regulation problems were found to completely mediate the association between mothers' distress reactions and children's parent-reported physical aggression, with higher levels of distress reactions being associated with increases in children's emotion regulation problems, which were linked with higher levels of physical aggression. In addition, children's physical aggression was negatively associated with perceived maternal acceptance and positively associated with discrepancies between child- and parent-reported peer acceptance. Implications for interventions with mothers and children are discussed.

DEDICATION

For my mother, Linda Lee O'Neil, who has always supported me in expressing myself and accomplishing my goals.

ACKNOWLEDGEMENTS

First and foremost, I would like to thank God, giver of all good gifts. I am also grateful to the children and parents who participated in this research and to the community organizations who helped to make it happen. I am particularly grateful to my supervisor, Dr. Menna, who has been an incredible mentor to me over the past six years. She has gone above and beyond and her continued guidance and love of psychology have been an inspiration to me. I would also like to thank my committee members, Dr. Gorey, Dr. Hakim-Larson, and Dr. Fritz for their thought-provoking questions. Their useful suggestions helped to improve the quality of the document. Thank you to my external examiner, Dr. Casey, for her helpful feedback and insight. Several colleagues made this study possible: Dr. Robert Clark, Holly Ambrose, Dr. Adam Kayfitz, Cassandra Pasiak, and Nadia Rizzo. Their hard work and positive attitudes made our research successful and enjoyable. I would also like to thank Dr. Crick, Dr. Denham, Dr. Eisenberg, Dr. Leve, and Dr. Scaramella for sharing materials.

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CHAPTER I

Introduction**Study Context and Rationale for the Present Study**

Early childhood is a critical period in setting the stage for future social functioning. Research shows that young children who demonstrate prosocial behaviour, sharing and showing kindness to their peers, tend to continue to show these behaviours as they get older (e.g., Caputi, Lecce, Banerjee, & Pagnin, 2012; Crick, 1996, Eisenberg et al., 1999; Hay, 1994). Early prosocial behaviour is also predictive of later social competence (Crick, 1996), academic competence (Caprara, Barbaranelli, Pastorelli, Bandura, & Zimbardo, 2000), self-esteem, and positive peer relationships (Chen et al., 2002). Additionally, aggressive behaviour during early childhood has been associated with a myriad of negative outcomes such as oppositional defiant disorder and conduct disorder, internalizing problems (including anxiety, depression, and suicide), academic problems, substance disorders, delinquency, spousal and child abuse, and violent criminal behaviour (Asendorpf, Denissen, & van Aken, 2008; Broidy et al., 2003; Campbell, Shaw, & Gilliom, 2000; Campbell, Spieker, Burchinal, Poe, & NICHD Early Child Care Research Network, 2006; Coté, Vaillancourt, LeBlanc, Nagin & Tremblay, 1999; Tremblay et al., 2004; Tremblay, 2010; Webster-Stratton et al., 2008). An emerging body of research also suggests that early relational aggression (harming others through the manipulation and control of relationships) is also linked with later psychopathology. Examples include loneliness, rejection, anxiety, depression, and academic problems (Casas et al., 2006; Crick et al., 2006; Merrell, Buchanan, & Tran, 2006; Preddy & Fite, 2012). By showing

that early social behaviour sets the stage for later patterns of interacting, these findings demonstrate the importance of investigating how these tendencies develop.

A substantial body of research indicates that parents' emotion socialization practices contribute to young children's social behaviour (Casas et al., 2010; Eisenberg, Cumberland, & Spinrad, 1998; Eisenberg et al., 1999; Morris et al., 2011; Newland & Crnic, 2011; Strayer & Roberts, 2004a). Despite this established link, the mechanisms through which parents actually influence their children's social behaviour remain unclear. Exploring the specific mechanisms is necessary in helping both parents and clinicians intervene early in children's lives to increase positive interactions and to reduce harmful patterns of aggression that can sometimes become lifelong (Ostrov & Godleski, 2010; Webster-Stratton, Reid, & Stool-Miller, 2008).

Many previous studies have focused on the development of children's social competence, which involves exploring how *skilled* children are at interacting with one another successfully (e.g., Denham & Grout, 1993; Denham et al., 2003; Eisenburg, Fabes, & Murphy, 2008; Fabes, Leonard, Kuponoff, & Martin, 2003; Garner & Estep, 2001; Spinrad et al., 2008; Vaughn et al., 2009). The purpose of the present study was to explore the nature of social behaviour itself by examining two main types of social behaviour: aggressive behaviour and prosocial behaviour. Aggressive behaviour refers to any behaviour that is intended to inflict some type of harm on another person. Prosocial behaviour, on the other hand, refers to any behaviour that is aimed at maintaining relationships and includes helping behaviour as well as general kindness toward others. Therefore, rather than asking, 'What makes some children more socially skilled than

others?’ the present study seeks to answer the question: ‘Why do children sometimes choose to be kind to one another and sometimes choose to hurt each other?’

The focus of the present study was on two main types of social behaviour: aggressive behaviour (aimed at causing harm) and prosocial behaviour (aimed at maintaining positive relationships). Consistent with the tradition of studying a problem in order to solve it, Psychology has a history of focusing on aggression. However, advocates of positive psychology contend that instead of simply focusing on problems, psychologists should direct their attention towards building strength and wellness by studying the actions that lead to well-being, positive people, and thriving communities (Peterson & Park, 2003; Seligman & Csikszentmihalyi, 2000; Shin et al., 2011). The present study balances these styles. Acknowledging the benefits of exploring the adaptive and maladaptive together, both prosocial and aggressive behaviour receive equal attention. Researchers have traditionally focused on overt or physical aggression (for reviews, see Dodge, 2006; Tremblay, 2010). Overt aggression refers to behaviour aimed at causing harm in which the perpetrator is clear and includes name-calling as well as physically injuring another person. Physical aggression is a specific type of overt aggression and it refers to behaviour that is aimed at causing harm through the use of physical means, such as hitting, punching, or kicking.

The present study took a more comprehensive approach because evidence over the past two decades has revealed the importance of exploring a more covert, but similarly harmful type of aggression known as relational aggression (Crick, 1996, Crick, Casas, & Mosher, 1997; Crick & Grotpeter, 1995, 1996; Carpenter & Nangle, 2006; Conway, 2005; Crapazano, Frick, & Terranova, 2010; Goldweber & Cauffman, 2012; Isobe,

Fillho, & Maeda, 2004; Smith, Rose, & Schwartz-Mette, 2010). Relational aggression is purposeful infliction of harm on another person by damaging or controlling relationships or social status (Crick & Grotpeter, 1995).

The Importance of Emotional Competence

A rapidly increasing literature is now showing that the development of emotional competence in young children is crucial to developing positive peer interactions (Abe & Izard, 1999; Arsenio, Cooperman, & Lover, 2000; Arsenio & Lemerise, 2001; Baumgartner & Strayer, 2008; Belacchi & Farina, 2012; Denham et al., 2001; 2002, 2003; Izard et al., 2008; Izard, Fine, Mostow; 2002; Ohl, Fox, & Mitchell, 2012; Trentacosta, & Campbell, 2002; Trentacosta & Fine, 2010). Emotional competence refers to emotion-related knowledge and skills and includes an understanding of one's own and others' emotions, tendency to display emotion in situationally and culturally appropriate ways, and ability to inhibit or modulate one's own emotions in order to achieve goals in social situations (Eisenberg, Cumberland, & Spinrad, 1998). There is an established link between maternal emotion socialization and children's social behaviour (e.g., Nelson et al., 2011; Zahn-Waxler, 2010). Maternal emotion socialization refers to mothers teaching their children both directly and indirectly about the meaning, experience, expression, and regulation of emotions (Eisenberg et al, 2001). Given that it has been established that children's emotional competence influences their social interactions and parental emotion socialization also influences children's social behaviour, it follows that parental emotion socialization may affect children's social behaviour *through* children's emotional competence. That is, parents who skillfully instruct their children in understanding and coping with emotions may be helping their children to become emotionally competent,

which may then lead to more successful peer interactions. In contrast, children whose parents fail to effectively socialize their emotional functioning may engage in more aggression and less prosocial behaviour. Given that we know that children are influenced much more by what their parents do than by what their parents say (Brace, Morton, & Munacata, 2006; Maccoby, 2000), parents' behaviour in an emotional context deserves attention. Also, given the egocentric cognitive style of young children, it is likely that their parents' reactions to the children's own emotions are particularly salient. Taken together, these arguments beg the question: Does maternal emotion socialization relate to children's social behaviour by affecting children's emotional competence? This was the central question of the present study.

Applied Implications

Research on the development of prosocial behaviour has been valuable in designing programs for promoting healthy social relationships in young children (Park & Peterson, 2003; Ramaswamy & Bergen, 2009; Smith, Simon, & Bramlett, 2009). Likewise, gaining insight into young children's aggressive behaviour informs early intervention (Guerra, Huesmann, & Spindler, 2003; Menna & Landy, 2001; Sroufe, 1997; Stefan, Balaj, Parumb, Albu & Miclea, 2009; Tremblay, 2006; Webster-Stratton et al., 2008, Wilson, Havighurt, & Harley, 2012; also see review by Weisz, Hawley, & Jensen Doss, 2004). Though less explored, research suggests that interventions for relational aggression can also be implemented in early childhood and may be more effective if implemented early on (Ostrov et al., 2009).

Studying the development of prosocial behaviour may help to reduce victimization given that prosocial children are more likely to help and support their peers (Seban,

2003; Trommsdorff, Friedlmeier, & Mayer, 2007). Increasing the prosocial behaviour of frequent aggressors can also decrease the likelihood of reactive aggression, thus reducing the cycle of violence (Bateman & Church, 2008). Children who are victimized are more likely to develop negative evaluations of their peer group in general and this can result in both externalizing and internalizing problems (Troop-Gordon & Ladd, 2005). Other early consequences of victimization include dissatisfaction with school and increased aggressive behaviour (Arsenault, Walsh, Trzensniewski, & Newcombe, 2006). Long-term consequences of victimization include depression, loneliness, low self-esteem, physical health problems, social withdrawal, alcohol and drug use, school absence and avoidance, decrease in school performance, self-harm, and suicidal ideation (Barker et al., 2008).

Relational aggression also causes considerable pain; evidence suggests that social exclusion may activate the same brain areas that are involved in the perception of physical pain (MacDonald & Leary, 2005). Victims of relational aggression also experience loneliness, social anxiety, depression, withdrawal, and propensity for becoming bullies, (Perren & Alsaker, 2006; Prinstein, Cheeah, & Guyer, 2005).

The purpose of this study was to examine the influence of maternal emotion socialization on young children's social behaviour (aggressive and prosocial) and to explore the potential mediating role of children's emotional competence. In addition, the present study examined whether child temperament may moderate the effect of maternal emotion socialization on children's emotional competence. Finally, this study explored the possible links between children's social behaviour and their perceptions of their own social acceptance.

Organization of Review

The literature review begins with an introduction of the overall model to be explored in the present study. This model is briefly contrasted with previous, broader models. Next, an overview of the literature linking children's emotional and social behaviour is provided. The construct of emotional competence is discussed, followed by a brief overview of relevant theories on emotional and social development, and a review of empirical evidence for links between emotion and social behaviour in young children. Subsequently, the literature linking maternal emotion socialization and children's social behaviour is discussed. Then, the potential mediating role of children's emotional competence is examined with examples from the literature. Specifically, the links between maternal emotional socialization and children's emotional competence are explored and the evidence for emotional competence as a key mechanism through which mothers influence their children is explained. Additionally, evidence for the potential moderating role of child temperament is explored. An overview of the development of the construct of temperament is provided, followed by empirical evidence of its connection with the strength of links between mother and child characteristics. Because temperament has been found to be particularly important in the prediction of physical aggression, the review concentrates specifically on physical aggression. Finally, relations between children's social behaviour and their perceptions of their social acceptance are explored and hypotheses are presented.

Literature Review

Study Model

Research indicates that children's social behaviour is the product of numerous influences that interact with one another, including child characteristics (e.g., temperament, emotion regulation, emotion knowledge) and parent characteristics (especially maternal emotion socialization). The overall model of the present study was proposed based on a review of previous research on early child development and is informed by prior models (Eisenberg, Cumberland, & Spinrad, 1998; Scaramella & Leve, 2004). In addition, the model shows how children's social behaviour was expected to be related with other aspects of their social lives, specifically, their perceived social acceptance.

The proposed model builds on a previous, much broader model presented by Eisenberg, Cumberland, and Spinrad (1998). Eisenberg et al.'s (1998) model is shown in Figure 1. Consistent with Eisenberg et al.'s (1998) model, the current model emphasizes that maternal emotion socialization practices influence children's emotional functioning (including understanding and regulation), which in turn influences children's social functioning. Also, consistent with Eisenberg et al.'s (1998) model, the current model includes child temperament as a moderator. However, Eisenberg et al.'s social outcomes focus on social competence (i.e., how skilled children are in interacting with peers). Aggression is discussed in general terms in conjunction with the construct of social competence. The present study expands on this model by exploring young children's physical and relational aggression as well as their prosocial behaviour and by using 3 separate models (presented later) to explore these outcomes. Eisenberg et al.'s (1998)

model depicts children's schemas about themselves and their world as outcomes. The current model builds on this by specifically proposing that children's prosocial behaviour and their physical and relational aggression are linked with their perceived social acceptance (including perceived peer and maternal acceptance). Furthermore, Eisenberg et al.'s (1998) model includes a much broader array of variables that are beyond the scope of the present study (i.e., parent personality characteristics, children's arousal).

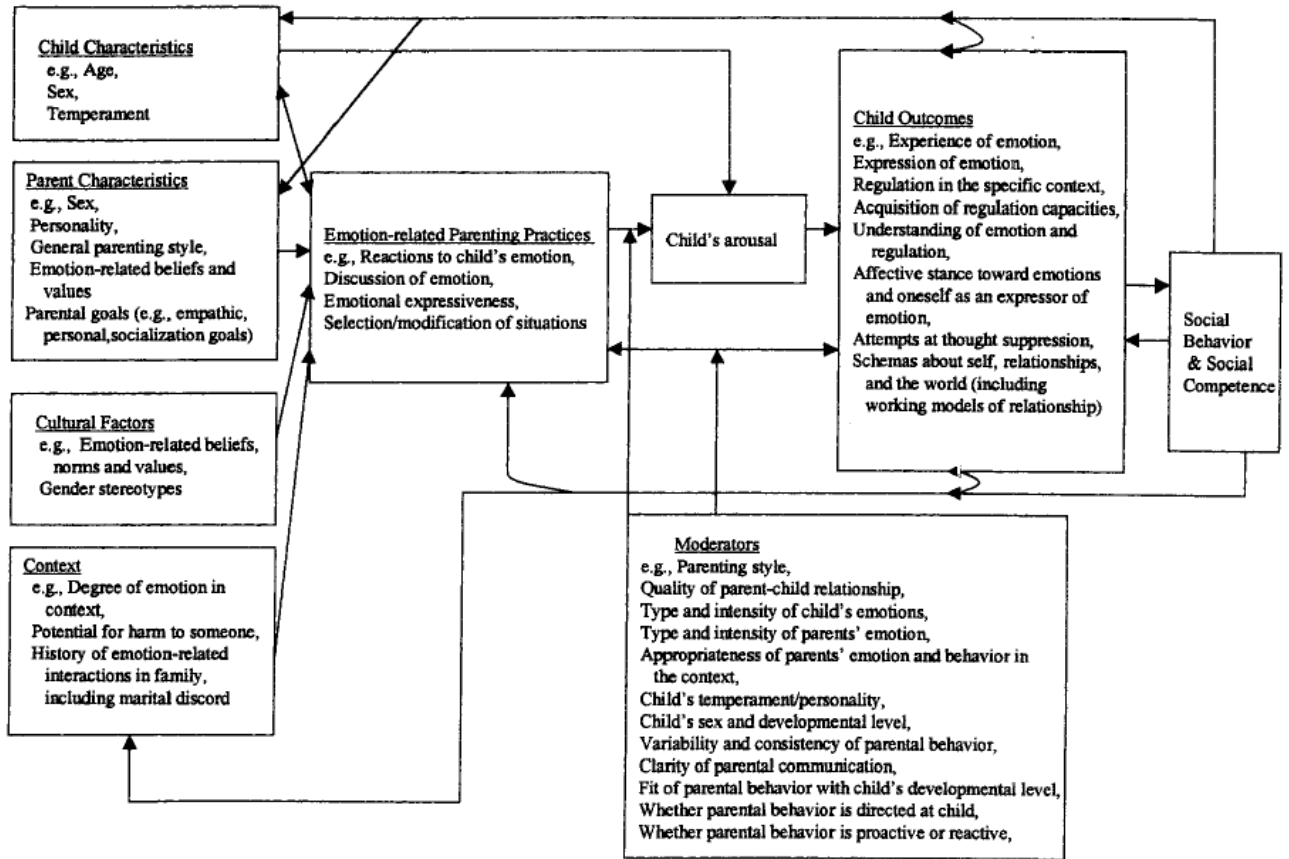


Figure 1. A heuristic model of the socialization of emotion. From ‘The socialization of emotion: reply to commentaries’ by N. Eisenberg, T. Spinrad, & A. Cumberland (1998). *Psychological Inquiry*, 9, 317-333.

The present model also builds on Scaramella and Leve's (2004) Early Childhood Coercion Model (presented in Figure 2). As suggested by Scaramella and Leve (2004), this model explores how parenting behaviour, child temperament, and emotion regulation may all interact. Even though Scaramella and Leve's (2004) model is longitudinal and the present study focuses on one time period, the models are similar in that they both emphasize how parenting and children's emotional functioning are linked to children's social behaviour. Also, whereas Scaramella and Leve (2004) emphasize that child temperament (negative emotional reactivity, specifically) may influence both parenting practices and children's emotion regulation, the current model explores how child temperament may actually affect the link between parenting practices and children's emotion regulation, as well as children's emotion knowledge. Additionally, Scaramella and Leve's (2004) model includes peer relations at ages 5 and 6 years, whereas the current model considers social behaviour from ages 3 to 6 years. The current model also has the advantage of examining more specific social behaviours in both parents and children. In the present study, different types of reactions to children's emotions are explored, whereas Scaramella and Leve (2004) simply examined 'harsh parenting' as a whole. In addition, whereas Scaramella and Leve (2004) discuss 'peer relations' as an overall construct, the present study breaks social behaviour down into prosocial behaviour and both physical and relational aggression.

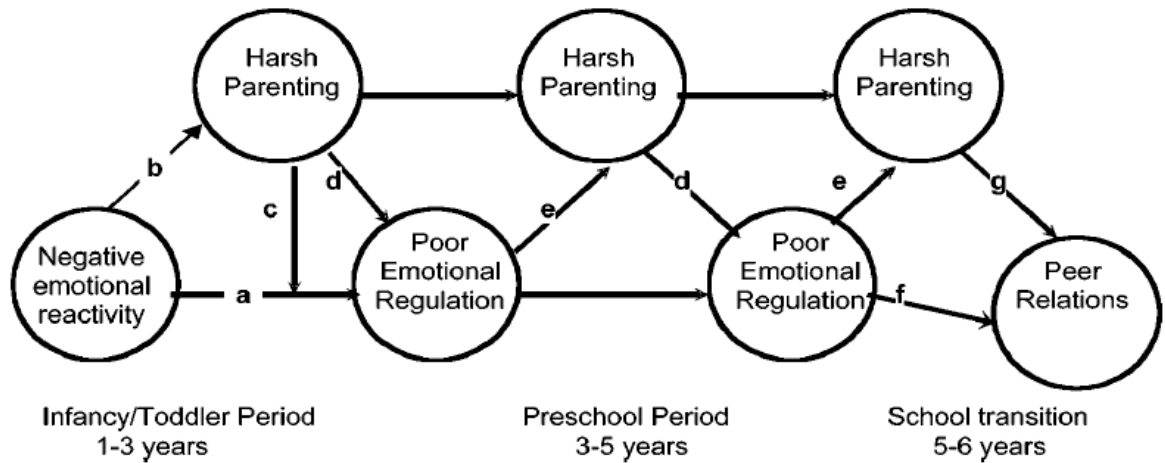


Figure 2. The early childhood coercion model. From L. Scaramella and L. Leve (2004).

Clarifying parent-childhood reciprocities during early childhood: The early childhood coercion model. *Clinical Child and Family Psychology Review*, 7, 89-109.

The proposed overall model is presented in Figure 3. As shown, it was proposed that maternal emotion socialization factors would influence social behaviour (prosocial behaviour and aggressive behaviour), with more positive socialization practices leading to increases in prosocial behaviour and decreases in aggressive behaviour. It was expected that more negative maternal emotion socialization practices would contribute to more aggressive behaviour and less prosocial behaviour in children. In addition, it was expected that emotional competence would mediate the link between maternal emotion socialization and social behaviour, with more positive emotion socialization practices leading to better emotional competence, which would in turn be associated with increased prosocial behaviour and less aggression. Also, negative maternal emotion socialization practices were expected to contribute to more problems in emotional competence, which was expected to contribute to increased aggression and less prosocial behaviour. Furthermore, temperament (negative emotionality specifically) was expected to influence the link between maternal emotion socialization and emotional competence, with children who are higher in negative emotionality being influenced to a greater degree by their mothers' emotion socialization practices. Furthermore, children who are more prosocial and less aggressive were expected to be higher in perceived social acceptance.

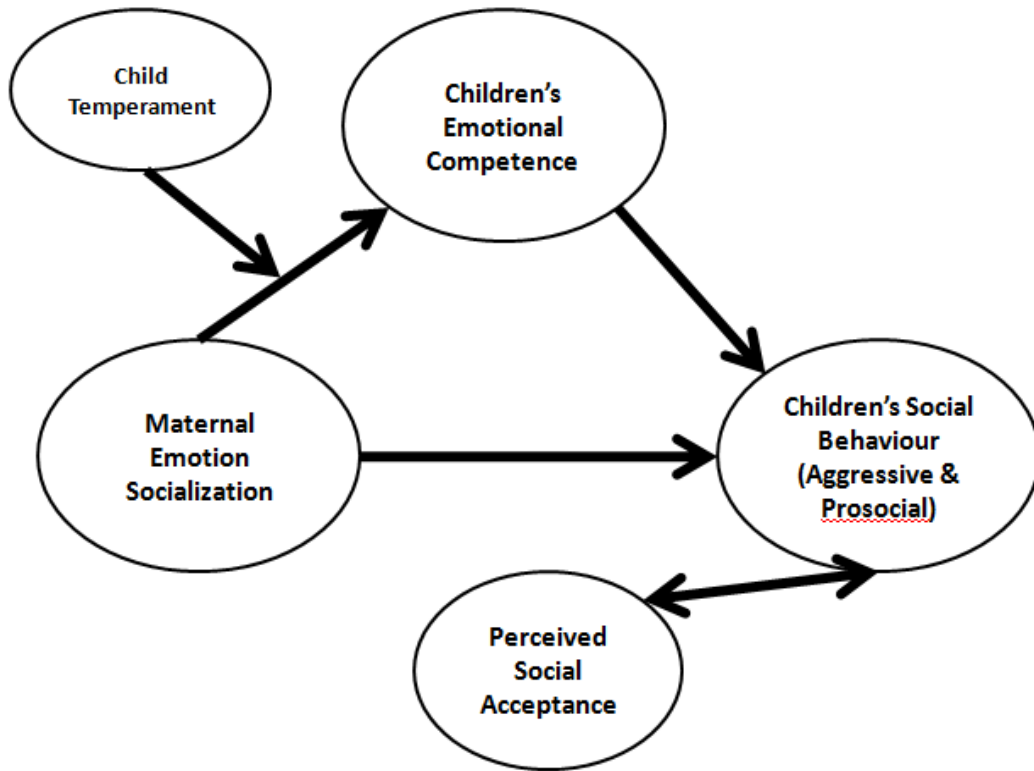


Figure 3. Proposed overall model linking maternal emotion socialization, children's emotional competence, and children's social behaviour.

Links Between Children’s Emotional Competence and Their Social Behaviour

It is well-established that young children’s emotional characteristics are related to their interactions with their peers (Denham et al., 2003; Eisenberg, 2000; Eisenberg, Fabes, Guthrie, & Reiser, 2000; Helmsen, Koglin, & Petermann, 2012; Trentacosta & Fine, 2010). Nevertheless, psychologists have not yet settled on the means through which this transaction occurs, which emotional characteristics are most important, or how the links between emotional and social traits might vary by domain. By examining how children’s emotional characteristics are linked with different types of social behaviour (prosocial behaviour, physical aggression, and relational aggression), the present study will add to this growing literature.

A heuristic for considering several intra-individual emotional factors has been offered by Eisenberg, Cumberland, and Spinrad (1998). They advocate for the use of the term “emotional competence” to refer to “understanding of own and others’ emotions, tendency to display emotion in situationally and culturally appropriate ways, and ability to inhibit or modulate one’s own emotions in order to achieve goals in social situations” (Eisenberg et al., 1998). The various aspects of emotional competence are related to one another; consequently, an increase in one area may lead to benefits in another and a deficit in one area may result in a decrease in other areas. For example, a child’s understanding of emotion may change the child’s experience of emotion (e.g., degree of arousal), which can in turn affect the acquisition and use of regulatory strategies (Eisenberg et al., 1998).

Saarni (1999) argues that emotional competence is a broad, complex term that is deeply rooted in cultural context. According to Saarni (1999), emotional competence includes 8 different skills. They are: 1) awareness of one's own emotional state, 2) ability to discern others' emotions, 3) ability to use emotional vocabulary appropriate to one's culture or subculture, 4) capacity for empathic and sympathetic involvement, 5) ability to realize that inner emotional state need not correspond to outer expression, 6) capacity for adaptive coping with negative emotions, 7) awareness that structure and nature of relationships is in large part defined by how emotions are communicated within the relationship, and 8) emotional self-efficacy (acceptance of one's emotions which is consistent with one's beliefs about appropriate emotional balance). Overall, Saarni (1999) emphasizes the social nature of emotional competence. Although emotional competence is partly influenced by biological factors, the development of emotional competence largely occurs within a system of interpersonal relationships and social transactions (Saarni, 1999; Saarni & Buckley, 2002).

A complementary, but somewhat simpler definition is offered by Denham et al. (2003) who suggest that emotional competence is made up of: 1) emotional expressiveness, 2) emotion knowledge, and 3) emotion regulation. Emotional expressiveness refers to the emotions that the child chooses to express, as well as the means chosen to express them (Denham et al., 2003). Denham et al. (2003) use the term emotion knowledge to refer to the ability to identify and understand the emotions of others. Finally, Denham et al. (2003) define emotion regulation as the ability to overtly modify emotional reactions; that is, coping effectively with emotions. Nevertheless, Denham et al. (2003) also concede that emotional expressiveness and emotion regulation overlap substantially.

Overview of Major Theories Linking Children's Emotional and Social Behaviour

Learning theories. Learning theories posit that positive and negative responses paired with particular stimuli can shape children's behaviour. According to classical conditioning theory (Pavlov, 1927), children can be conditioned to make negative or positive associations with particular neutral stimuli. If a neutral stimulus is repeatedly paired with a stimulus that already elicits an emotional response, the neutral stimulus will become associated with that response and eventually the neutral stimuli will become aversive or positive in itself. For example, in the notorious "Little Albert" study, Watson (1920) exposed a small child to various furry items coupled with a loud noise. Albert hated the loud noise and cried every time he heard it. Eventually, Albert became afraid of the furry items because of associating them with the loud noise and would cry if he was presented with the furry items even if there was no noise. Similarly, if conversations about emotions continually coincide with copious amounts of yelling, the conversations themselves will become aversive and the child may avoid discussing emotions as much as possible.

Operant conditioning (Skinner, 1953) refers to a process of increasing or decreasing certain behaviours through the use of reinforcement and punishment. Reinforcement refers to any type of response to a behaviour that increases the likelihood of that behaviour being repeated. In contrast, punishment refers to any type of response that serves to decrease the likelihood of that behaviour being repeated. For example, if a child gently tells his mother that he is feeling sad and she gives him a hug, this positive response will likely increase the likelihood that he will gently express his negative feelings to his mother. In contrast, if the child's Mom reacts by rolling her eyes or telling

him to forget about it, he may avoid seeking help from her next time or he may express himself by stomping his feet to see if that receives more attention.

Bandura's social learning theory expands traditional learning theories by incorporating models. This theory holds that children can learn by observing the behaviour and experiences of other people (Bandura, Ross, & Ross, 1969). The theory was based on a now famous experiment known as "The Bobo Doll Experiment" in which children were shown adult models engaging in various aggressive behaviours toward Bobo dolls and then were exposed to Bobo dolls themselves. The study showed that children tended to model the aggressive behaviours of the adults that they viewed. Children observe the behaviour of models and consider the consequences that these models receive after engaging in certain behaviours to varying degrees. Then, children incorporate this learning into their own behaviours. If children interpret certain behaviour as being linked with a favourable result, this will increase the likelihood that they will engage in that behaviour; therefore the behaviour becomes vicariously reinforced. For example, if children observe their mothers looking distressed, talking calmly with a friend, and then smiling and appearing comforted, children are likely to learn that it can be beneficial to seek social support when feeling sad. In contrast, if children observe certain behaviours being followed by some type of apparent consequence (punishment), the children may avoid engaging in that behaviour. For example, if children observe their mothers looking distressed and then punching a wall and bruising their hands, children are likely to learn that punching the wall is not a useful way to deal with distress and therefore they may avoid doing so. Bandura emphasized the fact that the rewards and punishments that children observe do not have to be tangible. Children may also interpret the internal states

of the models they view and their perceptions of these states can act as reinforcement. While Bandura's original research focused on physical aggression, later researchers successfully applied this theory to prosocial behaviour (Ramaswamy & Bergin, 2009) and relational aggression (Tapper & Boulton, 2005).

Social-information processing theories. The connection between emotional and cognitive aspects of social behaviour in young children has been illustrated by Lemerise and Arsenio's (2000) integrated model of emotion processes and cognition in social-information processing. This model is an adaptation of Crick and Dodge's (1994, 1996) social-information processing (SIP) model. According to the SIP model, children's social behaviour results from a series of 6 steps. Lemerise and Arsenio argue that emotional processes occur at each of the 6 steps of the original model.

The first step is to encode the appropriate relevant cues from the wide array of possible cues to encode. Encoding of cues could be affected by emotional responsiveness to others and ability to recognize others' emotions. For example, a prosocial child would be more likely to attend to the facial expressions of others. In contrast, a more aggressive child may attend more to a tangible object that the child seeks to obtain. A child who engages in relational aggression may attend particularly closely to the facial expressions of peers in order to decide how to manipulate their emotions. The second step in the model is to interpret the cues that have been encoded. This is related to Step 1 because it means that certain cues will be given more attention than others. Interpretation of cues could be affected by the affective nature of the relationship between peers and by biases toward interpreting angry facial expressions when they are not there. For example, research suggests that this "anger attribution bias" is linked with physical aggression,

even when controlling for overall ability to identify emotions (Schultz, Izard, & Ackerman, 2000). The third step is to clarify one's overall goals in the social situation and to decide what one hopes to achieve. Clarification of goals could be affected by arousal regulation because children who are better able to modulate their arousal will find it easier to decide on a goal. For example, a child who lacks emotion regulation skills may not be calm enough to decide on an overall goal of maintaining a friendship and instead may focus on the immediate consequence of obtaining or not obtaining a toy. In contrast, a child who is better able to modulate emotions may be calm enough to decide on a more prosocial goal, such as sharing. The fourth step of social-information processing requires the person to access a repertoire of possible responses to the social stimulus from long-term memory and/or to construct new responses. This is followed by the fifth step, which requires a person to consider and evaluate the possible responses that could be chosen.

Response access, construction, and decision can be affected by factors like moods and display rules. For example, a relationally aggressive child may remember a previous experience in which the child was able to manipulate a peer by threatening to exclude him and may then decide to use this strategy again. In the sixth step, the person enacts the chosen response. At the same time, the person should engage in response monitoring, in which the person evaluates the effectiveness of the chosen response and attends to the responses of others. Behavioural enactment could be influenced by emotional production. For example, a child experiencing elevated negative arousal may punch and kick a peer with excessive force due to the hormonal fight-or-flight response. Display

rules may also affect behavioural enactment in that children who are discouraged from showing anger, may choose to aggress covertly (Loeber & Hay, 1997).

Gender-linked models. There is some evidence to suggest that the development of prosocial behaviour may be gender-linked (Eisenberg & Fabes, 1998; Hastings, McShane, Parker, & Ladha, 2007). Hastings et al. (2007) propose that boys are socialized to use more agentic prosocial behaviour (e.g., being friendly and engaged with other children), whereas girls learn more compassionate prosocial behaviour (e.g., being helpful and sharing). Support for this gender-linked theory includes the finding that boys whose fathers talk about prosocial behaviour have been found to engage in more masculine prosocial behaviour and mothers' positive responses to prosocial behaviour is linked with more feminine prosocial behaviour in girls (Hastings et al., 2007).

An integrated gender-linked model of aggression was later proposed by Ostrov and Godleski (2010). This theory integrates gender-schema theory (Martin & Halverson, 1981) with social-information processing theory (Crick & Dodge, 1994). They argue that children's beliefs about what is appropriate for their gender will affect several of the steps of social-information processing, especially clarification of goal and response decisions. For example, girls who believe that expressing anger by physically hurting someone else is only something boys should do may choose an alternative, such as excluding her perceived enemy. This may be especially true if the girl anticipates the consequences of transgressing against gender-typed behaviour and expects to experience ridicule or rejection for non-conformity (Ostrov & Godleski, 2010). These authors emphasize that the gendered nature of socialization, rather than a biological predisposition, is what leads to gender differences in aggression.

Links Between Emotion Knowledge and Young Children's Social Behaviour

Emotion Knowledge and Prosocial Behaviour.

Research suggests that emotion knowledge and prosocial behaviour go hand in hand from the beginning of life. Prosocial behaviour occurs within the first few months of life when infants show interest in and sensitivity to the emotions of others (Hay, 1994).

Children are fascinated by human faces from birth. Brain-imaging research suggests that infants can already tell the difference between an angry and afraid face by the age of 7 months (Izard, Woodburn, & Finlan, 2010). Infants show increased concerned facial expression when viewing others' negative emotions as they develop (Hay, 1994).

Toddlers learn to infer other people's emotions even without being provided with emotional cues, and this is linked with rudimentary prosocial behaviour (Hay, 1994).

Children show concern when adults experience some type of harm, even when the adults do not show any negative facial expression to cue the children (Vaish, Carpenter, & Tomasello, 2009). Children begin to develop the 'moral emotions' of shame and guilt by age 2 and 3 years. It is during this time period that children begin to make considered decisions to behave prosocially, rather than simply following the social impulses that they experienced as infants (Hay, 1994).

Research suggests that children who are better at understanding other children's emotions are more likely to display prosocial behaviour in preschool (Belacchi & Farina, 2012; Denham et al., 2003). For example, if a child sees a peer reacting negatively to a broken toy, a child who is able to identify the facial expression as sadness, as opposed to anger, will be more likely to approach the peer and offer comfort. In contrast, Hay (1994)

suggests that prosocial behaviour actually decreases over the course of the preschool years as children gain a greater understanding of emotions in a social context. According to Hay (1994), children learn to attend to situational cues to decide whether or not to comfort a peer (e.g., preschool teachers discourage children from constantly comforting a peer who cries). Other research suggests that children who are higher in prosocial behaviour at age 17 months are less likely to show a reduction in prosocial behaviour in preschool (Baillargeon et al., 2011). The age-related decreases in prosocial behaviour may not be obvious to adult raters because the more socially acceptable forms of prosocial behaviour increase or at least continue (Denham et al., 2003).

Adult-report measures of prosocial behaviour are useful in that they can provide an overall measure of a child's prosocial behaviour, but they may sometimes underestimate the prosocial behaviour of aggressive children (McComas, Johnson, & Symons, 2005). This is one way in which researchers' use of ingenious laboratory paradigms to measure a child's actual helping behaviour is advantageous. Even though studies conducted in a laboratory may not be as comprehensive in measuring overall prosocial behaviour, they are beneficial in that they allow for some unbiased assessment of actual behaviour, as opposed to simply relying on adults' perceptions. For example, in one study, preschool children were shown a live video of a confederate preschool child wearing a cast (indicating a broken arm) and attempting to turn a crank, supposedly in an adjoining room. The confederate child also looked at the camera and remarked on how difficult it was to try to turn the crank with a broken arm. Children were told that by turning the crank, the confederate would be given toys. They were also told that a similar crank in their room could be turned to help the other child receive toys. The researcher left the

room after telling the participant that he or she could choose to watch the other child or turn the crank to help the other child. Prosocial behaviour was measured by assessing the amount of time it would take before a given child would choose to turn the crank, how many revolutions the crank was turned, and how much effort the child appeared to exhibit in turning the crank. Results revealed that helping behaviour on this task was significantly linked with emotion knowledge assessed based on performance on a task that required children to label emotions in a series of stories (Carlo, Knight, Eisenberg, & Rotenberg, 1991).

To explore slightly more complex helping behaviour, another condition was used. In this condition, the confederate child was smiling the whole time while complaining that it was difficult to turn the crank. Children who were better at labelling emotions in stories that involved mixed emotions were more likely to help in this more confusing condition (Carlo et al., 1991). This research provides support for the notion that emotion knowledge is linked with helping behaviour and also that children with more sophisticated emotional understanding are also more likely to help in situations in which the situational cues of need for help are mixed and thus more difficult to interpret.

Audio-visual tests of emotion knowledge have also been found to be linked with prosocial behaviour. The Southampton Test of Empathy for Preschoolers (STEP) is a video vignette task that requires children to identify the emotions of characters in videos (Howe, Cate, Brown, & Hadwin, 2008). This measure is similar to the Denham (1986) puppet measure and is correlated with performance on a test of facial expression recognition. In a sample of 39 preschoolers, children who were better on a test of facial

expression recognition were more likely to be rated as prosocial by their teachers and also more likely to be rated as higher in empathy by their parents (Howe et al., 2008).

Similarly, Garner, Dunsmore, and Southam-Gerrow (2008) found a significant positive association between emotion knowledge and observed prosocial behaviour during group play activities involving groups of three children. For the purposes of their observation, Garner et al. (2008) operationalized prosocial behaviour as behaviours that could be classified as helping, sharing, and comforting.

Consistent with this finding, researchers have found a significant relation between observed prosocial behaviour and performance on the affective-perspective taking task (“Denham puppet task”) to be used in the current study (Cassidy, Werner, Rourke, & Zubernis, 2003). The observational assessment used by Cassidy et al. (2003) was advantageous because it allowed for observation of actual prosocial behaviour, but also allowed for a more comprehensive and ecologically valid measure, compared to laboratory activities. Children who performed better on a task requiring them to label the emotions experienced in 8 vignettes and explain their reasoning, were significantly more likely to score highly in an overall measure of prosocial behaviour (including helping, sharing, and cooperating) during direct classroom observation (Cassidy et al., 2003).

A robust link between emotion knowledge and prosocial behaviour in 102 preschoolers was found in a longitudinal study that used several different methods of assessing prosocial behaviour: observation of peer interactions, parent and teacher reports, and an experiment in which children were given an opportunity to delay gratification in order to share stickers with a peer (Ensor, Spencer, & Hughes, 2011). Emotion knowledge was measured using the Denham (1986) puppet task. Results

showed that performance on the emotion knowledge task at age 3 was significantly associated with prosocial behaviour at age 4 as measured by a composite of the observational data (helping and sharing with friends), parent report, teacher report, and a sharing experiment. The association between emotion knowledge at age 3 and prosocial behaviour at age 4 was significant even when controlling for verbal ability and parent-child relationship quality (Ensor et al., 2011).

Furthermore, evidence from the intervention literature supports a causal link between improving emotion knowledge and increased prosocial behaviour (Domitrovich, Cortes, & Greenberg, 2007). One such study involves an evaluation of the Promoting Alternative Thinking Strategies curriculum (PATHS) program in 10 intervention and 10 control Head Start classrooms. Children's emotion knowledge was assessed using the Assessment of Children's Emotion Skills (ACES; Schultz, Izard, & Bear, 2004), Denham (1986) puppet task, and a revised version of the Recognition of Emotion Concepts test from the Kusche Emotional Inventory (KEI; Kusche, 1984). Results revealed a significant link between improvement in emotion knowledge and increased teacher-reported cooperative behaviour. Similar programs that emphasize increasing emotional understanding in young children have also been found to increase prosocial behaviour and decrease overt aggression (e.g., Al's Pals: Kids Making Healthy Choices; Lynch, Gellar, & Schmidt, 2004).

Emotion Knowledge and Physical Aggression.

The ability to understand and identify emotions may seem overly simplistic at first glance, but researchers argue that it is a critical aspect of emotional competence (Denham et al., 2000; Izard et al., 2008). An ability to identify one's own emotions allows one to

decide what to do with such emotions. Likewise, an ability to label other people's emotions guides our decisions in choosing how to interact with them. It may not be necessary to have developed the language skills to verbalize the word for a given emotion, but grasping the meaning behind emotional expressions is key. The research shows that children who have difficulty identifying and understanding other people's emotions tend to be more physically aggressive, whereas children who are skilled at understanding others' emotions tend to resort to physical aggression much less often (Denham et al., 2003, Izard et al., 2008; Trentacosta & Fine, 2010). For example, in a sample of 51 preschoolers, Arsenio et al. (2000) found that children who had more difficulty interpreting emotions presented in brief stories displayed significantly more aggression than their peers, based on teacher-report and direct observation.

A recent meta-analysis of studies on children's emotion knowledge provides evidence of consistent links between discrete emotional knowledge and externalizing problems (Trentacosta & Fine, 2010). Externalizing problems are a set of disruptive behaviours that include physical aggression, defiance, oppositionality, and verbal aggression. The authors' restricted their analyses to studies of discrete emotion knowledge, which they defined as the ability to understand relatively unambiguous cues of discrete emotions expressed in facial expressions, vocalizations, gestures, and social contexts. Several studies used the "Denham Puppet task," (Denham, 1986) or variations thereof. These tasks are mostly used with children between ages 3 and 6 years. Additionally, several studies of emotion knowledge use the first and second versions of the Diagnostic Analysis of Nonverbal Accuracy (DANVA-I, Nowicki & Duke, 1994; and DANVA-II, Rothman & Nowicki, 2004). These measures assess children's ability to infer emotion

based on facial expression, posture, gesture, and tone of voice and their ability to express emotion using culturally appropriate facial expressions, gestures, and tone of voice. The DANVA measures are mostly used with children older than 6 years of age. Other measures used were similar to these and required children to label the emotions depicted in photographs (Ekman & Friesan, 1975) and to explain how characters felt in age-appropriate vignettes (Mostow, Izard, Fine, & Trentacosta, 2002).

In their summary of 34 studies linking some measure of emotion knowledge with externalizing behaviours, Trentacosta and Fine (2010) found a small to medium effect size ($r = -.17$) and concluded that an additional 24 studies with null findings would be required to reduce the effect size below what would be considered significant, $r = .10$ (Cohen's minimum r for a small effect size). The authors also examined whether age would be a moderator of this link and found that age had a small to medium effect size in the youngest age group (ages 2-5). In the studies that Trentacosta and Fine (2010) examined, externalizing problems were mostly measured using parent and teacher ratings scales, but other measures included DSM diagnosis, placement status, and direct observation. The link between emotion knowledge and externalizing problems was strongest when DSM diagnosis and placement status were used as measures of externalizing problems. Interestingly, the meta-analysis suggested that the link between emotion knowledge and externalizing problems was consistent across ethnicity, socio-economic status, and age group.

Several researchers have found links between aggression and children's performance on tasks similar to the Denham (1986) Puppet tasks, which require them to listen to vignettes and guess how a character might be feeling based on the events of the story

(Arsenio et al., 2000; Denham et al., 2002; Garner, Dunsmore, & Southam-Gerrow, 2008). Using a series of play tasks with 85 preschoolers in groups of three, Garner et al. (2008) explored links between observed aggressive behaviour and performance on an emotion knowledge task using vignettes (similar to the Denham, 1986 task). Children had free play in a room with limited toys, engaged in a game in which they were required to guide a marble through a hole using 2 tubes, and played with a white board that had only one marker. Their aggressive behaviour was videotaped and coded. Physical aggression was defined as actual or threatened physical harm (e.g., hitting, kicking, pushing, and threatening). Interestingly, 80% of the children engaged in at least one aggressive act. Results revealed that physical aggression was significantly predicted from poor performance on the emotion knowledge task, as well as a bias toward giving anger as an incorrect answer (anger attribution bias) when asked to label the emotion of a character. Evidence suggests that the development of biases like these in preschool can set children on a path of aggressive behaviour for many years to come (Izard, Fine, Mostow, Trentacosta, & Campbell, 2002).

Support for a link between emotion knowledge and aggression has also been found in a group of 182 children in Grades 1 and 2. Emotion knowledge was assessed using the Assessment of Children's Emotion Skills (ACES; Schultz, Izard, Trentacosta, Leaf, & Mastow, 2004), which requires children to label emotions depicted in a series of vignettes and to answer emotion-related questions about the vignettes. Results showed that there was a significant link between performance on this task and teacher-rated aggression on a shortened version of the Observation of Classroom Adaptation-Revised (TOCA-R; Werthamer-Larsson, Kellam, & Wheeler, 1991). This measure of aggression includes

mostly physical items (e.g., fighting), with some overt relational items (e.g., teasing); unfortunately, all of the aggression items are combined into one scale. The authors also found links between deficits in emotional processing and lower levels of empathy and argue that these factors together put children at an even great risk of becoming aggressive (Schultz, Izard, & Bear, 2004).

Further support for a link between an anger attribution bias and physical aggression was found using a similar measure with a primarily African-American sample of 93 children enrolled in Head Start (Schultz et al., 2000). Children were presented with 18 different vignettes and were required to infer the emotion of the character in each vignette. No significant link was found between overall emotion knowledge and teacher-reported aggression. Nevertheless, results revealed that there was a link between anger bias and scores on the Aggressive Behaviour Scale of the Teacher Rating Form (TRF 1.5-5; Achenbach & Rescorla, 2001), which contains mostly items describing physical aggression. This link was only significant for boys, however. The authors suggest that this may be because only physical aggression was measured and physical aggression is more often associated with boys (especially when adults are raters). They also propose that the result may be explained by the fact that boys made more anger attribution errors compared to girls, thus increasing the likelihood that a link would be found for boys and not for girls (Schultz et al., 2000). The authors encourage future researchers to explore links between emotion knowledge and relational aggression, as the present study did.

Denham et al. (2002) found support for a causal link between emotion knowledge (based on responses to 12 vignettes) and overt (mostly physical) aggression using a longitudinal study of 127 preschoolers. This longitudinal study involved measuring

emotion knowledge and aggression at 3 time points (age 3, 4/5, and kindergarten). Emotion knowledge was assessed based on performance on a vignette task in which children were required to infer the emotions of a character. Aggression was measured using teacher-report and direct observation. Denham et al. (2002) found that girls who were high in aggression or who remained at a stable moderate level of aggression showed more deficits in emotion knowledge at age 3, compared to their less aggressive peers. Boys who showed deficits in emotion knowledge at any of the time points, were more likely to be aggressive at age 4/5 and in kindergarten, compared to their peers. When children were in kindergarten, their understanding of mixed emotions and display rules were also tested. The Mixed Emotions Kindergarten Assessment Test (Gordis, Rosen, & Grand, 1989) required children to identify the emotions of characters feeling two emotions simultaneously. The Display Rules Kindergarten Assessment Test (Gross, 1993; Gross & Harris, 1988) required children to listen to stories about a child who had to follow a particular display rule (e.g., hide sadness to avoid being teased) and answer questions about how the characters were feeling, how the character looked, and how the other people in the story would think the character was feeling. Links were found between KAT Mixed Emotions and observed aggression at age 4/5 and kindergarten. A link was also found between KAT Display rules and observed aggression at age 4/5. This longitudinal study supports the argument that several aspects of emotion knowledge are linked to aggression and that emotion knowledge deficits may predict later aggressive behaviour (Denham et al., 2002).

Similarly, Izard et al. (2001) found that performance on emotion-labelling and emotion recognition tasks at age 5 were predictive of lower levels of teacher-reported

externalizing problems at age 9 based on his study of 72 children. Externalizing problems were measured using the externalizing problems scale of the Social Skills Rating System (Gresham & Elliot, 1990), which is highly correlated with physical aggression (Gresham & Elliot, 1990).

Researchers who have used teacher-report measures of emotion knowledge have also found links between emotion knowledge and physical aggression. For example, Strayer and Roberts (2004b), who investigated aggressive behaviour in 24 5-year-old boys and girls found that children who were rated by their teachers as lower in the ability to be sensitive to, and to respond to the emotions of others were higher in experimenter-observed physical aggression.

Interventions aimed at improving emotional understanding have been found to reduce physical aggression, thus supporting a causal link. For example, Izard et al. (2008) examined the effectiveness of an emotion-based prevention program on the aggressive behaviour of children enrolled in Head Start programs. Results revealed that the program was effective; specifically, increased emotional understanding was associated with less aggressive behaviour in both rural and inner-city communities.

Taken together, this literature provides convincing evidence for a link between deficits in emotion knowledge (including anger attribution bias) and physical aggression. Nevertheless, it appears that this link may be moderated by the choice of assessment tools and the outcome measures used (Trentacosta & Fine, 2010).

Emotion Knowledge and Relational Aggression

Very little research has examined the links between emotion knowledge and relational aggression. Even among studies that have explored this area, there is limited evidence for

a link (Garner et al. 2008, Werner et al., 2006). For example, Garner et al. (2008) observed relational aggression in the play tasks in groups of three described earlier (free play with limited toys, marble game with two tubes, and white board activity with one marker). Relational aggression was defined as behaviour that hurt another child by negatively influencing the child's behaviour with others or using verbal insults, mean names, and/or taunts. No significant links were found between emotion knowledge and relational aggression. This may be partly related to the fact that the children were only videotaped for 20 minute segments and could only play with 2 other children at a time, but it could also suggest that no such link exists.

Likewise, Werner, Cassidy, and Juliano (2006) failed to find a link between performance on an affective-perspective taking task and relational aggression measured by direct observation in a sample of 67 preschoolers (32 boys, 35 girls), ranging in age from 37 to 65 months. The interpretation of this finding is limited by the fact that relational aggression was measured using direct observation for 40 minutes and less than half of the 67 children engaged in any relational aggression at all.

Some evidence suggests that children who choose relational aggression may actually have some emotion knowledge deficits. In one study, 364 preschoolers were presented with vignettes involving challenging situations (e.g., having a tower knocked over by a peer; Mahoney, 2007). Children were given options to decide how they might respond in the given situation. Children who indicated that they would respond using some sort of manipulation (e.g., crying to get the other person to behave in a certain way) were actually more likely to make unrealistic predictions about how the other person would

feel. Specifically, they tended to indicate that the other person would be happy to see them crying (Mahoney, 2007).

It is possible that links between emotion knowledge and relational aggression do not emerge until children get older. Given that the relational aggression that is exhibited by younger children is relatively simplistic and involves less planning, it is quite possible that understanding another person's emotions does not play as much of a role at this early stage. In older children (e.g., Grade 4 students), closer friendships and increased disclosure is associated with increased relational aggression (Murray-Close, Ostrov, & Crick, 2007), but the relational aggression of preschoolers may be simple enough that it does not require awareness of another person's emotions. For example, a little girl may simply need to know that saying "you can't come to my party unless. . .," results in desired behaviour from a peer, without needing to contemplate whether the peer is feeling sad or afraid.

Links Between Emotion Regulation and Social Behaviour

The major models that explain the links between emotional and social behaviour in young children consistently include emotion regulation as a central element of emotional competence (Denham et al., 2003; Eisenberg et al., 1998; Halberstadt et al., 2001; Lemerise & Arsenio, 2000; Tremblay, 2010). Although emotion regulation is defined in different ways by different researchers (Eisenberg, Champion & Ma, 2004), there is general consensus. Developmental psychologists generally agree that emotion regulation involves internal processes related to emotion. Researchers disagree, however, about whether emotion regulation involves primarily effortful, voluntary processes or whether it

also includes involuntary, more reactive processes, such as inhibition due to automatic brain responses (Eisenberg & Morris, 2003; Eisenberg & Spinrad, 2004).

An inclusive description of emotion regulation can be stated broadly as “the processes by which people influence which emotions they have, when they have them, and how they experience and express them” (Gross, 1998, p. 275). Gross (1998, 2002) proposes that emotions can be regulated at five main points: selection of the situation (e.g., a preschooler choosing to approach a group of children playing with his favourite toy), modification of the situation (e.g., asking to join the other children), deployment of attention (e.g., focusing on his desire for the favourite toy versus an available toy), change of cognition (e.g., thinking about how much he wants the toy right now versus telling himself he can play with it later), and modulation of responses (e.g., angrily grabbing the toy or calmly sharing it with the others). Suppression may also occur in this final stage and it refers to inhibiting behavioural signs of emotion (Gross, 2002). These stages may not always occur sequentially and will often overlap (Gross, 1998). Therefore, whereas some researchers separate emotion regulation and emotional expressiveness into two separate categories (Denham et al., 2003), Gross (1998) suggests that expressiveness is (at least partly) an aspect of emotion regulation. Furthermore, emotionality is sometimes used to refer to the degree of intensity of an emotion for a particular person. Theoretically, emotionality, emotional expressiveness, and emotion regulation can be described as separate constructs, but practically it is impossible to obtain a pure measure of one of these three constructs without also measuring the other two.

Emotion Regulation and Prosocial Behaviour

When examining the link between emotion regulation and prosocial behaviour, it is necessary to consider the type of emotion being regulated. Research suggests that there is a link between prosocial behaviour and the experience of particular types of emotions. In particular, prosocial children display more positive than negative emotions overall (Denham et al., 2003) and are more likely to experience sympathy (Eisenberg, 2000; Trommsdorf, Friedlmeier, & Mayer, 2007); whereas less prosocial children experience more self-focused personal distress (Batson, 1998; Eisenberg, 2000). Sympathy refers to an emotional response stemming from comprehension of another's emotional state or condition. The emotional experience of sympathy is not the same as what the other person is feeling (or is expected to feel) but consists of feelings of sorrow or concern for the other person (Eisenberg, 2000). In contrast, empathy is usually used to refer to the ability to identify how another person is feeling and also to be vicariously aroused by this awareness (Kaukiainen et al., 1999). Even though some researchers make a distinction between sympathy and empathy, the terms are often used interchangeably (Eisenberg, 2000).

Trommsdorf et al. (2007) examined relations between sympathy, distress, and prosocial behaviour across cultures (Germany, Israel, Indonesia, and Malaysia) in a sample of 212 preschoolers. Female university students (ages 18-20) served as play partners and played a balloon game one-on-one with each of the young children. At a point when the child was attending to another toy, the play partner popped her balloon and stated in a distressed voice that she was very sad that it had popped. She then sighed, covered her face with her hands, and fell into what the researchers describe as "a state of

sorrow” for about 2 minutes. The reactions of the children were observed and rated by raters from the same cultural groups as the children. Sympathy was operationalized as mimic reactions in which the children displayed sad faces (e.g., corners of the mouth are pointed downward), sad voices, and no indication of anger. Self-focused distress was operationalized as showing signs of bodily tension (lower part of face is tense and lips are pressed together), but turning away from the play partner. Results showed that prosocial behaviour was consistently associated with sympathy and was negatively associated with self-focused distress. The results in this study are consistent with previous findings that children who become too upset by seeing other people in distress are actually less likely to respond prosocially (Eisenberg et al., 1996; Eisenberg, 2000; Preston & Hofelich, 2012). Similarly, in a sample of school-age children exposed to emotionally provocative films, sympathy reactions were related to teacher-reported prosocial behaviour; whereas distress reactions were negatively related to teacher-reported prosocial behaviour (Holmgren, Eisenberg, & Fabes, 1998) These results are also consistent with Batson’s (1998) argument that self-focused distress results in motivation to relieve one’s own distress, whereas sympathy results in motivation to help others.

Furthermore, research suggests that children who are higher in ratings of emotion regulation also tend to experience greater levels of sympathy (Eisenberg, 2000). For example, in a longitudinal study of 6-8 year-olds, Eisenberg et al. (1998) found that children who were good at regulating their emotions experienced increased levels of sympathy as their degree of intensity of emotion increased. In contrast, the degree of sympathy experienced by children who were not good at regulating their own emotions was not significantly influenced by emotional intensity. In a review of the literature,

Eisenberg (2000) concludes that children who are prosocial are better at regulating their distress reactions and are also higher in sympathy overall, compared to their less prosocial peers.

In a longitudinal study of children in kindergarten through Grade 3, Eisenberg, Fabes, Guthrie and Reiser (2000) found a link between behavioural emotion regulation (as measured by parent and teacher report and performance on a frustrating puzzle task) and teacher-reported prosocial behaviour. In addition, this link was moderated by negative emotionality in that it was significant for children who were high in negative emotionality (based on teacher- and parent-report), but was not significant for children low in negative emotionality.

Direct observation of emotion regulation strategies also provides evidence for a link between competence in regulating emotions and prosocial behaviour. For example, in a study of Grade 3 and 6 students, links between emotional responses and prosocial behaviour were measured by exposing children to a film in which two boys were home alone while an unidentified man lurked outside. Results revealed that children who tended to avert their gaze (a strategy for regulating emotion), tended to be rated as higher in prosocial behaviour by their mothers (Fabes, Eisenberg, & Eisenbud, 1994).

Overall, these results suggest that emotion regulation skills are positively associated with prosocial behaviour. Nevertheless, experiencing particular types of emotions, such as sympathy, is also related to prosocial behaviour. In contrast, experiencing self-focused emotions, especially self-focused distress, is negatively related to prosocial behaviour.

Emotion Regulation and Physical Aggression.

Surprisingly few studies have examined links between emotion regulation and actual physical aggression; the majority of studies measure overt aggression, including both verbal and physical forms. Fortunately, items measuring physical aggression make up a substantial portion of such measures (Collet, Ohan, & Myers, 2003). The various aspects of emotional competence are interrelated, but evidence suggests that emotion regulation makes additional contributions to aggressive behaviour, above and beyond that of emotion knowledge (Denham et al., 2003). For example, in a study of 60 preschoolers in Head Start, Miller et al. (2006) found that children with higher levels of emotion knowledge were better at regulating positive emotions, compared to their peers. In addition, children who were high in an observational measure of negative emotion were poorer at regulating negative emotions, compared to their peers. Finally, even when controlling for emotion knowledge and the observational measure of emotional expressiveness, teacher-reported emotion regulation made a significant contribution to the prediction of teacher-reported overt (primarily physical) aggression (Miller et al., 2006).

A longitudinal study with 64 infants and toddlers provides evidence for a relation between emotion regulation and aggressive behaviour even before preschool (Crockenberg, Leerkes, & Barrig-Jo, 2008). In this study, infants were placed in frustrating situations at age 6 months and their emotion regulation strategies were observed. Results revealed that infants who tended to pay attention to frustrating stimuli at 6 months were more likely to be rated as physically aggressive by their mothers at age 2.5 years (Crockenberg et al., 2008).

Longitudinal studies with older children provide further evidence for a connection between emotion regulation difficulties and the development of physical aggression in early childhood. In a one-year longitudinal study of 331 children enrolled in Head Start programs, results revealed that both emotional lability and poor emotion regulation were linked with disruptive behaviour (primarily aggression) during peer play directly observed by the researchers (Cohen & Mendez, 2009). These researchers suggest that a tendency toward experiencing negative emotionality intensely, coupled with emotion regulation difficulties, is associated with a particularly strong likelihood of behaving aggressively toward peers (Cohen & Mendez, 2009).

A longitudinal study of 384 children who were assessed at ages 2, 4, and 5 explored links between emotion regulation and externalizing problems (Hill, Degnan, Calkins, & Keane, 2006). Results suggested that the links between emotion regulation and externalizing problems may be moderated by gender (Hill et al., 2006). Results revealed that early emotion regulation problems were associated with a chronic profile of externalizing problems in girls. In contrast, for boys, socioeconomic status and inattention were better predictors of chronic externalizing problems. In this study, externalizing problems were measured using a parent-report checklist, whereas emotion regulation was assessed based on performance on a frustration task at age 2. These results show that emotion regulation and externalizing problems are linked even at early ages. Emotion regulation was not measured at ages 4 and 5 so it is difficult to determine whether emotion regulation might have played an even more important role as children developed.

Similar results were found from a longitudinal study of 77 children assessed at three time periods: ages 4-6, 6-8, and 8-10 (Eisenberg et al., 1997). Results revealed that parent-reported externalizing problems at age 8-10 were significantly linked with parent-report measures of emotion regulation contemporaneously and 2 and 4 years earlier. Similarly, teacher-reported externalizing problems were linked with teacher-reported emotion regulation contemporaneously and 2 and 4 years earlier. In addition, when low emotion regulation was combined with negative emotionality, there was a greater likelihood of problem behaviour (Eisenberg et al., 1997). Because of the lack of consensus between teachers and parents, Eisenberg et al. (1997) join other researchers in advocating the use of more than one measure of these constructs.

A unique space-themed paradigm was used to identify an optimal degree of emotion regulation in a group of preschoolers (Cole, Zahn-Waxler, Fox, Usher, & Welsh, 1996). The researchers invited 81 4- and 5-year-olds to a “space lab,” in which they had an opportunity to pretend to be astronauts. The children played with space-themed items and were introduced to electrodes. Children were told various stories with accompanying pictures (using the Mood Induction Stimulus for Children; Cole, Jordan, & Zahn-Waxler, 1990). The stories were about a being from space and each story was designed to elicit a specific emotion. Children’s emotional responses to the stories were assessed using EKG, galvanic skin conduction, facial expressiveness, and self-report. Results revealed that children who were overly emotionally expressive/responsive or overly non-expressive were more likely to have concurrent behaviour problems based on teacher report. Children were also assessed at age 7 and results revealed that the inexpressive children were more likely to have internalizing problems (e.g., anxiety and depression), whereas

the overly expressive children were more likely to have externalizing problems (Cole et al., 1996). Although multicultural research on emotion regulation in preschoolers is limited, there is support that the link between emotion regulation and aggression is present in non-Western cultures as well. In a sample of 325 Chinese children, results indicated a significant association between parent-reported emotion regulation and teacher-reported overt aggression (including both verbal and physical items; Chang et al., 2003). Similarly, a relation between emotion regulation and parent-reported externalizing problems was found in a sample of 107 7-year-olds in Istanbul (Batum & Yagmurlu, 2007).

Furthermore, interventions that increase a child's emotion regulation skills have been found to be successful in reducing physical aggression and other disruptive behaviour problems (Brotman et al., 2007; Izard et al., 2008; Landy & Menna, 2006; Lewis et al., 2008). For example, preschoolers who were identified as at-risk (based on having a delinquent sibling) were compared with typically developing preschoolers and were found to have greater cortisol levels in response to the social challenge of joining an activity with a group of children. After these preschoolers received a family-based intervention, their cortisol levels were reduced to more typical levels and their behaviour also improved (Brotman et al., 2007). Cortisol levels can be useful for measuring emotion regulation because cortisol is directly linked with the degree of stress that a child experiences and a child who is better at regulating emotional responses will experience less stress in response to the same stimuli (Eisenberg, 2000; Goldsmith & Davidson, 2004).

Emotion Regulation and Relational Aggression.

The literature on the connection between emotion regulation and relational aggression is scant. The few studies that have explored links between emotion regulation and relational aggression have mostly been completed with school-age children and have revealed that children who were higher in teacher-reported relational aggression indicated greater feelings of anger and distress as a result of hypothetical social situations (Crick, 1995; Crick, Grotpeter, & Bigbee, 2002). A school-based study on the Making Choices: Social Problem Solving Skills for Children program revealed that improvement in social competence was linked with reduction in teacher-reported relational aggression in Grade 3 students (Fraser et al., 2005). The teacher-report measure of social competence that was used in this study was made of items assessing emotion regulation and prosocial behaviour, but unfortunately emotion regulation was not assessed as a separate construct so it is uncertain whether there would have been a statistically significant link between relational aggression and emotion regulation. Nevertheless, the fact that the program emphasized improving emotion regulation skills and resulted in a statistically significant improvement in relational aggression provides some support for a link (Fraser et al., 2005).

A study of children enrolled in a Head Start program revealed a negative link between children's teacher-reported self-control and teacher-reported relational aggression. This link was significant for both boys and girls (Lowe, 2006). Similarly, a negative link between self-control and relational aggression was found in a sample of 362 preschoolers in Japan (Isobe & Sato, 2003; as cited in Isobe et al., 2004). In contrast, Denham (2007) suggests that children require emotion regulation skills in order to use their emotions to elicit the desired reactions from their peers, a task that is necessary for relational

aggression. At the same time, emotion regulation is associated with less experienced anger and anger is linked with a greater likelihood of any type of aggression, including relational aggression (Crick, 1995; Denham, 2007). Conway (2005) provides an explanation, arguing that the socialization of girls to suppress anger is partly responsible for relational aggression. She indicates that children who are poorer at coping with anger and who are susceptible to display rules will be at a greater risk for relational aggression because they will feel more angry, but will be more motivated to use covert means of expressing that anger. This is consistent with Hawley's (2003) argument that relationally aggressive children are more 'morally mature' than their peers in that they understand and conform to social mores, but experience enough motivation to retaliate against peers so they choose to harm their peers through more subtle means.

Studies using cortisol as a measure of emotional arousal shed some doubt on this explanation. In a study of inner-city children attending a camp program, results revealed that children who were higher in relational aggression displayed different cortisol patterns compared to those who were low in relational aggression. Specifically relational aggression was associated with lower cortisol in the morning, followed by less fluctuation over the course of the day, a pattern that the authors describe as hypocortisolism (Murray-Close, Han, Cichetti, Crick, & Rogosch, 2008). These differences in degree and change of stress response would suggest a different pattern of emotional experience and emotion regulation (Goldsmith & Davidson, 2004). The authors suggest that children with hypocortisolism purposely engage in more relationally aggressive activities as a means of stimulating themselves to increase their level of arousal to a more normal level. In addition, the hypocortisolism in relationally aggressive children could suggest that these

children experience less negative feelings as a result of harming others so they are less motivated to inhibit their inclination to harm others (Murray-Close et al., 2008). This appears to be in direct opposition to Conway's (2007) suggestion that relationally aggressive children experience more anger and seems to be in contrast with self-reports of higher degrees of expected anger among relationally aggressive children (Crick, 1995; Crick et al., 2002). Nevertheless, because the cortisol study does not directly measure anger responses, it is possible that relationally aggressive children are under aroused generally, but are also more likely to experience anger. No known studies have examined this possibility.

One of the most common ways in which young children deal with conflict is to 'tattle' (i.e., tell an adult, especially a teacher, that another child has done something that is perceived as wrong). Tattling may be considered a form of relational aggression if it is motivated by a desire to cause harm to another person by damaging their reputation or relationships (Ingram & Bering, 2010). Given that one of the most common consequences used in preschool classrooms is 'timeout' (Turner & Watson, 1999), it is quite possible that children are motivated to harm their peers by instigating their social exclusion. In fact, observed tattling has been found to be strongly correlated with teacher-reported relational aggression in preschool (Ingram & Bering, 2010). Preschool children usually tell the truth when they tattle (Ross & den Bak-Lammers, 1998), but they are sometimes motivated to harm their peers and they are more likely to tattle on someone who has harmed them in some way (Ingram & Bering, 2010). In addition, children sometimes use a threat of tattling as a way to control another child's behaviour (e.g., 'I'm telling the teacher!'; Ingram & Bering, 2010). Researchers suggest that tattling requires a

moderate degree of emotion regulation because it requires a child to control the impulse to retaliate physically against a peer, but also may require less emotion regulation than would be needed to try to resolve a situation without adult intervention (Ingram & Bering, 2010).

Overall, there is little research on the link between emotion regulation and relational aggression. As we have seen, the research that does explore this connection seems to produce more questions, rather than provide definite answers. The present study could play an important role in exploring the connection between relational aggression and emotion regulation in young children, not only by examining this link directly, but also by considering how emotional regulation might mediate the link between maternal and child behaviour.

Maternal Emotion Socialization

Socialization is the process through which we learn norms, customs, and ideologies from other people and from the culture at large. To explain the process of socialization, Cooley (1902; as cited in Shepherd, 2002) proposed the metaphor of “the looking glass self.” He suggested that we develop a sense of self based on our interpretation of how others see us and this sense of self also influences how we see the world. Therefore, our understanding of self is socially created based on our interactions with others. Children learn to judge themselves according to how they think others see them; in effect, internalizing the mirrors that they perceive in other people. These internalized mirrors continue to affect their worldview and behaviour in future interactions. Meade (1934; as cited in Shepherd, 2002) emphasized that socialization takes place through language and role taking. Language is critical in the socialization process because it allows us to talk to

ourselves and to answer ourselves internally. Role taking is required because it allows us to play out scenes in our minds and anticipate how others will react to us. Primary socialization, so called because it occurs first and is most influential, is the term used for a young child learning the attitudes, values, and actions appropriate to individuals for functioning in a given culture and society from parents. Even though socialization is the result of innumerable socializing agents, in many families, mothers are the most influential socializing agents (Crittenden, 2002).

Emotion socialization refers to teaching both directly and indirectly about the meaning, experience, expression and regulation of emotions (Eisenberg et al., 2001). Parental emotion socialization usually occurs in three main ways. First, children watch how their parents handle and express their own emotions. Second, children learn from their parents' responses to the children's expressions of emotion. Third, parents talk to their children directly about emotions. The influence that a parent's socializing behaviours have on children can be affected by many individual (e.g., child's age), interactional (e.g., the target of the child or parent's emotional expression), and contextual factors (e.g., consistency; Eisenberg et al., 1998).

Meta-emotion theory proposes that parents' philosophies on emotions results in one of two particular parenting styles: "emotion coaching," and "emotion dismissing" (Gottman, Katz, & Hooven, 1996). Parents who engage in emotion coaching tend to value emotional experiences and support their children in expressing their emotions as well as resolving negative emotions effectively. In contrast, emotion dismissing parents are more likely to discourage, ignore, and trivialize their children's emotions, discouraging their children from sharing them (Gottman et al., 1996). The parenting behaviours that result from these

emotion philosophies play an important role in primary emotion socialization from birth to adulthood (Gottman et al., 1996).

Effects of Maternal Emotion Socialization on Children's Social Behaviour

Surprisingly little research has been done on the link between maternal emotion socialization and children's prosocial behaviour. Research involving preschoolers is especially limited. Mothers' reactions to children's negative emotions have been found to be even more influential than their responses to children's positive emotions. In a meta-analysis of 5 studies including 150 families, Roberts (1999) found that parents' tolerant and non-punitive responses to children's emotional distress were related to young children's prosocial behaviour. In one of the few studies on prosocial behaviour in African-American preschoolers, Garner (2006) observed 70 children at home and at school. Results showed that mothers who responded with emotional encouragement to their children's prosocial behaviour had children who engaged in significantly more prosocial behaviour toward their peers measured using direct observation. A longitudinal study found similar results. Specifically, children whose mothers demonstrated more concern for their well-being as toddlers engaged in more prosocial behaviour two years later (Hastings, Rubin, & DeRose, 2005). Generally, researchers agree that children whose parents encourage the expression and discussion of emotional experience are better equipped to understand other children and thus behave more prosocially (Denham et al., 1997).

Researchers have found that punitive reactions to children's negative emotions in particular predict child aggression (Beck, Daley, Hastings, & Stevenson, 2004; Brook, Tseng, Whiteman, & Cohen, 1998; Denham, von Salisch, Olthof, Kochanoff, & Caverly,

2002; Eisenberg et al., 1998). In a large ($n = 1516$) longitudinal study that followed children from 17 to 72 months, researchers found a significant link between harsh parenting and both proactive and reactive physical aggression (Vitario, Barker, Boivin, Brendgen, & Tremblay, 2006). The seven items used to assess harsh parenting were consistent with hostile and punitive reactions to infants' negative emotions (e.g., spanking, losing one's temper, raising one's voice, and shaking the child). Similarly, Kimonis et al. (2006) found significant links between parents' use of punitive reactions and teacher-reported aggression in 49 preschoolers. In a sample of 122 families, Casas et al. (2006) found that mothers' self-reported psychologically controlling behaviours toward their preschool children were linked with parent and teacher-reported aggression. Controlling behaviours included minimization of children's feelings, constraining emotional expression, and personal attacks. These dysfunctional emotion socialization practices were associated with higher levels of preschoolers' aggression at home and at school.

Acceptance and encouragement of children's emotional expression increases a child's emotional understanding and this is associated with less aggressive behaviour (Gottman et al., 1996; Laible & Song, 2006; Ramsden & Hubbard, 2002). In one study (Laible & Song, 2006), preschoolers and their mothers participated in two open-ended tasks – one that required them to reminisce together about a positive and negative experience that the child had and one that required them to read a wordless storybook together. Mothers also rated the children's aggressive behaviour and children engaged in affective-perspective taking tasks modelled after the Denham (1986) task. Results showed that mothers who discussed emotions readily and were particularly positive in their style of interacting had

children who performed better on the affective-perspective taking task and received lower aggression ratings. Similar results were found by Ramsden and Hubbard (2002) who examined relations among emotional expressiveness in the family, mothers acceptance of children's negative emotions, children's emotion regulation, and children's aggression. They found that negative family expressiveness and lack of acceptance of children's negative emotions were associated with emotion regulation difficulties, which in turn were linked with children's aggression. Further support for the importance of mothers' openness to their children's emotions was found in a longitudinal study of 271 children. Negative parenting strategies were associated with increased aggression one year later, but only if mothers were also insensitive to their children's emotional displays (Alink et al., 2009).

Intervention research also provides support for a causal link between parents' emotion-socializing behaviours and children's aggression. For example, changing parenting strategies (decreasing harsh parenting, increasing emotionally responsive parenting) can lead to decreased physical aggression in young children (Brotman et al., 2007). In a sample of 218 families with preschoolers, an intervention that increases emotion coaching and decreases emotion dismissing was found to result in clinically significant decreases in conduct problems (including aggression), compared to a control group (Havighurst, Wilson, Harley, & Prior, 2009). These studies extend the previous literature on interventions for maternal emotion socialization for older aggressive children. For example, a treatment program for 75 families with aggressive children in Grades 5 and 6 found that reduction in dismissing and punitive responses to children's

negative responses and increases in expressive encouragement were linked with significant reduction in children's aggression (Schechtman & Birani-Nasaraldain, 2006).

Parents' expressions of their emotions have been linked to relational aggression (Casas et al., 2006), although no studies have directly examined links between mothers' responses to children's negative emotions and children's relational aggression. Hart et al. (1992) found that preschoolers' relational aggression was related to lack of emotional responsiveness from both mothers and fathers, as well as mothers' coercive behaviour (such as threatening and intimidating). Likewise, Casas et al. (2006) found relations between dysfunctional socialization and preschool children's relational aggression. A particularly harmful type of mothers' punitive response known as love withdrawal was especially strongly related with children's relational aggression. Love withdrawal involves communicating to a child that the parent will no longer love or accept them if they do some undesired behaviour (Casas et al., 2006).

A large Canadian longitudinal study that followed 1401 children from age 2 to age 10 found that increasing use of indirect aggression over time was related to lack of emotional support from parents at earlier ages (Vaillancourt, Miller, Fagbemi, Cote, & Tremblay, 2007). Indirect aggression is a construct highly related to relational aggression that is used synonymously with relational aggression (Vaillancourt et al., 2007). Results revealed that family functioning at age 2, as defined by measures of emotion socialization such as affective involvement and responsiveness was associated with increased indirect aggression over time. Although this study did not break down the different types of emotion socialization into separate variables, it provides support for the argument that

parental emotion socialization has significant and long-lasting effects on the development of aggression in young children.

Effects of Maternal Emotion Socialization on Children's Emotional Competence

As noted earlier, emotional competence includes emotion knowledge and emotion regulation. The role of maternal emotion socialization on the development of children's emotion knowledge and emotion regulation are reviewed next.

Maternal Socialization of Emotion Knowledge

Research suggests that mothers' punitive reactions to children's expression of their emotion results in decreased self-reflection on behalf of the child and this contributes to lower levels of emotion knowledge (Denham, Mitchell-Copeland, Strandber, Auerbach, & Blair, 1997; Gottman, Katz, & Hooven, 1996; Katz, Maliken, & Stettler, 2012).

Additionally, in a home-visit observation study, Denham and Kochanoff (2002) found that mothers' positive expression of emotion was correlated with high levels of emotion knowledge in 3-year-old children. Overall, research suggests that parents' supportive responses to children's negative emotions are associated with children's emotional understanding which affects physical aggression (for review, see von Salisch, 2001).

In a study of 85 preschoolers, Garner et al. (2008) found a positive association between mothers' explanations of emotions, children's emotion knowledge, and children's relational aggression. Mothers and children engaged in a story-book reading task and the discourse was coded for content. In addition, children's relational aggression was assessed using observation of play activities in groups of three. Children's emotional understanding was assessed using a puppet task modelled after Denham's (1986) task. A tendency for mothers to take time explaining the cause, antecedent, or consequence of

characters' emotions was positively linked with children's emotion knowledge and children's relational aggression. Garner et al. (2008) suggest that some children may use the emotion knowledge that they gain from their mothers in order to harm their peers through relational means, instead of using them to help others. This is consistent with Currie, Kelly, and Pomerstanz (2007) argument that a sense of agency is linked with relational aggression.

Nevertheless, some children choose to use their maternal emotion socialization experiences for more prosocial purposes. Mothers' adaptive emotion socialization is associated with young children's high levels of emotion knowledge, which is associated with prosocial behaviour (Eisenberg et al., 1996). Maternal positive expressivity has been associated with children's capacity to understand and empathize with peers' negative emotions (Zhou et al., 2002). Furthermore, Eisenberg et al. (1996) found that problem-focused reactions to children's negative emotions was linked with better emotional understanding in the children and this contributed to children's prosocial behaviour. Additionally, parents' supportive reactions to children's negative emotions have been correlated with observed prosocial behaviour (e.g., cooperation) during a play task (McElwain et al., 2007). Likewise, a literature review revealed that mothers' empathic and sympathetic responses to young children's emotions were associated with children's prosocial behaviour (Saarni & Buckley, 2002). Longitudinal research with an ethnically diverse sample also suggests that mothers' explanations of other people's emotions to their children in preschool are more likely to have children who have knowledge of emotion regulation as well as prosocial display rules in middle childhood (Garner, 1999). An example of a prosocial display rule would be that one should avoid expressing

sadness after receiving a gift one does not like in order to avoid hurting the feelings of the giver.

Maternal Socialization of Emotion Regulation

Several negative responses to children's emotional expression can contribute to problems in emotion regulation. A well-established measure for assessing mothers' emotion socialization behaviours is the Coping with Negative Emotions Scale (CCNES; Fabes, Eisenberg, & Bernzweig, 1990), which asks mothers what they would do in a variety of situations in which a child displays negative emotionality. Studies using this scale have found that mothers' dismissing of children's negative emotions (i.e., reacting as if they do not matter) is associated with emotion dysregulation in children (Eisenberg et al, 1998; Eisenberg et al., 2001). Other researchers have found consistent results using similar measures such as the Maternal Emotional Styles Questionnaire (Lagace-Seguin & Coplan, 2005). Results using the CCNES have shown that the opposite extreme is also problematic. Mothers who admit reacting with distress to children's negative emotions also tend to have children with emotion regulation problems and this is especially true if the parent uses harsh coping strategies (Fabes, Leonard, Kupanoff, & Martin, 2001). The long-standing impact of harsh parenting on emotion regulation has also been exemplified by intergenerational studies. In one study, Conger, Keppell, Kim, and Scaramella (2003) found that harsh parenting behaviours in the first generation predicted physical aggression in the third generation and this link was mediated by the second generation's harsh parenting and children's emotion dysregulation. In other words, results suggested that aggressive children's grandparents used harsh parenting with their children and this

resulted in emotion regulation problems in the aggressive children's parents as well as poor parenting practices, which then lead to problems with aggression in the children.

To examine mothers' responses to children's negative emotions directly, Cole, Dennis, Smith-Simon, and Cohen (2009) used a laboratory paradigm in which a mother and child were alone in a room together. Participants included 116 3- and 4-year-olds. A research assistant presented the mother with some questionnaires and gave the child a broken toy to play with. In addition, the researcher placed a brightly coloured present in front of the child. The mother was instructed to tell the child that the present was for the child, but that it could not be opened until after she finished her work. Then, the mothers' responses to the child's frustration were observed and coded. Results revealed that children whose mothers reacted supportively to their children's negative emotions had children who performed better on a puppet task that required them to identify strategies for dealing with anger (Cole et al., 2009). Consistent results have been found with African-American preschoolers (Garner, 2006). Mothers' open discussion of emotions was related to children's emotion regulation and this relation was found to be even stronger than the relation between mothers' approval of prosocial behaviour and children's actual prosocial behaviour.

In a study of maltreated and non-maltreated young children, Shipman et al. (2007) found that maternal emotion socialization behaviours including reactions to children's negative emotions (validation, emotion coaching, and invalidation) predicted children's emotion regulation skills. Furthermore, maternal reactions to children's negative emotions also mediated the link between maltreatment status and emotion regulation, such that maternal maltreatment was associated with fewer emotion coaching behaviours

and more invalidation and this was linked with greater emotion dysregulation in children. Further support for mothers' causal influence on children's emotion regulation was found by Valiente et al. (2006) in a 6-year longitudinal study of children who were 55-97 months at Time 1. These researchers found that maternal emotionality (positive emotionality minus negative emotionality) at Time 2 predicted children's emotion regulation at Time 3 and this predicted children's externalizing problems. A mediation analysis was significant, suggesting that maternal emotionality influences children's externalizing problems by affecting their emotion regulation skills (Valiente et al., 2006).

Adaptive maternal emotion socialization practices contribute to emotion regulation and this leads to less physical aggression (Eisenberg et al., 1998). Tremblay (2010) suggests that children lack the ability to modulate their own emotions and behave aggressively as a result. Consequently, if adults do not use the appropriate emotion socialization strategies to help them gain emotion regulation, children will continue to be physically aggressive into later childhood and adolescence. Zhou et al. (2002) also found that children whose mothers were high in positive expression displayed improved effortful control and less aggressive behaviour, compared to their peers, both 2 and 4 years later.

Furthermore, maternal emotion socialization practices and children's emotion regulation problems appear to be reciprocal. For example, in a longitudinal study, researchers found that parental distress and punitive reactions to children's negative emotions at age 6-8 predicted children's emotion regulation skills at ages 8 -10 and this in turn predicted parents' punitive reactions at age 10-12 (Eisenberg et al., 1999). This is consistent with Scaramella and Leve's (2004) description of the Early Childhood

Coercion model discussed previously. Based on an extensive literature review of emotional competence in young children, these researchers concluded that through a process of mutual reinforcement, harsh parenting, negative emotionality, and emotion dysregulation lead to coercive reciprocal links between parenting and children's emotional competence in early childhood. This pattern of coercive parent-child interactions then further diminishes children's emotion regulation skills.

Furthermore, in a meta-analysis of 5 studies including 150 families, Roberts (1999) found that parents' tolerant and non-punitive responses to children's emotional distress were related to young children's prosocial behaviour. Similarly, mothers' responsiveness to children's negative emotions has been linked with emotion regulation, which was also found to be linked with prosocial behaviour (Davidoff & Grusec, 2006).

Temperament as a Moderator of the Link Between Maternal Emotional Socialization and Children's Emotional Competence and Social Behaviour

Child temperament is one characteristic that may moderate the link between maternal emotion socialization and child emotional competence and social behaviour. That is, it could be that the strength of the connection between mother's emotion socialization practices and children's emotional competence and social behaviour depends on a child's set of dispositional, mostly biological traits.

What is Temperament?

Temperament has been identified as one of the most difficult psychological constructs to define (Sanson, Hemphill, & Smart, 2004). However, recent scholars have agreed that temperament refers to constitutionally-based or "dispositional" differences in behavioural style that are visible from early childhood (Sanson et al., 2004). These dispositional

characteristics are believed to be biologically-based (Maccoby, 2000; Sanson et al., 2004). Researchers are cautioned not to confuse biological bases with heredity, however. Although temperament is highly linked with genetic characteristics (Saudino, 2005), it is not considered to be solely innate (Sanson et al., 2004; Saudino, 2005).

Characteristics of temperament can be observed as early as infancy. In fact, one of the first studies on temperament focused on infants ages 2 to 6 months (Thomas, Chess, Birch, Herzig, & Korn, 1963). In this study, researchers interviewed the parents of 22 infants and analysed the differences and similarities between mothers' descriptions of their infants. Results yielded 9 factors: activity level, rhythmicity, approach-withdrawal, adaptability, threshold of response to stimulation, intensity of response, predominant mood, distractibility, and attention-span persistence. Building on this, researchers developed questionnaires, home observations, and laboratory assessment techniques for analysing temperament in infants. Common characteristics of interest include negative emotionality, positive affectivity, distress, fear, sensitivity, soothability, and rate of recovery from distress (Goldsmith & Rothbart, 1991; Rothbart, 1981, 1986).

Later, measures of temperament for preschool-aged children were developed, which were partly influenced by measures of adult personality as well as infant temperament. One of the most popular and reliable of these is the Child Behaviour Questionnaire and its variations (Rothbart, Ahadi, Hershey, & Fisher, 2001; Putnam & Rothbart, 2006), which also includes measures of negative emotionality, positive affect, distress, fear, sensitivity, soothability, and also impulsivity and inhibitory control.

Psychobiological models of temperament have identified several biological characteristics that are linked with certain dimensions of temperament. Examples include

the behavioural activation system (BAS) and behavioural inhibition system (BIS; Gray, 1982). The BAS is driven by brain mechanisms that are sensitive to cues or potential rewards. Specifically, it is linked with the medial forebrain bundle and lateral hypothalamus and with the neurotransmitters dopamine and norepinephrine. In addition, the Behavioural Facilitation System stimulates our desire to overcome obstacles to reward and is thus linked to aggressive behaviour (Depue & Iacono, 1989). These systems are believed to influence temperamental characteristics such as approach and positive affect.

In contrast, the BIS is driven by brain mechanisms that are sensitive to potential harm and this system leads us to focus more on avoiding harm than seeking reward. It is linked with characteristics of the medial septal area and orbitofrontal cortex and is associated with temperamental traits like anxiousness and behavioural inhibition. In addition, fear is especially associated with the central nucleus of the amygdala and dispositional traits such as fearfulness are linked with its functioning (Carlson, 2007).

Irritability and rage are linked with the fight or flight system (Carlson, 2007; Rothbart, Ahadi, & Evans, 2000). These temperament factors are associated with the ventromedial nucleus of the hypothalamus and its connection with the somatic and motor nuclei in the lower brainstem. The ventromedial nucleus of the hypothalamus is affected by the midbrain's central gray area, which is partly responsible for a person's tendency to inhibit aggressive responses (Rothbart et al., 2000).

The propensity to seek the company of others is linked with the transmission of opiates (pleasure-inducing neurotransmitters) among the amygdala, cingulate cortex, and ventro-medial hypothalamus. The release of opiates has been found to be associated with

bonding and enjoyment of connectedness; therefore, if a person has biological traits that lead to an increased opiate response to cues of affiliation, that person may be more likely to engage in prosocial behaviour (Rothbart et al., 2000).

Temperament also includes effortful control. According to Rothbart et al. (1998), this term refers to the “ability to inhibit a dominant response to perform a subdominant response.” Eisenberg et al. (2004) agree that effortful control is temperamentally based, and contend that effortful control is a component of emotion regulation. Effortful control includes attentional control (the ability to focus on a desired target) and inhibitory control (the ability to inhibit one’s behaviour; Eisenberg et al., 2004).

Biologically-based temperament is dynamic and interacts with the environment. Case in point, Kochanska (1997) found that children with fearful temperaments were more willing to comply with requests if their mothers used parenting strategies that de-emphasize power (based on concurrent and longitudinal findings). In addition, research suggests that infants identified with the same temperamental characteristics at 15 days old (specifically temperamental irritability) can have largely different outcomes depending on their environments. Irritable infants whose mothers were provided with intervention to help them to react effectively to their infants’ behaviour were found to react much more calmly in the strange situation paradigm a year later, compared to irritable infants who did not receive an intervention (van den Boom, 1994). Furthermore, recent research suggests that parenting strategies can actually change children’s temperament. In a one-year longitudinal study, researchers followed toddlers and determined that the three main temperament types that they found (overly expressive, typical, and fearful) were influenced by their mothers’ positive and negative emotion socialization behaviours.

Maternal sensitivity to children's emotions and positive expression of emotion were associated with changes in temperament toward a more typical and adaptive profile (van den Akker, Dekovic, Prinzie, & Asscher, 2010).

The Moderating Role of Negative Emotionality in the Prediction of Children's Social Behaviour

Researchers who have incorporated aspects of temperament into models of children's social behaviour have found that the aspect of temperament known as negative emotionality (or affectivity or emotionality) has been found to play a prominent role in models used to predict children's prosocial and aggressive behaviours (Bates & Petit, 2007; Bronfenbrenner & Morris, 1998; Cole, Zahn-Waxler, Fox, Usher, & Welsh, 1996; Cole, Zahn-Waxler, & Smith, 1994; Eisenberg, 2000; Gallagher, 2002; Kim & Kochanska, 2012). Based on a collection of evidence from previous literature, the present study attempted to pinpoint more specifically how temperament may moderate the link between mother and child characteristics in predicting social behaviour. Specifically, it was expected that negative emotionality may moderate the link between maternal emotion socialization (expressive encouragement, minimization, distress reactions, emotion-focused reactions and punitive responses) and children's emotional competence, which was predicted to be linked with their children's social behaviour, as shown in Figure 3 on page 14.

Stanhope (1999; as cited in Gallagher, 2002) explored the interaction between child temperament and parenting practices with a sample of 56 preschoolers. Parenting practices and children's negative emotionality were measured using parent-report questionnaires. Children's prosocial behaviour was measured by observing their sharing

behaviour during a 20-minute free play session with same-aged peers. Results revealed a significant link between gentle disciplinary practices and prosocial behaviour, but this link was only significant for children who were high in temperamental negative emotionality. This suggests that the link between parenting practices and children's emotional and social behaviour varies depending on the children's temperament.

Furthermore, Casey and Fuller (1994) found several associations between temperament and parenting. For example, mothers of children who were perceived as high in negative emotionality were better at predicting how their children would respond in various emotional situations, suggesting that mothers of children who are more temperamental may become more attuned to their negative emotions in order to prepare to respond. In addition, a greater amount of regulation strategies were used in angry situations when mothers perceived children as being high in negative emotionality. These researchers contend that child temperament and parenting practices are transactional.

Based on a review of the literature, Gallagher (2002) indicates that harsh parenting (including highly punitive responses to children's negative emotions) is linked with poorer emotion regulation and more physical aggression, especially when children are high in negative emotionality. That is, children who experience more negative emotionality are affected more negatively by harsh parenting than their less negative peers.

Belsky (1997) observed that children on the extremes of temperamental characteristics seem to be more susceptible to environmental influences. He proposed the "differential susceptibility hypothesis," to explain this phenomenon. According to Belsky (1997), a species would sometimes benefit from having highly non-compliant and aggressive

children, but in other situations, this could be quite maladaptive. Belsky (1997) suggests that a species would benefit most from having difficult children who are more reactive to the environment since it would be more important for them than for other children to be able to adapt to their surroundings. Therefore, the process of natural selection leaves us with a portion of the child population that are highly negative, but also highly influenced by their surroundings.

Support for this theory was found by Mesmen et al. (2009). In a longitudinal study of 150 children identified as high in externalizing problems, Mesmen et al. (2009) found interactions between child temperament and degree of reduction in externalizing problems from age 2 to 5 years. Results revealed that maternal sensitivity was linked with increased reduction in externalizing symptoms, but this was only true for children who were high in “difficult temperament” (high negative emotionality). The authors explain that this finding is consistent with Belsky’s (1997) “differential susceptibility hypothesis,” because very difficult children would need to be more readily influenced by their parents’ behaviour than typical children.

Similar results were found in a sample of 985 children in Grade 1 (Bradley & Corwyn, 2008). Children who displayed more difficult temperament were more influenced by maternal sensitivity. Specifically, maternal sensitivity was linked with fewer externalizing problems and this link was strongest when children had difficult temperaments.

Interactions between temperament and parenting have also been found in longer term studies. For example, Maziade et al. (1990) found that a combination of temperamental and parenting risk factors at age 7 resulted in worse outcomes at ages 12 and 16 than

temperamental risk factors alone. Specifically, children who were high in negative emotionality and whose parents were poor at setting limits showed more externalizing problems as teens than children who were high in negative emotionality, but were exposed to more effective limit-setting.

Similarly, Paterson and Sanson (1999) found that corporal punishment by parents was associated with externalizing problems in children, but only when children were prone to negative emotional reactions. Additionally, a large longitudinal study ($N = 1\,364$) revealed that difficult temperament at age 2 was associated with externalizing problems at age 9, but only when mothers used harsh parenting (Miner & Clarke-Stewart, 2008). Furthermore, in a longitudinal study of 1 836 children, Lahey et al. (2008) found that punitive behaviour toward infants was associated with the development of externalizing problems later on and that this relation was moderated by infant fussiness (an early measure of negative emotionality). That is, the association between punitive parenting and externalizing problems was especially strong if infants were fussy to begin with.

Morris et al. (2002) assessed parenting from the perspective of students in Grades 1 and 2 and found interactions between their descriptions of their parents' parenting style, temperament, and teacher-report problem behaviour. Children's descriptions of their parents as high in psychological control were linked with externalizing behaviour, but this link was strongest for children who were high in irritable distress (a temperamental characteristic associated with negative emotionality).

Similar evidence for the need for a good 'fit' between parenting style and child temperament was found by Paterson and Sanson (2001). In their study of 74 5- and 6-year-olds, results revealed that punitive behaviour in parents was associated with

externalizing problems in children, but this link was strongest when children had highly inflexible temperaments. If children had more flexible temperaments, the punitiveness of their parents had much less of an impact on their externalizing behaviour. This study lends further support to the notion that children who are high in certain risk-related temperamental traits (like negative emotionality) are more negatively influenced by ineffective parenting.

The present study built on previous research on the interaction between parenting and temperament, by specifically exploring links between maternal emotion socialization, children's emotional competence, and social behaviour.

Children's Perceived Social Acceptance and Social Behaviour

Perceived social acceptance refers to the degree to which a child believes he or she is liked and appreciated by significant social others. Previous research has demonstrated that perceived maternal acceptance and perceived peer acceptance are particularly important for young children (Harter & Pike, 1984). Both of these independent, but related constructs were explored in the present study, with a focus on their links with children's social behaviour (prosocial and aggressive behaviour).

Children's Perceived Peer Acceptance and Social Behaviour.

Perceived peer acceptance refers to the degree to which children think they are liked and accepted by their peers, including whether other children want to be with them and whether other children consider them to be friends. There can be extensive variation in the discrepancy between perceived peer acceptance according to the child and 'actual' peer acceptance, as measured by peer, teacher, and parent report. Furthermore, the

strength of the link between young children's acceptance and social behaviour varies considerably according to the type of social behaviour being examined.

Links between actual peer acceptance and social behaviour. The link between peer acceptance and prosocial behaviour appears relatively stable. Peer acceptance is positively related with prosocial behaviour in school age children (Wentzell, 1994) and preschool children (Cassidy et al., 2003; Denham, McKinley, Couchoud, & Holt, 1990; Diamantopoulou, 2007; Mostow et al., 2002; Nelson et al., 2008). Evidence indicates that programs that help rejected children's peers to focus on their prosocial behaviour (through positive peer reporting) tend to increase their actual acceptance among classmates (Smith, Simon, & Bramlett, 2009). Furthermore, evidence suggests that popular preschool children are more likely to intervene to stop another child from being victimized (Monks, Ortega Ruiz, & Torrado Val, 2002).

Children who are physically aggressive experience varying degrees of acceptance. In middle childhood, physical aggression has sometimes been found to be associated with popularity (Rodkin, Farmer, Pearl, & Van Acker, 2000), but in other cases it has been linked with being less accepted or disliked (David & Kistner, 2000; Hughes et al, 2001; Rodkin et al., 2000; Zimmer-Gembeck, Hunter, & Pronk, 2007). In samples of young children, physical aggression has usually been linked with being less accepted (Burk et al., 2008; Carpenter & Nangle, 2006; Crick, Casas, & Mosher, 1997; Ladd & Troop-Gordon, 2003; Nelson et al., 2008; Ortega, Monks, Palermi, & Costabile, 2011; Trentacosta & Shaw, 2009). In addition to their social behaviour influencing their degree of acceptance, children's social status can also affect how their behaviour is perceived. When presented with vignettes of popular and unpopular children in the same situations,

preschoolers are more likely to blame unpopular children for purposely causing negative outcomes (Walker & Irving, 1998).

The connection between peer acceptance and relational aggression in young children remains unclear. Some studies have found negative links between relational aggression and peer acceptance in middle childhood (David & Kistner, 2000; Zimmer-Gembeck et al., 2007) and early childhood (Crick et al., 2006; McNeilly-Choque et al., 1996). In addition, interventions designed to reduce relational aggression in young children have been effective in influencing peer acceptance. For example, one such intervention implemented in a kindergarten classroom resulted in a significant increase in the overall peer acceptance of each child in the treatment group by the end of the year (Harrist & Bradley, 2003). Conversely, even in young children, some studies have found positive links between peer acceptance and preschoolers' relational aggression as measured by teacher report (Burr, Ostrov, Jansen, Cullerton-Sen, & Crick, 2005; Crick et al., 1997) and direct observation (Hawley, 2003; Ostrov & Keating, 2004). Relational aggression has also been linked with controversial status (i.e., being well-liked by some and strongly disliked by others) in early childhood (Nelson, Robinson, & Hart, 2005).

Links between perceived peer acceptance and social behaviour. Not surprisingly, perceived peer acceptance is positively linked with peer-reported prosocial behaviour (Zimmer-Gembeck, Hunter, & Pronk, 2007). In contrast, some studies have failed to find associations between adult-reported prosocial behaviour and perceived peer acceptance in young children (Matzicopolous, 2006). In one study, adult reports of prosocial behaviour were not linked with young children's perceived peer acceptance; however, their parent-

reported friendship was linked with perceived peer acceptance (Phillipsen, Bridges, McLemore, & Saponaro 1999).

Some children have such negative self-views that they see themselves as being rejected when they are not (Cole, Martin, Peeke, Seroczynski, & Hoffman, 1998; Pardini et al., 2006), whereas other children can be blissfully unaware of just how disliked they actually are (David & Kistner, 2000; Zakriski, & Coie, 1996). Among children in middle childhood, links between positive biases (i.e., thinking one is more liked than one is) and physical as well as relational aggression have been found (David & Kistner, 2000; Edens, Cavell, & Hughes, 1999, Heilbron & Prinstein, 2008; Hughes, Cavell, & Grossman, 1997; Hymel, Bowker, & Woody, 1993).

In a review that found a consistent link between overestimating peer acceptance and aggression, Baumeister, Smart, and Boden (1996) theorized that people who view themselves as being well-accepted to an extremely inaccurate degree are threatened by receiving evidence contrary to this belief. They are therefore likely to lash out aggressively at people who present them with negative evidence that is contrary to their false beliefs (Baumeister, Smart, & Boden, 1996).

Consistent with this view, in a 5-year longitudinal study of 399 boys and girls, Ladd and Troop-Gordon (2003) found that children who were aggressive at age 5 tended to become lower in perceived peer acceptance as they got older and this appeared to lead to increased externalizing and internalizing problems in the future. Ladd and Troop-Gordon (2003) argue that there is more than one explanation for this link. First, positive biases could lead to increased aggression (as Baumeister et al., 1996 suggest). Second, aggressive children could be less informed about their actual status because of other

children being afraid of them. Children may pretend to like aggressive children to avoid being hurt by them. Finally, third variables such as processing deficits (e.g., in emotion knowledge) could be linked to both inaccurate self-assessment and aggression (Ladd & Troop-Gordon, 2003; Rudolph & Clark, 2001). Using social network analysis of 3- and 4-year-old children, researchers have found that aggressive children actually play a 'stabilizing' role in some groups (especially disruptive groups). Their presence actually results in increased cohesiveness in the group (Fujisawa, Kutsukake, & Hasegawa, 2008). It is possible that aggressive children receive some cues of their influence on the cohesiveness of the group and misinterpret the cues to mean that they are accepted by group members.

The links between perceived acceptance and aggression in early childhood are less clear. Most young children (ages 3 to 6 years) have somewhat positive biases toward viewing themselves as more accepted than they actually are and this is generally accepted as adaptive (David & Kistner, 2000; Harter, 1990; Harter & Pike, 1984; Matzicopolous, 2006; Nelson et al, 2009). Research on the link between perceived peer acceptance and aggression among young children is lacking and has not established a definite link. For example, some studies on links between perceived peer acceptance and aggression have not found statistically significant connections (Coplan, Findlay, & Nelson, 2004; Lowe, 2006; Measelle, 1995; Perren, Von Wyl, Stadelmann, Burgin, & Von-Klitzing, 2006; Phillipsen, Lomore, Bridges, McLemore, & Sopanaro, 1999).

In contrast, self-report measures of perceived peer acceptance have been found to be negatively associated with self-report measures of overt hostile aggression in kindergarten and Grade 1 students (Measelle, Ablow, Cowan, & Cowan, 1998).

Furthermore, perceived peer acceptance may sometimes serve as a protective factor against the development of aggression. For example, in a study of preschoolers, young children with temperamental risk factors for externalizing problems were less likely to show such externalizing problems if they accurately viewed themselves as well-accepted (Berden, Keane, & Calkins, 2008). However, accuracy in self-assessment is variable, as aggressive preschoolers have been found to be less likely to expect to be rejected for engaging in aggressive behaviour, compared to their less aggressive peers (Yuzawa & Yuzawa, 2001). One of the few studies to examine links between perceived acceptance and relational aggression also failed to find a significant link (Lowe, 2006).

Low levels of perceived peer acceptance have also been linked with a number of correlates of aggression. Evidence from direct observation revealed that preschool children who had low levels of perceived peer acceptance were more likely than their peers to engage in active solitary play (e.g., pretending to be a fireman alone), a style of play that has previously been associated with physical aggression (Nelson et al., 2009). In addition, low levels of perceived peer acceptance have been linked with permissive parenting, which has also been linked with aggression (Coplan, Findlay, & Nelson, 2004).

Taken together, these results suggest that most young children overestimate their actual peer acceptance, but there is still a range of accuracy in their views. Results suggest that prosocial behaviour tends to be linked with peer acceptance relatively consistently; whereas relational and physical aggression are sometimes positively linked with peer acceptance and are sometimes negatively linked with peer acceptance.

Although the area of peer acceptance based on other-report (peer, parent, teacher) has

been fairly well researched, links between young children's perceived acceptance and their social behaviour between ages 3 and 6 have not yet been established. The present study adds to our understanding of links between young children's peer acceptance and social behaviour by obtaining measures of peer acceptance from the perspective of the individual children themselves, as well as from parents.

Children's Perceived Maternal Acceptance and Social Behaviour

The parent-child bond is the first and often most influential connection that a child experiences. Harter (1999) suggests that children seek to answer the question "who am I?" from an early age and the degree to which they feel accepted by their mothers has a strong relation with the formation of their answer to this question. Children tend to apply their perceptions of their mothers' approval to their construction of a "generalized other," meaning that children expect other people to treat them similarly to how their mothers treat them (Harter, 1999). Children who feel accepted by their most important caregivers tend to develop more positive views of themselves as being loveable and worthy of happiness (Bowlby, 1969). As a result of these positive beliefs, these children are more likely to develop a positive view of the "generalized other," resulting in healthy, warm relationships with other people, including peers (Harter, 1999). In contrast, if children feel rejected by the first and most powerful significant other, they may see themselves as targets of rejection and may see other people as untrustworthy or even dangerous. Beliefs like this are associated with a tendency to behave aggressively toward peers. Harter (1999) argues that perceived maternal acceptance affects not only a child's construction of self, but also "self-affects," such as shame. If a child continually perceives rejection from a parent, the negative effects on their self-schema can result in serious emotional

and social consequences that Harter (1999, p. 13) describes as “psychologically crippling.” The strength of the link between maternal acceptance and psychological adjustment may be cross-cultural. In a meta-analysis of 43 studies from 7 563 respondents (including children and adults) in 15 different countries (in Asia, Europe, Africa, the Caribbean, South America, and North America), Khaleque and Rohner (2002) found a consistent link between perceived parental acceptance and social adjustment. In addition to having a direct positive influence on social behaviour, maternal acceptance sometimes acts as a buffer against other risk factors for maladjustment. For example, in a study of 268 Grade 1 students in violent neighbourhoods, researchers found that community violence was associated with both externalizing and internalizing problems, but that perceived maternal acceptance acted as a buffer against this (Bailey, Hannigan, Delaney-Black, Covington, & Sokol, 2006). Community violence was only linked with significant internalizing and externalizing problems in children with low self-reported maternal acceptance.

Little is known about the link between perceived maternal acceptance and prosocial behaviour because few researchers have examined maternal acceptance from the perspective of the child while also exploring prosocial behaviour. Based on attachment literature, it has been found that children who are securely attached tend to exhibit more prosocial behaviour (Clark & Ladd, 2000; Rhydell, Bohlin, & Thorell, 2005). Furthermore, a central element to the development of secure attachment is perceiving one’s self as accepted (Cicchetti, Rogosch, & Toth, 2006; Kochanska, 1997; Kochanska & Murray, 2000; Main, 1996; Waters & Cummings, 2000). Therefore, it is expected that there will be a positive link between perceived maternal acceptance and prosocial

behaviour. Given that research shows that young children hold views of themselves that are unique, valid, and stable over time (Sturgess, Rodger, & Ozanne, 2002), psychologists are realizing the need for more information on mother-child relationships from the child's perspective. In light of this current need, this study makes a valuable contribution to our understanding of prosocial development in young children.

Research suggests that children who are more physically aggressive tend to perceive themselves as less accepted by their mothers (Bailey et al., 2006; Cote et al., 2006; Lila, Garcia, & Gracia, 2007; Shaw et al., 2001; Stern, Rohner, & Sacks-Stern, 2007; Tremblay et al., 2004). This is likely partly due to the fact that children's physically aggressive behaviour may lead their mothers to actually behave as though they are less accepting of them (Combs-Ronto, Olson, Lunkenheimer, & Sameroff, 2008). It could also be explained by the possibility that children who do not feel accepted by their mothers choose to be physically aggressive more often. For example, according to Rohner's (2004) acceptance-rejection syndrome, a child who feels rejected will be less likely to be receptive to parents' instructions, which will then lead him or her to be more likely to use physical aggression. In a sample of 268 Grade 1 students, Bailey et al. (2006) found that children who were low in maternal acceptance were significantly more likely to engage in externalizing behaviours. Furthermore, it is likely that a number of third variables are associated with both lack of perceived maternal acceptance and physical aggression. For example, children whose mothers experience major depressive episodes are more likely to perceive themselves as being less accepted and are more likely to have emotion regulation and behaviour problems (Maughan, Cichetti, Toth, & Rogosch, 2007). Given that the links between perceived maternal acceptance and

children's physical aggression are likely bidirectional as well as being influenced by a number of other variables, no causality-related hypotheses can be made. Instead, the current study seeks to confirm previous research showing a negative link between perceived maternal acceptance and physical aggression. Few researchers have found positive links between perceived maternal acceptance and aggression, however, those who have found such links have noted that the aggressive children were much more likely than their peers to rate their acceptance in an idealized, unrealistic manner, as Hughes, Cavell, and Grossman (1997) found with 115 students in Grades 2 and 3.

The link between relational aggression and perceived maternal acceptance has not been explored in preschoolers. Evidence suggests that relational aggression is associated with psychologically controlling behaviour in mothers (Brown et al., 2007; Casas et al., 2006; Sandstrom, 2007). This controlling behaviour involves manipulating the degree of acceptance that the child feels in order to achieve a desired outcome. Based on this background, it is expected that children who engage in relational aggression will report lower levels of perceived maternal acceptance, compared to their less aggressive peers.

This body of research supports the theory that children's aggressive and prosocial behaviour develops through a combination of parental factors and their own emotional competence. This study adds to the literature by exploring what specific types of maternal emotion socialization practices contribute to the development of aggressive and prosocial behaviour as well as exploring how maternal emotion socialization might work through emotional competence to influence children's aggression and prosocial behaviour. Although previous studies have explored links between maternal emotion socialization, emotional competence, and social functioning, this study adds to the literature by

including relational aggression and prosocial behaviour, in addition to physical aggression. In addition, the present study considers the potential moderator effect of temperament on the link between maternal emotion socialization and children's emotional competence and explores how children's social behaviour is linked with their perceived social acceptance. Furthermore, this study adds to the previous literature by measuring aggression and social acceptance from the child's perspective instead of relying solely on adult report.

Study Objectives

The present study had several objectives: 1) to identify whether maternal emotion socialization relates to children's social behaviour (prosocial and aggressive behaviour) and if so which practices are most important; 2) to identify whether a consistent link exists between two aspects of emotional competence (emotion knowledge and emotional control) and children's social behaviour; 3) to explore whether children's emotional competence mediates the link between maternal emotion socialization and children's social behaviour; 4) to determine whether negative emotionality moderates the influence of maternal emotion socialization on children's emotional competence; and 5) to determine how children's social behaviour is linked with their perceived social acceptance (peer acceptance and maternal acceptance).

Hypotheses

In accordance with the literature indicating heterogeneous pathways to prosocial behaviour, physical aggression, and relational aggression, three separate models were proposed. They are presented in Figures 4, 5, and 6. Prosocial and aggressive behaviour

was measured by parent-report and children's proposed responses to ambiguous social situations.

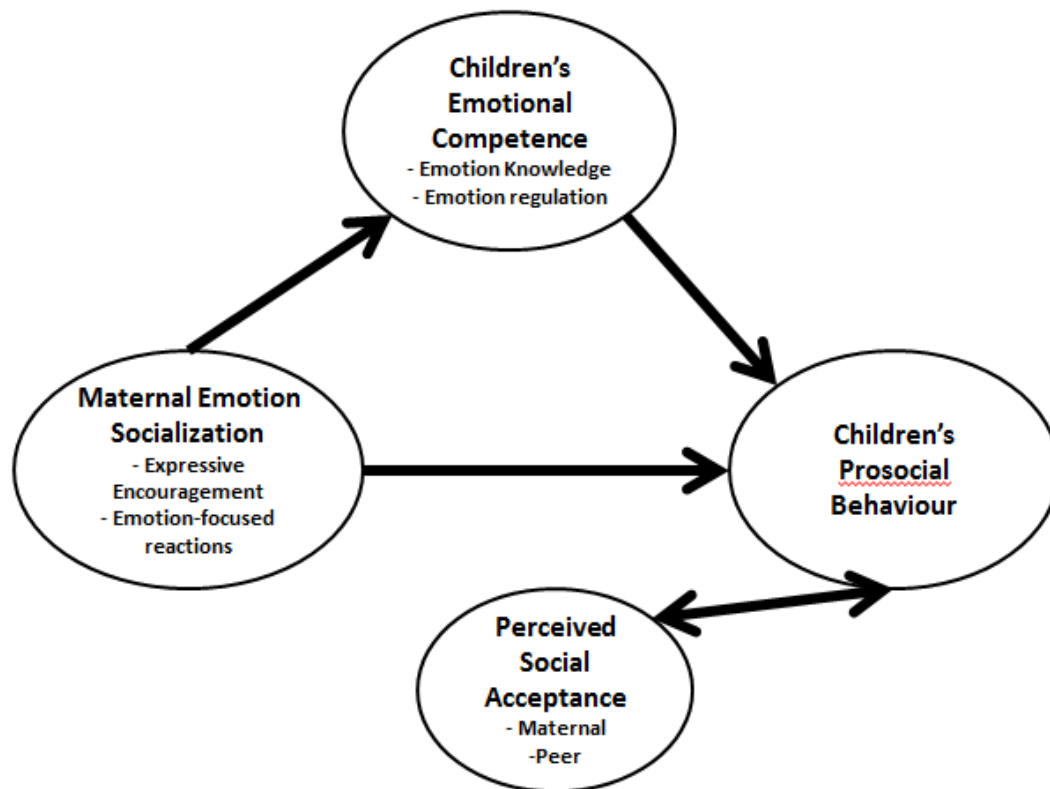
Hypothesis 1: Prosocial Behaviour

Figure 4. Prediction of children's prosocial behaviour from maternal emotion socialization and children's emotional competence.

- a) Greater use of certain adaptive types of maternal emotion socialization (expressive encouragement and emotion-focused reactions) will be linked with higher levels of children's prosocial behaviour.
- b) Higher levels of children's emotional competence (greater emotion knowledge and fewer emotion regulation problems) will be linked with higher levels of children's prosocial behaviour.
- c) The link between maternal emotion socialization and children's prosocial behaviour will be mediated by children's emotional competence, such that

effective maternal emotion socialization will lead to higher levels of emotional competence which will be linked with higher levels of prosocial behaviour.

- d) Higher levels of prosocial behaviour will be correlated with greater perceived social acceptance. It is expected that perceived social acceptance has a reciprocal association with prosocial behaviour, with each variable contributing to an increase in the other.

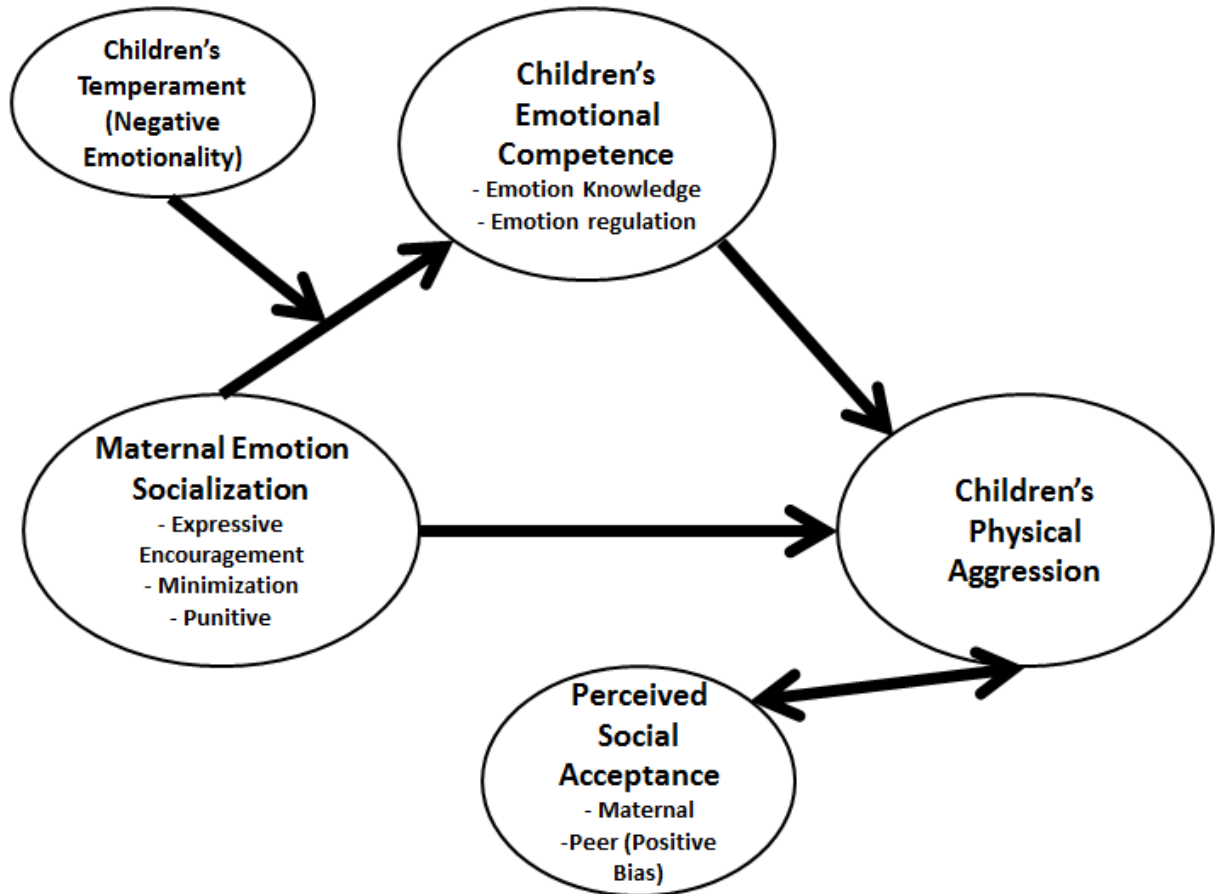
Hypothesis 2: Physical Aggression

Figure 5. Prediction of children's physical aggression from maternal emotion socialization and children's emotional competence.

- a) Maternal emotion socialization will be linked with children's physical aggression. Specifically, greater use of punitive reactions and minimization reactions will be associated with higher levels of children's physical aggression, and greater use of expressive encouragement will be associated with lower levels of children's physical aggression.

- b) Greater emotional competence (including greater emotion knowledge and fewer emotion regulation problems) will be linked with lower levels of children's physical aggression.
- c) The link between maternal emotion socialization and physical aggression will be mediated by children's emotional competence, such that poorer maternal emotion socialization (higher levels of punitive reactions, higher levels of minimization reactions, lower levels of expressive encouragement, and lower levels of limit-setting) will be linked with lower levels of emotional competence (less emotion knowledge and more emotion regulation problems) and this will be linked with greater use of child physical aggression.
- d) This mediation will be moderated by a child's negative emotionality. Specifically, among participants with higher levels of negative emotionality, the association between maternal emotion socialization and child emotional competence will be stronger. In contrast, this association will be weaker among children who are lower in negative emotionality.
- e) Physical aggression will be positively linked with a discrepancy between self-reported peer acceptance and adult-reported peer acceptance. It is expected that biases toward overestimating one's acceptance has a reciprocal association with physical aggression. It is expected that children who are higher in physical aggression tend to show a greater discrepancy in their perception of peer acceptance compared to their parents' and physically aggressive children are expected to show greater biases.

- f) Higher levels of physical aggression will be associated with lower levels of perceived maternal acceptance. It is expected that perceived maternal acceptance has a reciprocal association with physical aggression, with an increase in one variable contributing to a decrease in the other and vice versa.

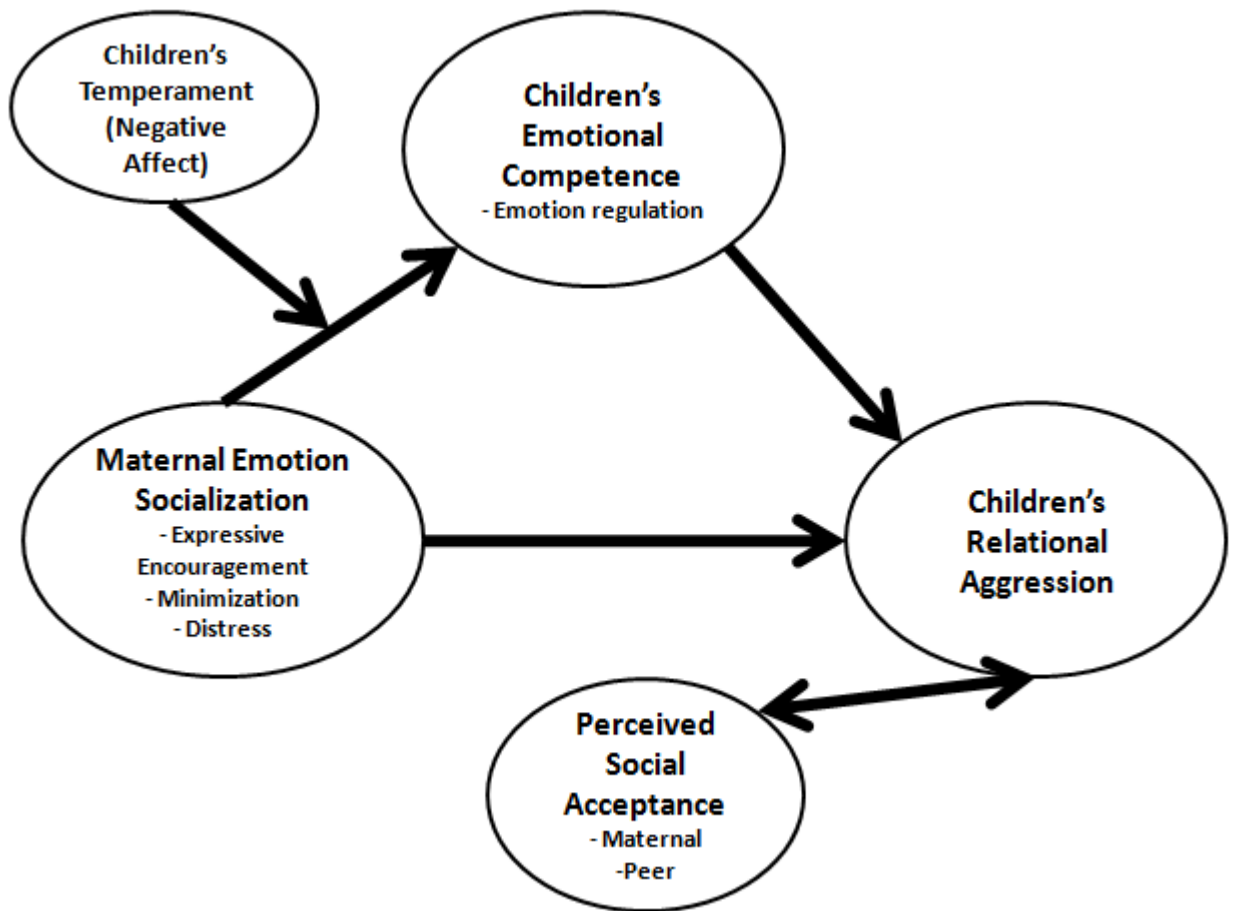
Hypothesis 3: Relational Aggression

Figure 6. Prediction of children's relational aggression from maternal emotion socialization and children's emotional competence.

- a) Maternal emotion socialization will be linked with children's relational aggression. Specifically, greater expressive encouragement will be linked with less child relational aggression, whereas distress reactions and minimization reactions will be linked with higher levels of child relational aggression.
- b) Children who show more emotion regulation problems will be higher in relational aggression.

- c) The link between maternal emotion socialization and relational aggression will be mediated by emotion regulation, such that poor emotion socialization will be associated with decreased emotion regulation and this will contribute to children's increased use of relational aggression.
- d) Higher levels of relational aggression will be correlated with greater perceived social acceptance.

CHAPTER II

Method**Participants**

Participants were 151 mother-child pairs recruited from a metropolitan area in Southwestern Ontario. Fifteen participants were removed because they completed less than 80% of the measures, leaving 136 mother-child pairs. Thirteen of these mothers participated with two children separately. Children ranged in age from 36 to 83 months (3 to 6 years), with an average age of 4 years, 11 months ($SD = 11$ months). There were 80 boys ranging in age from 3 years to 6 years ($M = 4$ years, 10 months, $SD = 11$ months) and 56 girls ranging in age from 3 years to 6 years ($M = 4$ years, 10 months, $SD = 11$ months). A t-test revealed that there was no significant difference in age between boys and girls, $t = .15$, $p = .79$. Most of the children in the study were in Junior Kindergarten (34%) or Senior Kindergarten (26%). Fifteen percent were in Preschool, 9% were in Grade 1, 5% were in Daycare, 7% were not in school or daycare, and 4% did not specify. The majority of children were from two parent homes. Demographic characteristics of the sample are summarized in Table 1.

The mothers' average age was 35 years, 7 months ($SD = 5$ years, 2 months, $R = 28$ years, $Min. = 24$ years, $Max. = 52$ years). Most of the mothers were married. In terms of educational level, most mothers (75%) had graduated from college or university. The majority of mothers (75%) were Caucasian/White. Most participants (60%) reported an annual income of at least \$61 000.

Table 1

Sample Demographic Characteristics

	<i>N</i>	%
Child's Gender		
Male	80	58.8
Female	56	41.2
Child's Grade		
Preschool or Daycare	28	20.5
Junior Kindergarten	46	33.8
Senior Kindergarten	35	25.7
Grade 1	12	8.8
Not in School	9	6.6
Not Reported	6	4.4
Marital Status		
Married	113	83.1
Divorced	2	1.5
Separated	7	5.1
Living Together	6	4.1
Other	3	2.2
Not Reported	5	3.7
Family Structure		
Two Parent	119	87.5
One Parent	12	8.8
Not Reported	5	3.7
Mother's Education		
Junior High	1	0.7
Graduate High School	5	3.7
Some College/University	22	16.2
Graduate College/University	76	55.9
Completed Graduate or Professional School	26	18.2
Not Reported	6	4.4
Mother's Ethnicity		
Caucasian	101	74.3
South Asian	6	4.4
East Asian	4	2.9
African Canadian	1	0.7
Hispanic	1	0.7
Native Canadian	5	3.7
Biracial	3	2.2
Other	9	6.6
Not Reported	6	4.4

Table 1 (Continued)

Sample Demographic Characteristics

	<i>N</i>	%
Household Income		
Below \$30 000	16	11.8
\$30 000 to \$60 000	28	20.6
\$61 000 to \$100 000	38	27.9
\$101 000 to \$150 000	30	22.1
\$151 000 to \$250 000	13	9.6
Above \$250 000	1	0.7
Not Reported	10	7.4
Recruitment Source		
Preschool/daycare	1	0.7
Elementary schools	16	11.7
Children's mental health agency	10	7.0
Parenting magazines	36	26.5
Parenting websites	31	22.8
Community events	4	2.9
University participant pool	23	16.9
Word of mouth	6	4.4
Not reported	9	6.6

Measures

Parent measures.

Background information. Mothers completed a background questionnaire, which gave demographic information including age of child, grade of child, gender of child, number of siblings, child's psychological and medical history. Mothers were asked about their marital status, ethnicity, education, and annual income. This questionnaire is presented in Appendix B.

Children's psychological adjustment. Mothers completed the Child Behaviour Checklist (CBCL for Ages 1½ -5; Achenbach & Rescorla, 2000 and CBCL for ages 6-18 years; Achenbach & Rescorla, 2001) to assess children's internalizing and externalizing problems. This scale was used to assess physical aggression in the present study. The CBCL Parent Report 1½-5 contains 100 items and mothers were asked to rate the degree to which they believe each item is true about their children's behaviour within the past 2 months on a scale from 0 (*not true*) to 2 (*very true or often true*) and are given the opportunity to add 3 additional items. The psychometric properties of the CBCL 1½ - 5 are considered to be very good. Test-retest reliabilities range from .74 to .92, with most values being in the .8 range. Achenbach and Rescorla, (2000) reported that the criterion validity of the CBCL 1½ - 5 and the CBCL 6-18 can be considered good because they distinguish between referred and non-referred children and because the DSM scales are highly related to DSM diagnosis. In addition, their concurrent validity is good given that they have been correlated with other widely-used behaviour checklists, such as the

Behaviour Assessment System for Children, Second Edition (BASC-2; Reynolds & Kamphaus, 2004).

The CBCL 6-18 Parent Report contains 113 items, plus three additional open-ended entries that respondents can use to include problems not already listed. Mothers were asked to rate the degree to which they believe each item on the CBCL is true about their child's behaviour within the past 2 months on a scale from 0 (*not true*) to 2 (*very true or often true*). The CBCL 6-8 (Achenbach & Rescorla, 2001) has been found to have good validity and reliability. The range of test-retest reliability for this scale has been reported between 0.95 and 1.00; the range of inter-rater reliability has been reported at 0.93 to 0.96; and the range of internal consistency has been reported at 0.78 to 0.97 (Achenbach & Rescorla, 2001).

For the purpose of the present study, the Aggressive Behaviour subscales were used. The items that make up these scales do not consist solely of physically aggressive behaviours, but these scales were derived based on statistical analysis to determine items highly associated with physical aggression and results have been found to be highly correlated with other measures of physical aggression. On the CBCL 6-18, the Aggressive Behaviour scale is made up of 18 items, which include items such as: "argues a lot," "cruelty, bullying, or meanness to others," "gets in many fights," "physically attacks people," and "unusually loud." On the CBCL 1½ -5, the Aggressive Behaviour subscale is made up of 19 items, such as: "can't stand waiting," "defiant," "destroys others' property," "fights," and "hits others." Since the Aggressive Behaviour scales contained unequal number of items, each child's total raw score was divided by the total number of items on the given scale completed.

For this study, the internal consistencies of the CBCL 6-18 Aggressive Behaviour Scale (Cronbach's alpha = .91) and the CBCL 1 ½ -5 Aggressive Behaviour Scale (Cronbach's alpha = .90) were found to be excellent. Likewise, the internal consistency of the overall Aggressive Behaviour Scale was also excellent (Cronbach's alpha = .91).

Temperament. The very short form of the Child Behaviour Questionnaire, Very Short Form (CBQ; Rothbart, Ahadi, & Hershey, 1994; Rothbart et al., 2001) was used to assess temperament in children ages 3 to 8. This measure has 36 items, which load onto 3 broad scales: Surgency, Negative Affect (also called Negative Emotionality), and Effortful Control. For the purpose of this study, the Negative Affect scale was used. This scale has 12 items. Mothers were asked to rate their child on a 7-point scale ranging from 1 (*extremely untrue of your child*) to 7 (*extremely true of your child*). Mothers also had the option of checking *not applicable* if the child has not been observed in the situation described. The measure had acceptable internal consistency. Cronbach alphas for the Surgency, Negative emotionality, and Effortful Control scales of the very short form were .75, .72, and .74, respectively (Putnam & Rothbart, 2006). It has also been found to have acceptable stability with correlations of .73, .70, and .63, for the Surgency, Negative emotionality, and Effortful Control scales, respectively (Putnam & Rothbart, 2006). In the present study, the internal consistency of the Negative emotionality scale was found to be good, with a Cronbach's alpha of .88.

Social behaviour. The Preschool Social Behaviour Scale (PSBS, Crick et al., 1997) consists of 25 items that assess overt aggression, relational aggression, prosocial behaviour, depressed affect, and acceptance with peers. This scale was originally designed for teachers, but the language of the questionnaire (e.g., "this child") and the

behaviours assessed make it appropriate for use with parents as it was in the present study. Given that the present study focused on physical aggression, rather than the broader overt aggression, two additional items were added to the scale to assess physical aggression. These were “This child pokes peers,” and “This child punches peers,” making it 27 items. Mothers were asked to fill out the entire form, but the items assessing relational (8 items), physical aggression (7 items), and prosocial behaviour (4 items) were the focus of the present study. Prosocial behaviour included items like “this child is good at sharing and taking turns.” Physical aggression included “This child kicks or hits others.” Relational aggression included “This child tells other children not to play with or be a peer’s friend.” Mothers read the phrases and were asked to rate the degree to which their children engage in these behaviours. The response scale for each item ranges from 1 (*never or almost never true of this child*) to 5 (*always or almost always true of this child*). Internal consistency values for the Relational Aggression scale range from .71 (Morine et al., 2011) to .96 (Crick et al., 1997). For the Overt Aggression scale, Cronbach alphas range from .77 (Morine et al., 2011) to .94 (Crick et al., 1997). For the Prosocial scale, Cronbach alphas range from .68 (Morine et al., 2011) to .88 (Crick et al., 1997). Additional support for the psychometric properties for the PSBS has been found in other studies (Bonica, Arnold, Fisher, Zeljo, & Yershova, 2003; Hart, Nelson, Robinson, Olsen, & McNeilly-Choque, 1998). For the present sample, internal consistency values in the acceptable to good range were found with Cronbach’s alpha levels of .79 for the Prosocial scale, and .84 for the Physical Aggression scale. The internal consistency of the Relational Aggression scale was in the “questionable” range (Cronbach’s alpha = .60).

This may reflect the fact that relational aggression is a broad construct that is made up of many different types of behaviours. This questionnaire is presented in Appendix C.

Peer Acceptance. Children's parent-reported peer acceptance was measured using two items from the PSBS (24 and 25), ("this child is liked by peers of the same sex" and "this child is liked by peers of the opposite sex"), which requires parents to rate the degree to which the child is liked by members of the same sex, as well as the opposite sex. These two items were highly correlated ($r = .72, p = .00$).

Emotional regulation problems. Mothers of 6-year-olds completed the parent version of the Behaviour Rating Inventory of Executive Function (BRIEF; Gioia, Isquith, Guy, & Kenworthy, 2000). The BRIEF consists of 86 questions that are rated on three-point Likert scale ranging from 0 (*never*) to 2 (*often*). The measure has 8 subdomains. For the purpose of the present study, the Emotional Control Scale was used to assess emotion regulation problems, with higher scores indicating more emotion regulation problems. The Emotional Control Scale of the BRIEF is made up of 10 items, which include items such as: overreacts to small problems, has explosive angry outbursts, becomes tearful easily, and has outbursts for little reason. The BRIEF is a well-established measure. Internal consistency has been found to be acceptable for general and clinical populations, with alphas from .80 to .98. Studies have also shown good test-retest validity, ranging from .80 to .90 (Baron, 2000). For the present study, the internal consistency of the BRIEF Emotional Control Scale was excellent (Cronbach's alpha = .91).

Parents of children ages 3 to 5 completed the Behaviour Rating Inventory of Executive Function, Preschool (BRIEF - Preschool; Gioia, Espy, & Isquith, 2003). It is made up of 63 items that are rated on a three-point Likert scale ranging from 0 (*never*) to

2 (*often*). The scale was developed by modifying the original BRIEF by changing the wording to be more applicable to preschoolers (e.g., tasks replace homework). In addition, a few additional items were added. This scale has 5 related but non-overlapping scales: Inhibit, Shift, Emotional Control, Working Memory, Plan and Organize. For the present study, only the Emotional Control scale was used. This measure has been found to have good internal consistency with an alpha of .86 for parents. In addition, it has been found to have good stability over several weeks (.87 for parents). In this study, the internal consistency of the BRIEF-P Emotional Control Scale was found to be good (Cronbach's alpha = .89).

Like the Emotional Control scale of the BRIEF, the Emotional Control scale of the BRIEF-P also contains 10 items. For the purpose of analyses, raw score composites were derived using common items between the two version of the BRIEF. Eight of the items on the BRIEF-P Emotional Control scale are identical to those on the BRIEF. An overall Emotional Control scale was derived from the Emotional Control scale of the BRIEF for 6-year-olds and from the Emotional Control scale of the BRIEF-P for 3 to 5-year-olds by using only the 8 items that were identical across scales. The internal consistency of the composite scale was excellent (Cronbach's alpha = .90). The items appear in Appendix D. This method was chosen so that the children in different age groups would be compared on the same items and the variance associated with age could be entered as a covariate as necessary. Furthermore, only 22 children were old enough to complete the BRIEF for children 6 years and older; therefore, testing the age groups separately would have been difficult due to the small sample size of the older group. This would have resulted in inadequate power.

Maternal Emotion Socialization. To assess maternal emotion socialization, mothers self-reported on their reactions to children's negative emotions using the Coping with Children's Negative Emotions (CCNES; Fabes, Eisenberg, & Bernzweig, 1990) questionnaire. The CCNES was designed to assess maternal emotion socialization for mothers of young children (preschool or early elementary school). Mothers were presented with 12 typical situations in which a child was described as experiencing some form of negative emotionality (e.g., being teased by peers, being scared about getting an inoculation). For each situation, the mother was presented with 6 options of possible responses. Mothers rated each option on a 7-point Likert scale to indicate how likely they would be to use the given option. Responses ranged from 1 (*very unlikely*) to 7 (*very likely*). The 6 options correspond to 6 subscales: Expressive Encouragement, Emotion-Focused Reactions, Problem-Focused Reactions, Minimization Reactions, Distress Reactions, and Punitive Reactions. Expressive Encouragement reactions focus on validating children's negative emotions and encouraging them to express themselves (e.g., "tell my child it's okay to cry"). Emotion-Focused Reactions are aimed at helping a child to feel better (e.g., "comfort my child and try to make him/her feel better"). Problem-Focused Reactions are centred on solving whatever problem is upsetting the child (e.g., for a child who is upset that his/her bike is broken: "help my child figure out how to get the bike fixed.") Minimization Reactions minimize the seriousness of the situation or the child's distress (e.g., "tell my child that he/she is overreacting.") Distress Reactions involve parents' reacting with their own distress in response to their children's negative emotions (e.g., "feel upset and uncomfortable because of my child's reactions.") Punitive Reactions involve punishing a child for expressing a negative emotions (e.g.,

“tell my child that if he/she starts crying, then, we’ll have to go home right away.”) This scale was derived empirically (using factor analysis) and has adequate internal consistency scores for all scales: Expressive Encouragement = .85, Emotion-focused = .80, Problem-focused = .78, Minimization = .78, Distress Reactions = .70, Punitive Reactions = .69 (Fabes et al., 2002). This measure has been found to have good convergent validity with other measures of parenting including Family Expressiveness Questionnaire (Halberstadt, 1986) and with observed parenting behaviour (Fabes et al., 2002). Furthermore, this measure has good test-retest validity, with all scales being significantly correlated with themselves 4 months later (Fabes et al., 2002). To assess the degree to which parents might respond based on social desirability, Fabes et al. (2002) examined links between each scale and a measure of social desirability. Results revealed that only the Distress Reactions scale was significantly linked with social desirability. Additionally, to reduce the likelihood of socially desirable responding, the name of the scale was presented as Parent Attitude and Behaviour Questionnaire so that it was not as obvious that their responses to children’s negative emotions were being assessed.

For the present study, internal consistency of the Coping with Children’s Negative Emotions was similar to those found by Fabes et al. (2002), with Cronbach’s alpha values as follows: Distress Reactions: .60, Punitive Reactions: .74, Expressive Encouragement: .85, Emotion-focused Reactions: .80, Problem-focused Reactions: .61, and Minimization Reactions: .86.

Child measures.

Cognitive ability. The Kaufman Brief Intelligence Scale, Second Edition (KBIT-II; Kaufman & Kaufman, 2004) a brief standardized measure of intelligence (IQ) for

individuals 4 through 90 years, was used to assess cognitive ability. It consists of three subtests (Verbal Knowledge, Riddles, and Matrices) that yield verbal, nonverbal, and overall IQ scores. On the Verbal Knowledge task, children were presented with a series of pictures and asked to point to the picture that matches a word given by the examiner. The Matrices subtest requires the child to choose a picture to complete a pattern, given a series of options. The Riddles subtest requires a child to point to certain pictures to provide information or to answer simple factual questions orally. The KBIT-II has acceptable psychometrics (Madle & Shaw, 2004). Its internal consistency coefficient for the overall IQ Composite is .93 and its consistency coefficients for the Verbal and Nonverbal scales are .91 and .88. The *test-retest* reliability is .90 and results are similar for the Verbal ($r = .91$) and Nonverbal ($r = .83$) scales. In addition, the KBIT-II has concurrent validity with the Wechsler scales (Madle & Shaw, 2004).

The Wechsler Preschool and Primary Scale of Intelligence, Third Edition (WPPSI-III, Wechsler, 2002), an intelligence scale designed for children as young as 3 years, was used to assess the cognitive ability of children who were too young to complete the KBIT-II (i.e., 3-year-olds). The children completed two subtests from the WPPSI – a nonverbal subtest (either Block Design or Object Assembly) and a verbal subtest (Information).

Block Design requires children to arrange blocks to copy a model of blocks presented by the examiner and then to arrange blocks to copy a series of pictures shown to the child by the examiner under a time limit. This task is considered quite reliable with reliability coefficients at or above 0.75 at each age range (Sattler, 2004). It also has a moderately high correlation with Full Scale IQ ($r = .71$).

In some cases, Object Assembly was used as a measure of nonverbal intelligence, instead of Block Design. Object Assembly seemed more enjoyable for some 3-year-olds because it is set up like a jigsaw puzzle, which is something that may be familiar and also because assembling the pieces to make a picture that looks like an animal or other interesting object can be more rewarding than putting blocks together to look like a meaningless design. In addition, Object Assembly and Block Design are fairly highly correlated with each other; $r = .44$ (Sattler, 2004). Object Assembly requires children to put a series of shapes together to form an overall picture (like a jigsaw puzzle) under a time limit. Object Assembly is a reliable subtest, with reliability coefficients at or above .78 at all age levels (Wechsler, 2002)

The Information subtest assesses verbal intelligence and requires children to name everyday objects and to answer factual questions orally. Questions refer to a variety of topics including body parts, names of animals, uses of objects, and calendar information. Information is considered a reliable subtest, with reliability coefficients at or above .83, at all ages.

Results from the KBIT-II and WPPSI-III were used to estimate the overall intelligence of children in the present study. Children who received an IQ Composite score that was at least in the Low Average range (80 or above) were included in the study. Children who scored at least in the Low Average range (Standard Score of 80 or above) for the Nonverbal Scale of intelligence were included in the analyses (even if they scored lower than 80 on the Verbal scale). This cut-off was chosen because language difficulties can cause the overall IQ score to be low despite a child's adequate nonverbal skills. All children met criteria for inclusion.

Children's Social Behaviour (Prosocial and Aggressive). To assess children's prosocial and aggressive tendencies in a non-threatening manner, children were asked to say what they might do in certain ambiguous social situations involving children their age in which some type of harm is caused. This technique was based on a procedure originally developed by Eder (1990) and modified by Werner et al. (2006). Children were introduced to two puppets named Aaron (Erin) and Alex who always disagree. Children were then presented with 8 vignettes. Children were told, "Now, we are going to listen to some stories on the computer. I want you to pretend that you are the person in the story. Aaron (Erin) and Alex are going to listen to the stories too. Then, I am going to ask you some questions about the stories." Children listened to eight vignettes presented on a laptop. The audio for each of the eight stories was pre-recorded and presented along with a cartoon picture illustrating the plot of each story. All children listened to the same audio-recording of the story; but the cartoons were matched to the child's gender and skin colour. There were 4 pictures for each story: a picture depicting a White boy, a picture depicting a White girl, a picture depicting a boy with darker skin, and a picture depicting a girl with darker skin. The choice to match the picture that a child looks at with the child's skin colour was made because of evidence suggesting that children hold biases towards people of other races in ambiguous situations (Brown & Bigler, 2005; Margie, Killen, Sinno, & McGlothlin, 2005).

Six of the stories were adapted by the researcher (S. Woods) from vignettes described by Crick, Grotpeter, and Bigbee (2002) and received from Crick directly (personal correspondence, 2008). The six vignettes adapted from Crick et al. (2002) included: The Playground Story, The Standing Story, The Shoes Story, The Race Story, The Party

Story, and The Puzzle Story. The two vignettes written by the researcher included The Colouring Story and The Tag Story. Each vignette describes an ambiguous situation in which one child interacts with another child. In each vignette, some type of negative event occurred and it was unclear whether the harm was caused on purpose or whether it was accidental. Four of the vignettes contained situations in which possible physical aggression occurred and four of the vignettes contained situations in which possible relational aggression occurred. The order of the vignettes was randomized using a PowerPoint Macro specifically designed for this purpose. The vignettes are presented in Appendix E.

Physical vignettes included those in which possible physical harm was caused. An example of a physical vignette is called “The Colouring Story.” It reads:

Pretend that you are at school colouring a picture. You want to use the red crayon. You ask a kid, “Could you pass me the red?” The kid throws the red crayon toward you. It hits your head and it hurts.

Relational vignettes included those in which possible harm has been caused to a person’s relationships, such as being the subject of gossip, or being ignored. An example of a relational vignette is called “The Party Story.” It is as follows:

Pretend that you are at school one day. Two other kids from your class start talking to each other. You hear one of the kids invite the other one to a birthday party. The kid says that there are going to be a lot of people at the party. You have not been invited to this party.

After hearing this vignette, one of the puppets said “I think that is mean,” and the other puppet said, “I don’t think it is mean,” and the child was asked to point to the puppet

with whom the child agreed. The child then answered the open-ended question, “What would you do if that happened to you?” The child’s response was recorded verbatim. This process was repeated for each vignette. If a child responded, “I don’t know,” or “nothing,” the child was prompted with, “What do you think you might do?” In addition, if a child responded by describing a thought or a feeling, for example, “That would hurt,” or “I would think it’s mean,” the child was prompted with, “and what do you think you might do?” If a child began talking off-topic, he or she was asked the question again. If a child said “I don’t know,” or “nothing,” again after being queried once, then a star was placed next to this story. Then, after going through all of the eight stories, the stories or story to which the child replied “nothing” or “I don’t know” or another non-action response was repeated. Then, the child was given 4 options: a physically aggressive response, a relationally aggressive response, a prosocial response, and a do-nothing response (see Appendix E). These options were presented in random order. Children were only given these options if they did not come up with a response on their own. The coding scheme for the responses is described in the procedure section.

Children’s emotion knowledge. To assess emotion knowledge, a task reported by Werner et al. (2006) based on adaptation of a task originally created by Denham (1986) was used. First, each child was presented with a puppet named Jamie whose gender was matched to the gender of the child. Then, the child was shown four faces depicting facial expressions that could be placed on the puppet’s head: happy, sad, angry, and afraid. Then, the child was asked to identify the emotions expressed by the four facial expressions. If a child made a mistake in labeling the emotions expressed by the different facial expressions, this was documented and children were corrected until they could

appropriately identify all four emotions. Next, the child was presented with a series of stories about the puppet. The stories contained four instances (one for each emotion) in which the puppet experienced emotions similar to what a typical child would experience. In addition, the stories contained four instances (one for each emotion) in which the puppet experienced an unusual response. For example, in an expected emotion situation, Jamie was portrayed as feeling happy because of receiving a gift. In an unexpected emotion story, Jamie felt happy about going to the doctor to get a shot (based on a desire for the lollipop that always comes after the shot).

For each story, the child was presented with the four face options depicting happy, sad, angry, and afraid emotions. The child was asked how the puppet felt, and the child was asked to respond by placing the appropriate face on the puppet. Eight stories were presented to each child. Children were given 1 point for pointing to the correct facial expression when asked to name the different emotions. For each story, children were given 2 points if they identified the appropriate emotion. If they did not correctly identify the emotion depicted by a particular story, but the emotion that they chose was of the same valence of the correct emotion (i.e., sad, angry, and afraid are all negative valence, whereas happy is positive valence), then they were given 1 point (taking the valence into account as suggested by Denham, 1986). Children were given 1 additional point if they were able to give the correct reason for the puppet's emotion. Therefore, children's total scores for the Emotion Knowledge (EK-Total) Task could range from 0 to 28. Internal consistency for this measure in the present sample was found to be good, with a Cronbach's alpha score of .83.

Children's Social Acceptance. The Pictorial Scale of Perceived Competence and Social Acceptance for Young Children (PSPCSA; Harter & Pike, 1984), was used to measure children's self-perceptions. There are two versions of the scale that only vary slightly in items that they contain. Children in Grade 1 completed the Grade 1/ Grade 2 version; whereas younger children completed the Pre-Kindergarten/ Kindergarten scale. This scale was actually designed for use with children ages 4 to 7, but was also used for 3-year-olds in the present study. A male version and a female version were used, with the only difference being that the words "boy" or "girl" was used and that the main character in the pictures was matched to the gender of the child.

This scale has 24 items that make up 4 domains: perceived physical competence (e.g., good at jumping on one foot, good at climbing), perceived cognitive competence (e.g., good at puzzles, knowing things in school), perceived peer acceptance (e.g., being invited to play, having friends to play games with), and perceived maternal acceptance (e.g., being smiled at by Mom, playing with Mom). For the purpose of the present study, only the perceived peer acceptance and perceived maternal acceptance scales were used.

In order to reduce children's tendency to give socially desirable responses, this measure was designed with a structured alternative-response format. Children were presented with a picture plate accompanied by two statements related to the picture. The child was asked to identify the child he/she is most like (e.g., "This boy is good at puzzles. This boy isn't very good at puzzles. Which boy is more like you?") After choosing between these two broad options, the child was then asked a question to narrow it down further (e.g., "Are you really good at puzzles or pretty good?"). In addition, to aid comprehension small and large circles were used for comparison. The examiner pointed

to the larger circle for the item indicating more of the given construct and pointed to the smaller circle for the item indicating less of the given construct. Each item was thus rated on a 4-point scale.

Indications of convergent and discriminant validity were provided by Harter and Pike (1984). For example, to assess convergent validity, Harter and Pike (1984) asked children to explain how they know whether or not they are good at a given activity. Children were able to provide definite and plausible reasons. In addition, cognitive ratings were consistent with performance on a puzzle task. To assess discriminant validity, the cognitive scores for children who were held back a grade were compared with those of children who had been promoted a grade and the difference between the two groups was significant, in favour of the advanced children reporting more positive self-perceptions. The internal consistency of the scales of interest is acceptable, based on Harter and Pike's report (1984), with reliability coefficients of .74 for perceived peer acceptance and .83 for perceived maternal acceptance. Based on the present study, internal consistency for peer acceptance was lower, with a Cronbach's alpha of .60. Internal consistency for maternal acceptance was slightly better, with a Cronbach's alpha of .66. A summary of the measures and study variables can be found in Table 2.

Table 2

Summary of Parent and Child Measures

Measures	Study Variable
Parent Measures	
BRIEF ^a	Children's Emotion Regulation Problems
Child Behaviour Checklist	Children's Aggression
Coping with Children's Negative Emotions	Maternal Emotion Socialization
Preschool Social Behaviour Scale	Children's Prosocial Behaviour, Aggression
Child Measures	
Denham Puppet Task	Children's Emotion Knowledge
Responses to Ambiguous Situations	Children's Prosocial Behaviour, Aggression
PSPCSA	Social Acceptance (maternal, peer)

Note: BRIEF = Behaviour Rating Inventory of Executive Function, PSPCSA = Pictorial Scale of Perceived Competence and Social Acceptance

Procedure.

Permission to complete this study was obtained from the Research Ethics Board at the University of Windsor. Participants were recruited to take part in a larger study investigating the psychosocial correlates of young children's social behaviour and overall adjustment (Dr. R. Menna, Primary Investigator; Grant #807374, University of Windsor Social Sciences and Humanities Research Grant). Parents were invited to participate in the study through postings on websites targeting Windsor area parents, brochures distributed through daycares, learning centres, day camps and recreation programs, libraries, community agencies, community events, the University of Windsor Participant Research pool and word of mouth (see Table 1). Prospective parents were contacted by phone, or electronic mail, and provided information about the study, including the purpose, activities and time required to complete the study. If they met inclusion criteria, they were invited to come to the university. Children were included if they could speak English and had not been diagnosed with developmental disabilities (e.g., pervasive developmental disorders, fetal alcohol spectrum disorders). Attempts to recruit fathers to participate were met with minimal response. Consequently, the sample includes only mothers and children. Mothers and their children visited the university on two separate occasions, with each visit lasting approximately 1.5 hours. The details of the study were explained to parents orally and they were also provided with a consent form, which they signed prior to completing the study (see Appendix A). Assent was obtained from children by asking them if they would like to do some activities. Children and parents were free to withdraw from activities at any time. Mothers and children participated in a variety of tasks at each visit. At the first visit, the mothers and children engaged in a

series of interactive plays task. This activity was always conducted first because it was considered enjoyable for mothers and children and allowed them to become comfortable in the research environment. This dyadic task was not used for the present study. The remainder of the activities were conducted in random order. Mothers completed a variety of questionnaires in random order (other questionnaires not used in the current study included measures of parents' marital interactions, mothers' depressive symptoms, and children's pre-literacy skills. Additional measures are described in detail in previous studies (Ambrose & Menna, 2012; Clark, 2011; Kayfitz, 2011). Meanwhile, children completed one-on-one tasks with research assistants who were masters and doctoral level students in the Clinical Psychology program at the University of Windsor. These tasks included the Denham puppet task assessing emotion knowledge, the responding to ambiguous situations task, Pictorial Scale of Self Competence and Social Acceptance, and intelligence screeners. In addition, children participated in a language task that was not used for the present study.

As a token of appreciation, parents received a \$5 gift card to a popular coffee chain, and \$10 to cover the cost of transportation and parking. Children were provided with a small age-appropriate toy (e.g., a bouncy ball, toy car) at each visit. Mothers who were enrolled in a psychology course received 3 bonus marks toward one psychology course of their choice.

Coding. For the Responding to Ambiguous Situations task, a coding scheme was developed through a team effort by members of the Young Children's Social Skills Study Team (Adam Kayfitz, Rosanne Menna, and Sara Woods) through discussion and the use of previous research (e.g., Crick & Werner, 2008; Dodge, 1980; Dodge & Somberg,

1987). Responses were scored using the following seven categories: 1) Prosocial Behaviour: behaviour aimed at maintaining relationships or the wellbeing of society, 2) Physical Aggression: purposeful harm using physical means, 3) Relational Aggression: purposeful harm using relational means (e.g., harming the reputation or friendships of others), 4) Non-Physical Overt Aggression: purposeful harm using some overt means but not through physical aggression (e.g., verbal aggression, destruction of property, getting an adult to punish a peer), 5) Other Responses (involving an adult but not mentioning punishment, emotional responses, withdrawal from the situation, and engaging in a solitary activity), 6) “I Don’t Know” Responses, and 7) Uncodeable (e.g., saying that one would do nothing, making an off-topic comment). Multiple responses were scored in terms of the proportional use of each category.

Two independent raters scored the responses, one coder was a fourth-year undergraduate student in Psychology and one was a Clinical Child Psychologist. Inter-rater percent agreement was found to be 91%, with a Cohen’s Kappa value of $K = .82$, which is considered “outstanding” (Landis & Koch, 1977). Additionally, after discussion, 100% agreement was found on all responses.

CHAPTER III

Results**Planned Analyses**

IBM SPSS Statistics Data Editors 19 and 20 were used for all statistical analyses. Although an alpha level of .05 has been the conventional since 1925 or earlier (Cowles & Davis, 1982), some researchers argue that more conservative cut-offs should be used in studies involving more than one hypothesis (e.g., Bland & Altman, 1995). Others argue that this is unnecessary and deleterious to sound statistical inference. For example, Perneger (1998) advises against using strict alpha cut-offs such as the Bonferonni correction because hypotheses are examined independent of each other and thus family-wise error rate is based on the wrong null hypothesis, hypotheses are not interpreted differently depending on the number of other tests performed, and changing the criterion alpha value inappropriately inflates Types II error (Perneger, 1998). To balance the risks of Type 1 and Type II error, alpha levels of .05 were used to test significance in the present study; however, exact p-values are provided for statistical tests of each hypothesis, allowing researchers who prefer a more conservative cut-off to interpret the data using stricter criteria. To test each of the three proposed models, correlation, regression, and mediation analyses were conducted. Simple links between each of the proposed maternal emotion socialization and social behaviour variables were examined first using correlations. This same method was used to test for associations between the proposed emotional competence and social behaviour variables. In addition, potential confounding variables were explored and were controlled when necessary. When the initial hypotheses within each model were confirmed (i.e., the maternal emotion

socialization and emotional competence variables were linked with social behaviour in the expected directions), mediation analyses were conducted to determine whether or not links between maternal emotion socialization and social behaviour were mediated by emotional competence variables. These analyses were conducted using the Process Macro by Hayes (2012). This method tests for mediation by following all of the steps recommended by Baron and Kenny (1986): 1) show that the initial variable is correlated with the outcome, 2) show that the initial variable is correlated with the mediator, 3) show that the mediator is linked with the outcome, 4) to establish that the mediator mediates the link between the initial variable and the outcome, the link between the initial variable and the outcome, controlling for the mediator, should be non-significant. The Process Macro by Hayes (2012) is recommended because it is compatible with these steps, but allows researchers to examine mediation in one step without having to conduct several separate analyses, which increases error. In addition, the Process Macro also allows researchers to estimate the indirect effect of the independent variable while also estimating the effect size in the overall population. The Process Macro allows this by incorporating bootstrapping into the equation. Bootstrapping constructs several resamples of the data using random samples with replacement, which allows us to estimate the effect not just in the current sample, but also in the overall population that it represents. For the present study, 1000 resamples were specified.

Data Screening and Preparation

An a priori analysis using G-Power 3 (Faul, Erdfelder, Buchner, & Lang, 2009) estimated that 110 participants would be necessary in order to have adequate power with alpha at .05, β at .20, and power at 0.80 to detect a medium effect size of 0.15 with up to

8 predictors. A medium effect size was chosen based on previous meta-analyses related to the variables of interest, including an effect size of $r = -.17$ for the association between children's emotion knowledge and their externalizing problems (Trentacosta & Fine, 2010), an effect size of $r = -.14$ for the association between negative parenting strategies and children's self-regulation skills (Karreman, van Tuijl, van Aken, & Dekovic, 2006), and effect sizes of $r = .11$ and $r = .21$ for the associations between children's externalizing problems and parental approval and parental coercion, respectively (Rothbaum & Weisz, 1994). The sample of 136 exceeds this requirement, supporting the assumption of adequate sample size.

Missing Data

The initial sample included 151 participants. Participants who completed less than 80% of the measures were removed, leaving 136 mother-child pairs. To resolve the issue of remaining missing data, the expectation maximization procedure provided by IBM SPSS Statistics 20 was used. Using a well-established algorithm, expectation maximization uses bootstrapping to estimate the missing values and fills them in. Expectation maximization is an effective technique that is used to manage missing data because it overcomes some of the limitations of other techniques; it avoids over fitting the data and it allows for realistic estimates of variance (Schafer & Olsen, 1998; Tabachnik & Fidell, 2001). Little's Missing Completely at Random (MCAR) test identifies whether there are patterns in the missing data to avoid allowing missing data to create a confound. The test was not significant, supporting the assumption that data were missing at random, *Chi-Square* (261) = 289.23, $p = .11$. Less than 11 % of the data was computed using expectation maximization. Missing data for maternal age was not computed using

expectation maximization because 23 mothers did not provide their ages. Missing data for ordinal variables (family structure, maternal education, and income) were not computed using expectation maximization as this procedure only provides estimates for interval data.

Assumptions

Because regression analyses were used to test the hypotheses, the data were screened to ensure that they met the following assumptions: adequate sample size, independence of observations, absence of univariate and multivariate outliers, normality, homoscedasticity, and multicollinearity.

Independence of observations can be assumed based on the design of the study. Mother-child pairs visited the university at separate times, minimizing the likelihood of discussion of ratings by parents. In addition, children attended many different schools, came from different SES backgrounds, and were recruited from multiple sources, which also reduces the likelihood that participants would know each other and discuss ratings or experiences. One issue that should be noted is that 13 of the mothers participated in the study with more than one child. Although this threatens the assumption of independence of observations somewhat, the threat was reduced by the fact that mothers were encouraged to carefully think about their interactions with each child separately when completing questionnaires and children were always tested separately. In addition, the hypotheses were tested separately with one of each pair of siblings removed (the second sibling to participate) and the same results were found.

To assess for normality, the skewness and kurtosis values of all variables were examined, using a criteria of plus or minus 3.3 (as suggested by Garson, 2008). All

variables were found to have adequate normality, except for RAS Physical Aggression, which had abnormal kurtosis. A squareroot transformation was conducted (after adding .01 to all values) and the resulting variable had acceptable skewness and kurtosis.

The data were analyzed for univariate outliers by examining histograms and frequency tables. A univariate outlier was specified as a z-score outside of plus or minus 3.3, as suggested by Garson (2008). The following variables were found to have outliers: RAS Relational Aggression (2 too high), PSBS Physical Aggression (2 too high), CBCL Physical Aggression (1 too high), Maternal Acceptance (1 too low), Distress Reactions (2 too high), Punitive Reactions (3 too high), and Problem-Focused Reactions (1 too low). Because none of the outliers distorted normality to an unacceptable degree, however, they were not removed.

The data were also analyzed for multivariate outliers using both visual and quantitative methods. Scatterplots of several combinations of variables were examined. In addition, Cook's distance and Mahalinobus distance values were found by completing a multiple regression analysis with all variables as independent variables and a dummy variable as the dependent variable. By examining Mahalinobus distance values and ensuring that they were within 3 standard deviations of the mean and by examining Cook's distance values to ensure that they were not greater than 1 (suggested by Field, 2005), it was determined that there were no multivariate outliers. The assumption of homoscedasticity can be assumed because all of the variables were found to be normal. To test for absence of multicollinearity, the tolerance statistics were examined. Using a criterion of tolerance greater than .1, results revealed that the assumption of multicollinearity was met.

Preliminary Analyses

Descriptive Statistics

Means, standard deviation, and ranges for the study variables are presented in Tables 3, 4, and 5 in Appendix F. As described in the method section, children's responses sometimes fell into more than one category for a given story. The categories of interest for the present study were prosocial behaviour, physical aggression, and relational aggression and children received total scores for each of these variables across all 8 stories. The number of participants who responded "I don't know," ranged from 2 (for the Standing Story) to 7 (for the Puzzle Story). The number of "uncodeable" responses (responses not falling into the other categories) ranged from 7 (for Colouring Story) to 15 (for the Standing Story). Descriptive statistics for these variables are presented in Table 3.

In addition, correlations between demographic variables and study variables were examined and are presented in Tables 6 and 7 in Appendix F. As shown in Table 6, child-reported prosocial behaviour was associated with older age of children, $r = .27, p = .00$, whereas child-reported physical aggression was associated with younger age of children, $r = -.17, p = .03$. Additionally, older children received higher levels of parent-reported relational aggression, $r = .24, p = .00$, and total aggression, $r = .16, p = .03$. Furthermore, increased maternal age was associated with lower levels of child-reported physical aggression, $r = -.19, p = .02$. Significant relations were found between maternal education and parent-reported child aggression, with more educated mothers reporting having children with less total aggression based on parent, $r = -.18, p = .02$, and child report, $r = -.18, p = .02$, and less physical aggression based on the PSBS, $r = -.18, p = .02$, and the CBCL, $r = -.23, p = .00$. Additionally, higher income levels were related to less

parent-reported physical aggression, $r = -.20$, $p = .01$, and total aggression, $r = -.19$, $p = .02$. Furthermore, family structure was correlated with parent-report measures of aggression, with two-parent families having less of all types of parent-reported aggression: physical aggression based on the PSBS, $r = .38$, $p = .00$, and CBCL, $r = .41$, $p = .00$, relational aggression, $r = .35$, $p = .00$, and total, $r = .41$, $p = .00$.

As shown in Table 7 in Appendix F, older children showed higher levels of emotion knowledge, $r = .57$, $p = .00$, and lower levels of perceived maternal acceptance, $r = -.18$, $p = .02$. Additionally, increases in child age were associated with decreases in maternal use of punitive reactions to children's negative emotions, $r = -.16$, $p = .03$. Increases in maternal age were correlated with higher levels of children's emotion knowledge, $r = .17$, $p = .03$. In addition, older mothers tended to use more emotion-focused reactions to their children's emotions, $r = .17$, $p = .04$. More educated mothers reported using more problem-focused reactions to their children's emotions, $r = .23$, $p = .01$, and fewer punitive reactions, $r = -.23$, $p = .01$. Children of higher income-earning families reported higher levels of maternal acceptance, $r = .15$, $p = .05$, and also received higher scores for peer acceptance based on parent-report, $r = .16$, $p = .04$. In addition, family structure was significantly related to emotion regulation problems, $r = .19$, $p = .02$, with children from single-parent homes having more difficulty regulating their emotions. Interestingly, children from single-parent homes were higher in emotion knowledge, $r = .18$, $p = .04$. Children from single-parent homes also perceived themselves as being less accepted by their mothers, $r = -.15$, $p = .04$.

To explore the associations between the presence of siblings and maternal emotion socialization behaviours, correlations were examined. Results revealed that a higher

number of siblings in the home was associated with more punitive reactions, $r = .16, p = .03$, and more minimization reactions, $r = .16, p = .04$. Additionally, a greater number of siblings in the home was associated with fewer emotion-focused reactions, $r = -.20, p = .01$. Furthermore, the number of younger siblings that a child had was found to be associated with a greater number of maternal distress reactions, $r = .17, p = .03$.

As shown in Tables 8 and 9, there were significant gender differences for some variables. Based on parent-report, boys showed more physical aggression and total aggression compared to girls. Additionally, mothers reported using more expressive encouragement reactions to boys' negative emotions, compared to girls.

In cases where demographic variables were found to be significantly associated with two or more variables in the proposed models, these variables were treated as potential confounds and were included as covariates. In cases where significant gender differences were observed (as in Tables 8 and 9), gender was entered as a covariate.

Table 8

Gender Differences in Prosocial Behaviour, Physical Aggression, and Relational Aggression

	Boys (<i>n</i> = 80)		Girls (<i>n</i> = 56)		<i>t</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
RAS Prosocial	1.74	1.70	1.84	1.43	-0.36	0.72
RAS Physical ^a	0.47	0.65	0.39	0.49	0.71	0.48
RAS Relational	0.49	0.90	0.57	0.93	-0.51	0.61
RAS Total	1.64	2.07	1.54	1.89	0.29	0.77
PSBS Prosocial	16.32	2.41	17.00	1.92	-1.78	0.08
PSBS Physical	11.98	4.04	10.11	3.08	2.94	0.00
CBCL Physical	0.57	0.36	0.47	0.33	1.63	0.11
PSBS Relational	10.43	2.23	10.42	2.74	-0.01	0.99
PSBS Total	26.23	6.40	23.92	5.81	2.15	0.03

^aTransformed (Square-root (*N* + 0.01))

Table 9

Gender Differences in Emotional Competence, Maternal Emotion Socialization Experiences, and Social Acceptance

	Boys (<i>n</i> = 80)		Girls (<i>n</i> = 56)		<i>t</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Emotion Knowledge	20.84	5.03	22.20	4.68	-1.59	0.11
Emotion Regulation Probs	14.35	3.75	13.57	4.08	1.15	0.25
Expressive Encouragement	5.51	0.86	5.07	0.98	2.74	0.01
Emotion-Focused Reactions	5.84	0.70	5.74	0.77	0.82	0.42
Problem-Focused Reactions	5.89	0.55	5.90	0.46	-0.11	0.91
Minimization Reactions	2.22	0.91	2.39	0.77	-1.18	0.24
Distress Reactions	2.59	0.58	2.55	0.71	-0.37	0.71
Punitive Reactions	2.03	0.62	2.20	0.51	-1.70	0.09
Parent Peer Acceptance	8.74	1.35	8.84	1.25	-0.41	0.68
Child Peer Acceptance	2.92	0.63	2.93	0.46	-0.17	0.87
Maternal Acceptance	3.14	0.58	3.01	0.52	1.34	0.18

^aTransformed (Square root ($N + 0.01$))

Note: Probs = Problems

Correlations Among Measures of Social Behaviour

To assess the degree to which measures of social behaviour were linked, correlation analyses were conducted. As shown in Table 10, child- and parent-reported prosocial behaviour were not correlated. Total child-reported aggression was also not significantly associated with total parent-reported aggression. Measures of physical and relational aggression were correlated both for child-report, $r = .24, p = .00$, and parent-report measures, $r = .48, p = .00$. The two parent-report measures of physical aggression (PSBS Physical Aggression and CBCL Aggressive) were also significantly correlated, $r = .48, p = .00$. In contrast, child-reported physical aggression was not significantly correlated with either parent-report measure of physical aggression: PSBS, $r = .11, p = .10$, or CBCL, $r = .07, p = .22$. Measures of child- and parent-reported relational aggression were also not correlated, $r = -.04, p = .32$. In light of this, measures of parent and child-reported social behaviour were examined independently.

Table 10

Pearson Correlations Between Child- and Parent-Report Measures of Prosocial Behaviour and Relational and Physical Aggression

Measure	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. RAS Prosocial		-.14	-.14	-.29**	.12	-.08	-.25**	-.05	-.05
2. RAS Physical Aggression ^a			.24**	.62**	.02	.11	.07	-.12	.04
3. RAS Relational Aggression				.55**	-.03	.08	.14	-.04	.03
4. RAS Total Aggression					-.11	.16*	.12	-.02	.10
5. PSBS Prosocial						-.41**	-.30**	-.23**	-.40**
6. PSBS Physical Aggression							.48**	.48**	.92**
7. CBCL Physical Aggression								.30**	.48**
8. PSBS Relational Aggression									.77**
9. PSBS Total Aggression									

* $p < .05$; ** $p < .01$

^aTransformed (Square root ($N + .01$))

Note: RAS = Responses to Ambiguous Stories, PSBS = Preschool Social Behaviour Scale

Main Analyses: Examination of Direct Effects

To explore the associations between all of the study variables, Pearson correlational analyses were used. Correlations between independent variables (expressive encouragement, emotion-focused reactions, problem-focused reactions, minimization reactions, distress reactions, and punitive reactions), mediators (emotion regulation problems, emotion knowledge), the moderator (negative emotionality), and correlates (perceived peer acceptance and perceived maternal acceptance) are presented in Table 11. In addition, the correlations among the predictors, mediators, moderator, and dependent variables (parent-reported prosocial behaviour, parent-reported physical aggression, parent-reported relational aggression, child-reported prosocial behaviour, child-reported physical aggression, and child-reported relational aggression) are presented in Table 12 on page 122.

As shown in Table 11 on page 120, the two measures of emotion competence – emotion knowledge and emotion regulation problems, were not significantly correlated, $r = -.13$, $p = .07$. This indicates that they are two separate components of emotional competence and should be examined separately.

Several emotion socialization variables were correlated with one another. Higher levels of expressive encouragement were associated with more problem-focused reactions, $r = .34$, $p = .00$, and fewer minimization reactions, $r = -.25$, $p = .00$. Higher levels of emotion-focused reactions were correlated with more problem-focused reactions, $r = .44$, $p = .00$, suggesting that parents tend to use both methods, rather than choosing between focusing just on emotions or just on problems. Problem-focused reactions were also associated with fewer punitive reactions, $r = -.29$, $p = .00$.

Table 11

Inter-Correlations Among Independent Variables, Mediators, and Correlates (N = 136)

Measure	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. Emotion Knowledge		-.13	.01	-.05	.07	.03	-.03	-.14	.07	-.04	-.20*	.13
2. Emotion Regulation Problems			-.05	.04	-.04	.11	.31**	.15*	-.13	-.10	.11	.52**
3. Expressive Encouragement				.12	.34**	-.25**	-.10	-.14	.20**	-.01	-.04	-.03
4. Emotion-focused Reactions					.44**	.06	.00	-.14	.09	-.04	.00	.03
5. Problem-focused Reactions						-.06	-.16*	-.29**	.14*	-.12	-.07	.08
6. Minimization Reactions							.38**	.67**	-.06	-.11	-.09	.16*
7. Distress Reactions								.34**	.00	.04	.02	.38**
8. Punitive Reactions									-.07	-.06	-.01	.00
9. Peer Acceptance (Parent-Report)										-.14	-.07	-.19*
10. Peer Acceptance (Child-Report)											.30**	-.04
11. Maternal Acceptance (Child-Report)												.02
12. Negative emotionality												

* $p < .05$; ** $p < .01$

Furthermore, distress reactions, minimization reactions, and punitive reactions were all associated with one another (distress and minimization: $r = .38, p = .00$, distress and punitive: $r = .34, p = .00$, minimization and punitive: $r = .67, p = .00$).

Table 11 on page 120 also shows that parent and child reports of peer acceptance were not significantly correlated, $r = -.14, p = .06$. Interestingly, children's perceptions of being accepted by their peers were significantly related to their perceptions of acceptance by their mothers, $r = .30, p = .00$. Additionally, increases in negative emotionality were associated with higher levels of emotion regulation problems, $r = .52, p = .00$. Children's negative emotionality was also associated with higher levels of minimization, $r = .16, p = .04$, and distress reactions by their mothers, $r = .38, p = .00$.

As shown in Table 12 on page 122, emotional competence variables, maternal emotion socialization, peer acceptance, and negative emotionality were all associated with aspects of social behaviour. The individual associations are explored in greater depth for each hypothesis.

Table 12

Correlations Between Children's Social Behaviour and Proposed Predictors

	RAS-Pro	RAS-Phys	RAS-Rel	PSBS-Pro	PSBS-Phys	CBCL-Agg	PSBS-Rel
Emotion Knowledge	.16*	-.23**	-.18*	.11	-.06	-.10	.22**
Emotion Regulation Probs	-.15*	-.07	.13	-.19*	.34**	.62**	.14*
Expressive Enc	-.04	.09	.03	.26**	-.01	-.01	-.06
Emotion-Focused	-.17	.09	-.03	-.04	-.05	.10	-.10
Problem-Focused	-.10	.04	-.02	.17*	-.16*	-.06	.02
Minimization	.06	-.04	.08	-.11	.11	-.01	-.02
Distress	-.13	.03	.09	.05	.18*	.23**	-.10
Punitive	.01	.07	.18*	-.06	.08	-.05	-.01
Peer Acceptance (Parent)	.04	-.04	-.12	.57**	-.29**	-.25**	-.29**
Peer Acceptance (Child)	.18*	-.12	.09	-.10	.11	-.08	-.03
Maternal Acceptance	.02	-.17*	-.01	-.06	.01	-.03	-.04
Negative Emotionality	-.12	-.03	.07	-.19*	.20**	.41**	.33**

Note: RAS = Responses to Ambiguous Stories, Pro = Prosocial, Phys = Physical Aggression, Rel = Relational Aggression, PSBS = Preschool Social Behaviour Scale, CBCL = Child Behaviour Checklist

Main Analyses: Examination of Mediation Models

To examine the direct effects for each model, correlations were examined first. Then, regression was used, controlling for covariates that were linked with both the predictor and the outcome. To test the mediation models, the Process Macro created by Hayes (2012) was used to test the significance of the mediation using boot-strapping. This allows for simultaneously testing the steps recommended by Baron and Kenny (1986). The connection between the independent variable (maternal emotion socialization) and the outcome variable (social behaviour) was established. This is called “c-path” in Figure 7. Simultaneously, the association between the independent variable (maternal emotion socialization) and the mediator (emotional competence) was established (“a-path” in Figure 7). Additionally, the relation between the mediator (emotional competence) and the outcome (child social behaviour) was confirmed (“b-path” in Figure 7). Also, the association between the independent variable (maternal emotion socialization) and the outcome variable (child social behaviour), controlling for the mediator (emotion competence) was tested (“C’-path in Figure 7). If C’-path was found not to be significant, it was concluded that the mediator (emotional competence) completely mediated the link between the independent variable (maternal emotion socialization) and the outcome (child social behaviour).

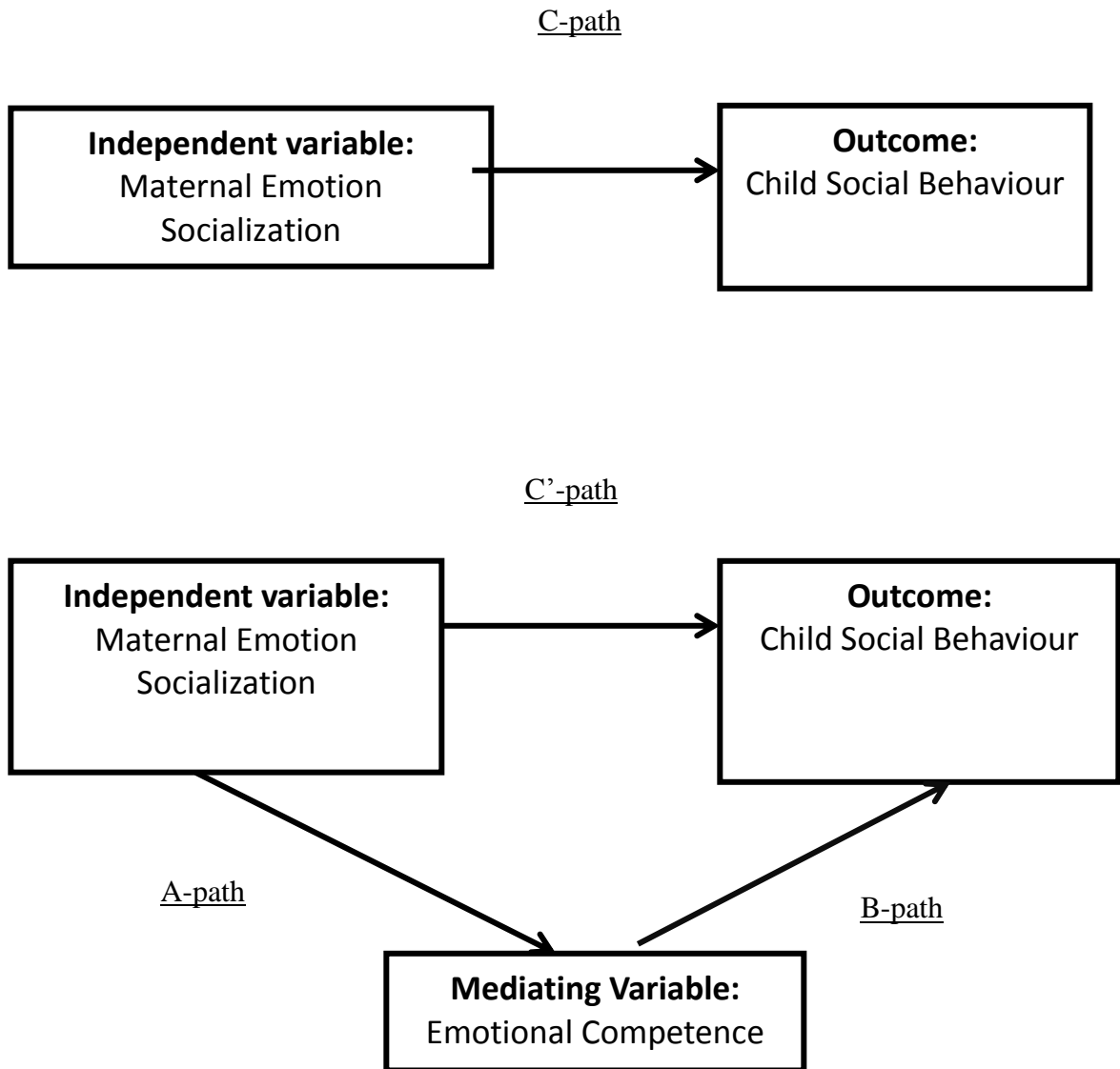


Figure 7. Children's social behaviour predicted from maternal emotion socialization through children's emotional competence.

Hypothesis 1: Prosocial Behaviour

Hypothesis 1a: Maternal emotion socialization-prosocial behaviour. It was hypothesized that adaptive types of maternal emotion socialization (expressive encouragement and emotion-focused reactions) would be linked with children's prosocial behaviour. As Table 12 on page 122 shows, the analysis revealed that child-reported prosocial behaviour was not significantly correlated with expressive encouragement, $r = -.04$, $p = .32$. Expressive encouragement was positively correlated with parent-reported prosocial behaviour, $r = .26$, $p = .00$, however. This indicates that mothers who report using more expressive encouragement reactions to their children's negative emotions may have children who display a greater degree of prosocial behaviour, as reported by their parents. Emotion-focused reactions were not significantly associated with child-reported prosocial behaviour, $r = -.17$, $p = .06$, or parent-reported prosocial behaviour, $r = -.04$, $p = .32$.

Hypothesis 1b. Emotional competence-prosocial behaviour. It was hypothesized that children's emotional competence (more emotion knowledge and fewer emotion regulation problems) would be positively associated with children's prosocial behaviour. As shown in Tables 6 in Appendix F, age was found to be significantly linked with child-reported prosocial behaviour. A regression analysis was run with child-reported prosocial behaviour as the outcome, age in Step 1, and emotion knowledge and emotion regulation problems in Step 2. Results revealed that the first model with age as the predictor and child-reported prosocial behaviour as the outcome was significant, $F(1,134) = 10.11$, $R =$

.27, $R^2 = .07$, $SE = 1.54$, $p = .00$. Increases in age were associated with significant increases in child-reported prosocial behaviour, $B = .04$, $SE = .01$; $\beta = .27$, $p = .00$, with age accounting for about 7% of the variance in child-reported prosocial behaviour.

Results of Step 2 revealed that an overall model with child-reported prosocial behaviour as the outcome and age, emotion knowledge, and emotion regulation problems as the predictors was also significant, $F(3,132) = 4.60$, $R = .31$, $R^2 = .10$, $SE = 1.53$, $p = .00$.

Overall, age, emotion knowledge, and emotion regulation problems accounted for about 10% of the variance in child-reported prosocial behaviour. Nevertheless, results revealed that the addition of emotion regulation problems and emotion knowledge did not result in significant change in the prediction of child-reported prosocial behaviour, $R^2 \text{ Change} = .03$, $F \text{ Change}(2, 132) = 1.79$, $p = .17$. Emotion knowledge, $B = -.01$, $SE = .03$, $\beta = -.02$, $p = .86$, and emotion regulation problems, $B = -.07$, $SE = .03$, $\beta = -.16$, $p = .06$, were not significant predictors of child-reported prosocial behaviour, above and beyond age.

Results are summarized in Table 13. Nevertheless, as shown in Table 12 on page 122, emotion regulation problems were significantly correlated with child-reported prosocial behaviour at the bivariate level, with more emotion problems being associated with less prosocial behaviour, $r = -.15$, $p = .04$. Therefore, although the association is not strong enough to indicate that the emotion regulation problems predict child-reported prosocial behaviour, there is a significant negative connection, with children with fewer emotion regulation problems receiving significantly higher scores for child-reported prosocial behaviour.

Table 13

Summary of the Regression Analyses for the Prediction of Child-Reported Prosocial Behaviour (N = 136)

Variable	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>R</i>	<i>R</i> ²	<i>p</i>
Step 1: Age – RAS Pro					.27	.07	.00
Age	.04	.01	.27	3.18			.00
Step 2: Age and EK and ER – RAS Pro					.31	.09	.00
Age	.04	.02	.28	2.76			.01
Emotion Knowledge	-.01	.03	-.02	-.18			.09
ER	-.07	.03	-.16	-1.88			.06

Note: RAS = Responses to Ambiguous Stories Prosocial Behaviour, EK = Emotion Knowledge, ER = Emotion Regulation Problems

As shown in Table 12 on page 122, emotion knowledge was not significantly correlated with parent-reported prosocial behaviour, $r = .11$, $p = .10$. In contrast, increased emotion regulation problems were associated with greater parent-reported prosocial behaviour, $r = -.19$, $p = .01$, as expected.

Hypothesis 1c: Maternal emotion socialization-emotional competence-prosocial behaviour. It was predicted that the link between maternal emotion socialization and children's prosocial behaviour would be mediated by children's emotional competence, such that effective maternal emotion socialization would lead to higher levels of emotional competence, which would be linked with higher levels of prosocial behaviour. As expressive encouragement and parent-reported prosocial behaviour were found to be correlated in Hypothesis 1a, these measures were tested. Using the Process Macro (Hayes, 2012), expressive encouragement was entered as the expected independent variable, emotion regulation problems as the mediator, and parent-reported prosocial behaviour as the outcome. Results revealed that expressive encouragement did not significantly predict emotion regulation problems, $F(1, 134) = .39$, $R = .05$, $R^2 = .00$, $p = .53$. Consistent with Hypothesis 1a, however, emotion regulation problems did significantly predict parent-reported prosocial behaviour, $B = -.11$, $SE = .05$, $t = -2.20$, $p = .03$. Based on bootstrapping, the direct effect of expressive encouragement on prosocial behaviour was estimated at $.61$, $SE = .20$, $t = 3.06$, $p = .00$, whereas the indirect effect of expressive encouragement on prosocial behaviour through emotion regulation problems was $.02$, which was not significant, $SE = .05$, confidence intervals: $-.06$ to $.14$. Results are summarized in Table 14.

Table 14

Summary of the Regression Analyses (Using the Process Macro) for the Prediction of Parent-Reported PSBS Prosocial Behaviour (N = 136)

Variable	<i>B</i>	<i>SE B</i>	<i>t</i>	<i>R</i>	<i>R</i> ²	<i>p</i>
Expressive Enc – PSBS Pro				.05	.00	.53
Expressive Encouragement	-.23	.36	-.62			.53
Expressive Enc – ER – PSBS Pro				.32	.10	.00
Expressive Encouragement	.60	.20	3.06			.00
ER	-.10	.04	-2.20			.03

Note: Expressive Enc = Expressive Encouragement, PSBS Pro = Preschool Social Behaviour Scale Prosocial Behaviour, ER = Emotion Regulation Problems

Because no significant link was found between expressive encouragement and emotion regulation problems and given that the independent variable and mediator must be significantly correlated for a mediation to exist (see path A in Figure 7; Baron and Kenny, 1986), Hypothesis 1c was not confirmed.

Hypothesis 1d: Prosocial behaviour – perceived social acceptance. It was predicted that prosocial behaviour would be positively correlated with perceived social acceptance. Results revealed that child-reported prosocial behaviour was significantly correlated with perceived peer acceptance, as shown in Table 11 on page 120, $r = .18$, $p = .02$. Results support the hypothesis that children who demonstrate prosocial behaviour by choosing prosocial responses to ambiguous situations also tend to report being more accepted by their peers. In contrast, no significant link was found between parent-reported prosocial behaviour and perceived peer acceptance, $r = -.10$, $p = .13$. Given that both maternal acceptance and child-reported prosocial behaviour were correlated with age, the association between maternal acceptance and child-reported prosocial behaviour was explored, controlling for age. No significant link was found between maternal acceptance and child-reported prosocial behaviour, $r = .07$, $p = .22$, when controlling for age. Also, parent-reported prosocial behaviour was not significantly correlated with perceived maternal acceptance, $r = .02$, $p = .43$.

Hypothesis 2: Physical Aggression

Hypothesis 2a: Maternal emotion socialization-physical aggression. It was hypothesized that maternal emotion socialization (higher levels of punitive reactions, higher levels of minimization reactions, and lower levels of expressive encouragement)

would be linked with children's physical aggression. Because punitive reactions and child-reported physical aggression were both significantly linked with child age, as shown in Tables 7 and 8 in Appendix F, a partial correlation between these variables, controlling for child age, was tested. No significant link was found between punitive reactions and child-reported physical aggression, when controlling for age, $r = .04$, $p = .32$. Additionally, as shown in Table 12 on page 122, child-reported physical aggression was also not significantly linked with minimization reactions or expressive encouragement.

Given that maternal education was associated with both punitive reactions and parent-reported physical aggression, this relation was tested while controlling for maternal education. No significant association was found between punitive reactions and parent-reported physical aggression, when controlling for maternal education $r = .04$, $p = .31$. As shown in Table 12 on page 122, minimization reactions and expressive encouragement were also not found to be linked with either type of parent-reported physical aggression. Therefore, this hypothesis was not supported.

Hypothesis 2a – Follow-up analyses. As shown in Table 12 on page 122, distress reactions were correlated with both measures of parent-reported physical aggression (PSBS and CBCL), with more distress reactions being associated with more parent-reported physical aggression, based on the PSBS, $r = .18$, $p = .02$, and the CBCL, $r = .48$, $p = .00$. Given that problem-focused reactions and both measures of parent-reported physical aggression were associated with maternal education, the correlations between these variables were explored, controlling for maternal education. Problem-focused reactions were not significantly associated with parent-reported physical aggression when

controlling for maternal education, based on the PSBS, $r = -.12$, $p = .08$, or the CBCL, $r = -.01$, $p = .48$. Neither distress reactions nor problem-focused reactions were significantly correlated with child-reported physical aggression, as shown in Table 12 on page 122.

Hypothesis 2b: Emotional competence-physical aggression. Hypothesis 2b was that emotional competence (including more emotion knowledge and less emotion regulation problems) would be associated less physical aggression in children. Because age was associated with both child-reported physical aggression and emotion knowledge (see Tables 7 and 8 in Appendix F), the correlation between child-reported physical aggression and emotion knowledge was tested while controlling for age. Results revealed that emotion knowledge was significantly linked with child-reported physical aggression, when controlling for age, $r = -.17$, $p = .03$. Children who had better emotion knowledge reported less use of physical aggression, as expected, even when controlling for the influence of age. A regression analysis with child-reported physical aggression as the outcome and child age and emotion knowledge as the predictors was significant, $F(2, 130) = 3.78$, $R = .23$, $R^2 = .06$, $SE = .58$, $p = .02$. Although the β weight was not significant for age, $B = -.00$, $SE = .01$, $\beta = -.05$, $p = .62$, there was a trend toward emotion knowledge being a significant predictor, $B = -.02$, $SE = .01$, $\beta = -.20$, $p = .056$. Overall, age and emotion knowledge account for about 6% of the variance in child-reported prosocial behaviour.

Because family structure was found to be correlated with both emotion knowledge and both types of parent-reported physical aggression, these links were tested while controlling for family structure. When controlling for family structure, emotion knowledge was linked with parent-reported physical aggression, based on the PSBS, $r = -$

.15, $p = .04$, and on the CBCL, $r = -.19$, $p = .01$. As expected, greater levels of emotion knowledge were linked with lower levels of physical aggression.

As shown in Table 12 on page 122, emotion regulation problems were not linked with child-reported physical aggression. Given that family structure was linked with emotion regulation problems and both types of parent-reported physical aggression, the links between these variables were tested while controlling for family structure. When controlling for family structure, emotion regulation problems were linked with parent-reported physical aggression, based on both the PSBS, $r = .30$, $p = .00$, and the CBCL, $r = .60$, $p = .00$. As expected, more emotion regulation problems were linked with higher levels of parent-reported physical aggression.

Hypothesis 2c: Maternal emotional socialization-physical aggression.

Hypothesis 2c was that the link between maternal emotion socialization and physical aggression would be mediated by children's emotional competence, such that poorer maternal emotion socialization (higher levels of punitive reactions, higher levels of minimization reactions, lower levels of expressive encouragement) would be linked with lower levels of emotional competence (less emotion knowledge and more emotion regulation problems) and this would be linked with more physical aggression. This hypothesis was not confirmed given that Hypothesis 2a revealed that there was no significant link between the hypothesized maternal emotion socialization variables (punitive reactions, minimization reactions, and expressive encouragement) and measures of physical aggression.

Hypothesis 2c – Follow-up analyses. Because none of the proposed maternal emotion socialization variables were linked with physical aggression, an alternative

model was explored, with distress reactions as the independent variable, emotion regulation problems as the mediator, family structure as a covariate of the relation between emotion regulation problems and parent-reported physical aggression, and parent-reported physical aggression as the outcome. In order to explore this, the “Process” Macro by Hayes (2012) was used, which allows for simultaneously testing all 4 of Baron and Kenny’s (1986) steps, allows one to specify the location of the covariate, and uses bootstrapping to test the direct and indirect effects in the general population. As shown in Table 15, this model was confirmed. Distress reactions were found to significantly predict emotion regulation problems, $F(1, 129) = 13.67$, $R = .31$, $R^2 = .10$, $p = .00$ (a path), with increased distress reactions being linked with increased emotion regulation problems, $B = 1.90$, $SE = 0.51$, $p = .00$. Emotion regulation problems were also found to significantly predict PSBS physical aggression, controlling for family structure, $B = .24$, $SE = 0.08$, $p = .00$ (b path), with increased emotion regulation problems being linked with increased physical aggression. Distress reactions were also found to significantly predict PSBS physical aggression, $B = .61$, $SE = .49$, $p = .03$ (c path), with increased distress reactions being linked with increased physical aggression. Additionally, the direct effect of distress reactions on PSBS physical aggression was not significant, $B = .61$, $SE = .49$, $p = .21$ (c-prime path). This indicates that the link between distress reactions and PSBS physical aggression is completely mediated by emotion regulation problems. Furthermore, the control variable, family structure, was also found to significantly predict PSBS physical aggression, $B = 4.43$, $SE = 1.05$, $p = .00$, with single parent homes being associated with increased aggression. Furthermore, based on bootstrapping, the indirect effect of distress reactions on physical aggression through

emotional control (controlling for family structure) was estimated at .45 ($SE = .21$). The confidence intervals for the accuracy of the overall model ranged from .14 to .97, indicating a significant result would be expected in the overall population. Results are summarized in Table 15 and Figure 8.

Table 15.

Summary of the Regression Analyses for the Prediction of Parent – Reported Physical Aggression (N = 136)

Variable	<i>B</i>	<i>SE B</i>	<i>t</i>	<i>R</i>	<i>R</i> ²	<i>p</i>
DR-ER				.31	.10	.00
ER	1.90	.51	3.70			
DR-ER-PSBS Phys (control: FS)				.48	.23	.00
ER	.24	.08	2.95			.00
Distress Reactions	.61	.49	1.25			.21
Family Structure	4.42	1.05	4.20			.00

Note: DR = Distress Reactions, ER = Emotion Regulation Problems, FS = Family Structure, PSBS Phys = Physical Aggression based on the PSBS.

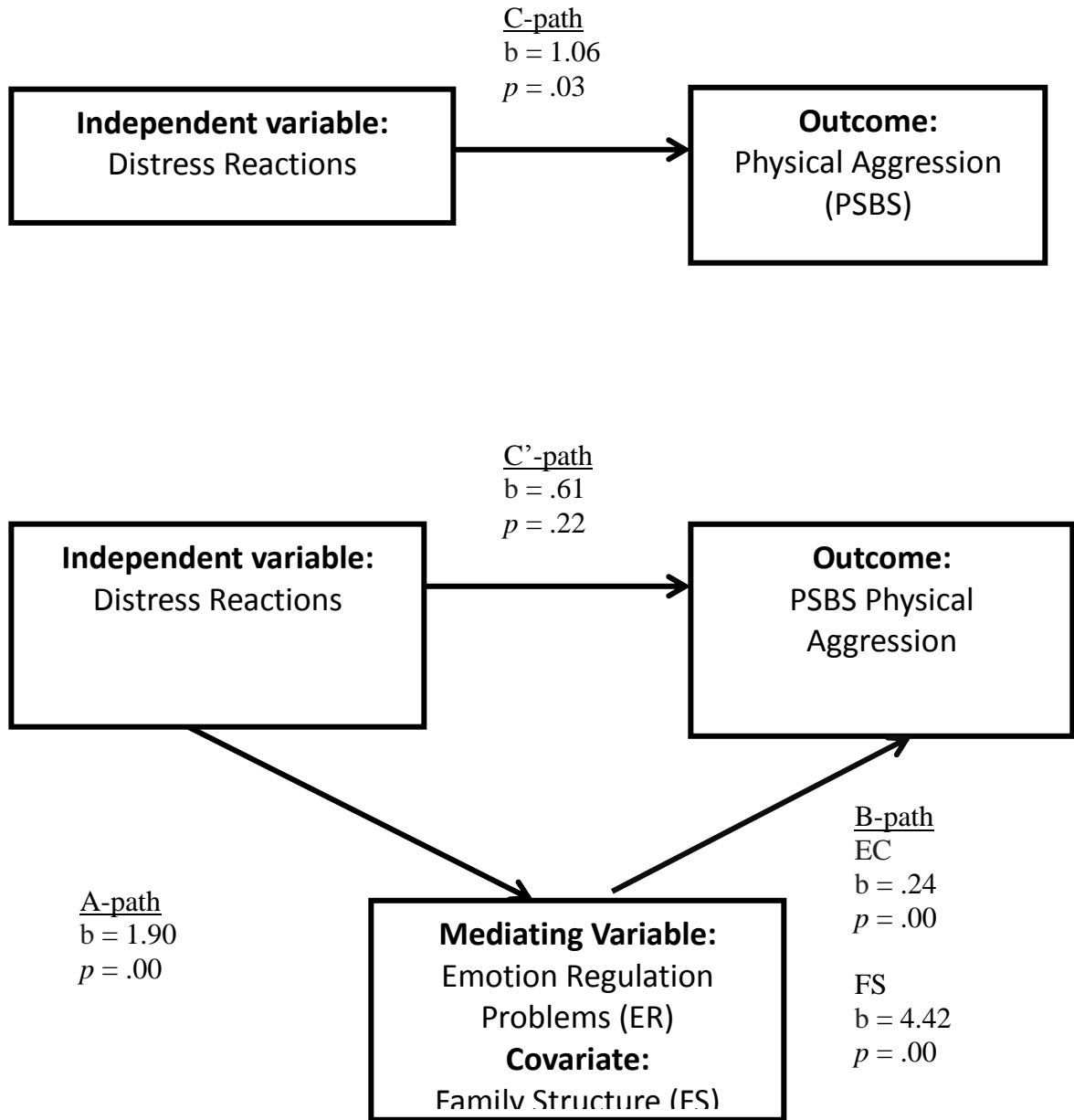


Figure 8. Children's physical aggression is predicted from maternal distress reactions through children's emotion regulation problems, controlling for family structure.

This model was retested using the other parent report measure of physical aggression, CBCL physical aggression, and the model was confirmed. A model with distress reactions as the independent variable, family structure as the covariate (of the relation between emotion regulation problems and physical aggression), and emotion regulation problems as the mediator, explained 47% of the variance in CBCL Physical Aggression. Emotion regulation problems were also found to significantly predict CBCL physical aggression, controlling for family structure, $B = .05$, $SE = .01$, $p = .00$ (b path), with increased emotion regulation problems being linked with increased physical aggression based on the CBCL. Distress reactions were also found to significantly predict CBCL physical aggression, $B = .13$, $SE = .04$, $p = .01$ (c path), with increased distress reactions being linked with increased physical aggression. Additionally, the direct effect of distress reactions on CBCL physical aggression was not significant, $B = .03$, $SE = .04$, $p = .39$ (c-prime path). This indicates that the link between distress reactions and CBCL physical aggression is also completely mediated by emotion regulation problems. Furthermore, the control variable, family structure, was also found to significantly predict CBCL physical aggression, $B = .38$, $SE = .08$, $p = .00$, with single parent homes being associated with increased aggression. Based on bootstrapping, the indirect effect of distress reactions on CBCL physical aggression through emotion regulation problems (controlling for family structure) was found to be .09 ($SE = .03$). The confidence intervals for the accuracy of the overall model ranged from .04 to .16, indicating a significant result would be expected in the overall population. Results are summarized in Table 16 and Figure 9.

Table 16

Summary of the Regression Analyses for the Prediction of Parent – Reported Physical Aggression (N = 136)

Variable	<i>B</i>	<i>SE B</i>	<i>t</i>	<i>R</i>	<i>R</i> ²	<i>p</i>
DR-ER				.31	.10	.00
Distress reactions	1.90	.51	3.70			.00
DR-ER-CBCL (control: FS)				.69	.47	.00
ER	.05	.01	7.86			.00
Distress Reactions	.03	.04	.87			.39
Family Structure	.38	.08	4.69			.00

Note: DR = Distress Reactions, ER = Emotional Regulation Problems, FS = Family Structure, CBCL = Physical Aggression based on the CBCL.

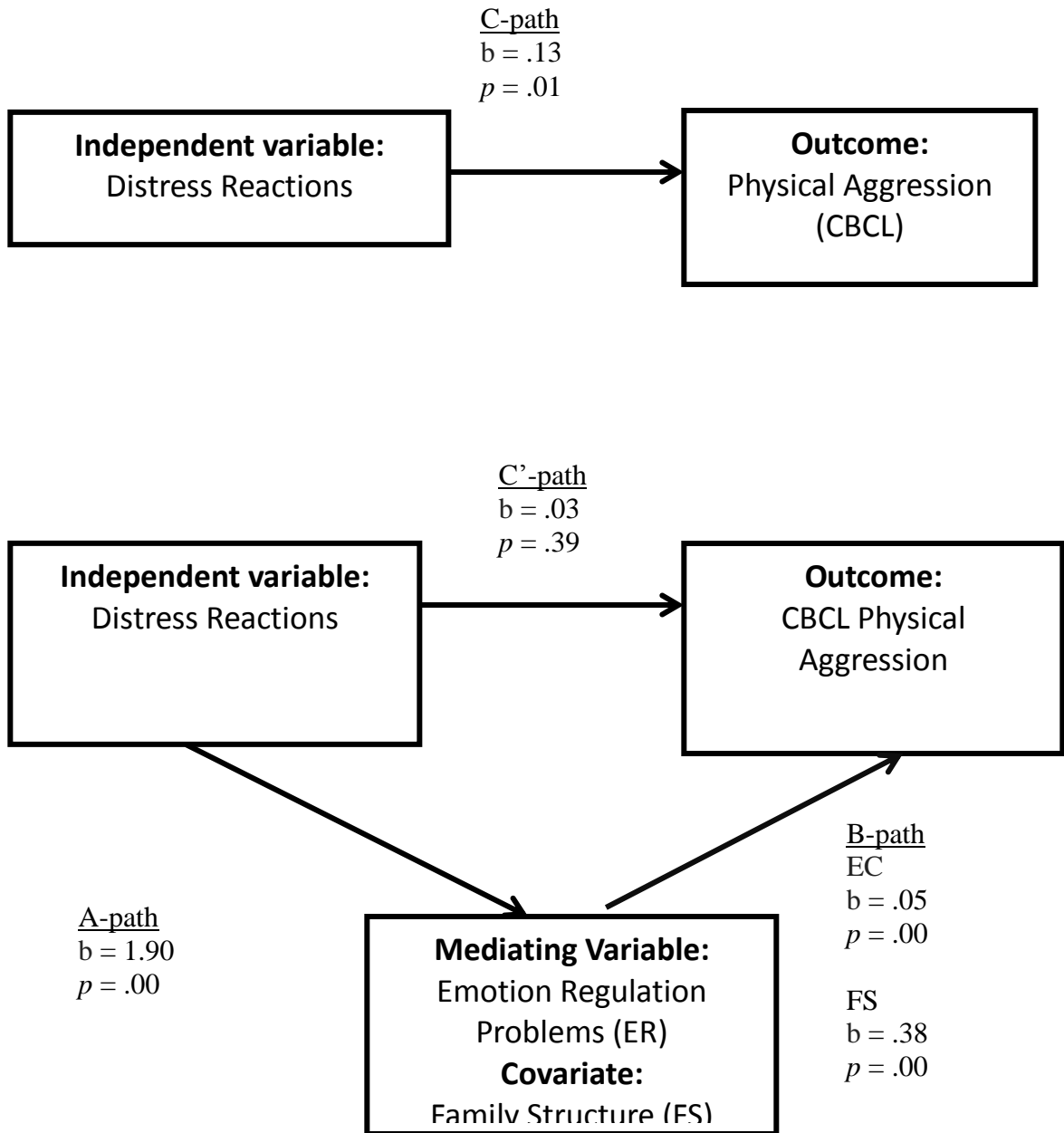


Figure 9. Children’s physical aggression (based on the CBCL) is predicted from maternal distress reactions through children’s emotion regulation problems, controlling for family structure.

Hypothesis 2d was that the mediation confirmed in Hypothesis 2c would be moderated by a child's negative emotionality. Specifically, the link between maternal emotion socialization and children's emotional competence would be stronger when children were high in the temperamental characteristic known as negative emotionality. The original hypothesis could not be confirmed because none of the hypothesized maternal emotional socialization variables were linked with the measures of physical aggression. Expanding on the follow-up to Hypothesis 2c, a model with PSBS physical aggression as the outcome, distress reactions as the independent variable, emotion regulation as the mediator, and negative emotionality as a moderator was tested using the Process Macro (Hayes, 2012). Results revealed that the interaction between negative emotionality and distress reactions was not a significant predictor of emotional control, $B = .08$, $SE = .05$, $t = 1.52$, $p = .13$. The conditional indirect effect of distress reactions on parent-reported physical aggression did vary at different levels of negative emotionality. For example, at a negative emotionality score of 43.18 for negative emotionality (which is one standard deviation below the mean), the indirect effect was estimated at $-.02$, $SE = .21$, $CI: -.48$ to $.39$. At a negative emotionality score of 50.71 (the mean), the conditional indirect effect was estimated at $.13$, $SE = .15$, $CI: -.13$ to $.47$. At a negative emotionality score of 58.24 (which is one standard deviation above the mean), the conditional indirect effect was estimated at $.28$, $SE = .17$, $CI: .02$ to $.69$. This shows that the conditional indirect effect of distress reactions on parent-reported physical aggression through emotional control is stronger at higher levels of negative emotionality, as predicted, but not significantly so. Given that the interaction between negative emotionality and distress reactions was not significant, negative emotionality was not a significant moderator.

Hypothesis 2e: Physical aggression – perceived peer acceptance. Hypothesis 2e was that physical aggression would be positively linked with a discrepancy between self-reported peer acceptance and adult-reported peer acceptance. To find the discrepancy between self-reported and parent-reported peer acceptance, several steps were followed. First, both variables (child-reported and parent-reported peer acceptance) were transformed into z-scores. To make all of the z-scores positive, 3 was added to all scores (as advised by Garson, 2008). Then, parent-reported peer acceptance was subtracted from self-reported peer acceptance, resulting in discrepancy scores. Next, a Pearson correlation analysis was conducted to evaluate whether the resulting scores were significantly correlated with any of the measures of physical aggression. Results confirmed Hypothesis 2e. Discrepancies between self-reported peer acceptance and parent-reported peer acceptance were found to be significantly linked with parent-reported PSBS physical aggression, $r = .26, p = .00$, with more physically aggressive children showing a greater degree of discrepancy in perceived versus parent-reported peer acceptance. No such link was found for CBCL physical aggression, $r = .11, p = .10$, or child-reported physical aggression, $r = .06, p = .22$, however.

Hypothesis 2f Physical Aggression – Perceived Maternal Acceptance.

Hypothesis 2f was that physical aggression would be negatively linked with perceived maternal acceptance. Because child-reported physical aggression and child-reported maternal acceptance were both linked with child age (see Tables 6 and 7 in Appendix F), the link between these variables was tested while controlling for child age. A significant negative link was found, $r = -.17, p = .03$, indicating that children who display more physical aggression when presented with ambiguous situations, tend to see themselves as

being less accepted by their mothers. Additionally, because maternal acceptance and both parent-report measures of physical aggression were linked with family structure, family structure was used as a covariate when exploring the links between maternal acceptance and parent-reported physical aggression. When controlling for family structure, perceived maternal acceptance was not significantly linked with parent-reported physical aggression based on the PSBS, $r = .08$, $p = .18$, or on the CBCL, $r = .03$, $p = .36$.

Hypothesis 3: Relational Aggression

Hypothesis 3a: Relational aggression—maternal emotion socialization. It was hypothesized that maternal emotion socialization (including lower levels of expressive encouragement, higher distress reactions, and higher minimization reactions) would be linked with higher levels of children's relational aggression. This hypothesis was not confirmed as no links were found between these three emotion socialization variables and parent-reported relational aggression or child-reported relational aggression, as shown in Table 12 on page 122.

Hypothesis 3b: Emotion regulation problems—relational aggression. It was hypothesized that children's emotion regulation would be negatively linked with relational aggression. This link was not found for child-reported relational aggression, as shown in Table 12 on page 122. Parent-reported relational aggression and emotion regulation problems were both linked with family structure (see Tables 7 and 8 in Appendix F); therefore, family structure was used as a covariate in exploring the link between parent-reported relational aggression and emotion regulation problems. Results revealed that parent-reported relational aggression and emotion regulation problems were not significantly linked when controlling for family structure, $r = .08$, $p = .18$. Therefore,

although increases in parent-reported relational aggression are associated with increases in emotion regulation problems, as shown in Table 13, the link is not above and beyond what can be explained based on family structure.

Hypothesis 3c: Maternal Emotion Socialization – emotion regulation problems - relational aggression. Hypothesis 3c was that the link between maternal emotion socialization and relational aggression would be mediated by emotion regulation problems, such that poor emotion socialization would be associated with more emotion regulation problems and this would contribute to children’s relational aggression. This hypothesis was not supported because no significant link was found between the proposed maternal emotion socialization variables and relational aggression in Hypothesis 3a.

Hypothesis 3d: Relational Aggression – Social Acceptance. Hypothesis 3d was that higher levels of relational aggression would be related to lower levels of perceived social acceptance. This hypothesis was not confirmed. As shown in Table 12 on page 122, child-reported relational aggression was not significantly linked with perceived peer acceptance or perceived maternal acceptance. Parent-reported relational aggression also was not significantly linked with perceived peer acceptance as shown in Table 12 on page 122. Given that maternal acceptance and parent-reported relational aggression were both linked with child age, the link between these variables was tested while controlling for child age. No significant link was found, $r = .00, p = .49$.

CHAPTER IV

Discussion

The overall purpose of this study was to explore the factors that contribute to young children's prosocial and aggressive behaviour. Specifically, the goal was to examine relations between maternal emotion socialization, children's social behaviour, and emotional competence. This study extends previous research in three main ways. First, it examines models for how maternal emotion socialization and emotional competence may influence three different types of social behaviour in young children: prosocial behaviour, physical aggression, and relational aggression; whereas previous research has tended to focus on social competence and/or aggression more generally. Second, this study makes use of both child- and parent-report measures of social behaviour in young children; whereas previous research with this age group has tended to rely on adult observation or adult report only. Third, this study explores how social acceptance (perceived peer acceptance and perceived maternal acceptance) is linked with all three types of social behaviour. Overall, the results demonstrate the importance of maternal emotion socialization and children's emotional competence in children's social behaviour; however, results varied according to the type of social behaviour being explored (prosocial behaviour, physical aggression, or relational aggression). This is consistent with previous findings demonstrating heterogeneous pathways for prosocial behaviour and different types of aggression (e.g., Casas et al., 2006; Garner et al., 2008; Romano, Kohen, & Findlay, 2010). An additional aim was to examine relations among social behaviour and perceived social acceptance. The results suggest that peer acceptance is

associated with both prosocial behaviour and physical aggression and maternal acceptance is associated with physical aggression.

Demographic Factors

Child Age. Older children reported significantly more prosocial responses and significantly fewer physically aggressive responses to ambiguous situations. Nevertheless, parent-reported prosocial behaviour and physical aggression were not significantly associated with age. This is interesting in light of Hay's (1994) theory of prosocial development, which suggests that children do not actually become more prosocial over the course of the preschool years, but instead they become better at selecting the appropriate times to be prosocial (partly to please adults). Older children likely described more prosocial responses and less physically aggressive responses in part because they were influenced to a greater degree by social desirability than their younger peers. Nevertheless, older children likely also behaved more prosocially and less aggressively because of a greater breadth of positive peer experience. Based on Sebanc's (2003) finding that preschool children who had supportive friendships tended to be higher in prosocial behaviour, the age differences could be partly explained by older children's greater likelihood of having been exposed to positive, meaningful friendships that might influence their responses to a greater degree than their parents' responses. Further support for the importance of experience in leading to increases in prosocial behaviour was found by Knafo and Plomin (2006) who followed 9 424 pairs of twins from ages 2 to 7 years. Results showed that changes in children's prosocial behaviour were associated with nonshared environmental factors (e.g., school experiences, friendships) and these factors became increasingly influential over time. Consistent with the finding that child-reported

physical aggression decreased over time, Tremblay (2002) reported that children's physical aggression tends to peak between 30 to 46 months and then begins to drop steadily for most children. The association between child-reported prosocial behaviour, physical aggression, and age might be greater because the child-reported behaviour involved ambiguous interactions with peers that required children to demonstrate their prosocial and physically aggressive tendencies in real time. Whereas parents' reports of children's prosocial behaviour and physical aggression likely described a more general overview of their children's behaviour over time, the child-report measure may have provided a more precise, up-to-date snapshot (especially given that the assessment asked children to think about a specific situation and indicate what they would do presently if confronted with the situation).

Interestingly, parent-reported relational aggression was found to be positively associated with children's age; although no significant relation was found between child-reported relational aggression and children's age. One explanation for the absence of a significant association between child-reported relational aggression and age is that reactive relational aggression likely requires less planning and social skills than proactive aggression. Children likely increase in overall relational aggression as they get older because they become better able to achieve social goals by using their increased emotional understanding and improved planning skills to control and manipulate. This explanation is supported by previous research showing that relational aggression is correlated with language skill (Bonica, Arnold, Fisher, Zeljo, & Yershova, 2003) and social skills (Archer & Coyne, 2005). Increases in relational aggression may also be explained by gender role socialization as preschool children gain awareness of the

expected gendered nature of aggression (Giles & Heyman, 2005). On the other hand, reactive relational aggression may be less influenced by age because the tendency to respond to perceived harm with an immediate negative comment or behavior likely remains more stable.

Emotion knowledge was also highly associated with children's age. This is consistent with Saarni's theory on the development of emotional competence (Saarni, 1999), which suggests that social and emotional development are inseparable and that children become better at understanding emotions over time because of learning from their collection of experiences interacting with others. As children develop a greater emotion lexicon, they become better at resolving conflicts between their own emotions and drives and their desire to maintain positive relationships (Saarni, 1999).

Maternal Age. Mothers' age was associated with child-reported physical aggression, with older mothers having children who provided fewer physically aggressive responses. In addition, mothers' age was significantly associated with children's emotion knowledge, with older mothers having children who had higher levels of emotion knowledge. Older mothers also used more emotion-focused reactions to children's negative emotions. These positive aspects associated with maternal age are consistent with previous literature suggesting that older mothers tend to use richer and more responsive talk with their children (Rowe, Pan, & Ayoub, 2005), are more knowledgeable about parenting (Ruchala & James, 1997), and provide their children with more opportunities for exploration (Moore & Brooks-Gunn, 2002). Whereas the disadvantages associated with teenage parenthood have been well-established (e.g., Jutte et al., 2010),

the results of the current study support the contention that the benefits associated with maternal age extend to adult mothers as well.

Family Structure. Family structure was found to be significantly associated with all aspects of parent-reported social behaviour. Single mothers reported significantly more physical and relational aggression and significantly less prosocial behaviour in their children compared to mothers in two-parent families. Children in single parent homes also tended to see themselves as less well accepted by their mothers, had more emotion regulation problems, and lower levels of emotion knowledge. Because the number of single parent families was so small, it is difficult to make conclusions about these results, but they are consistent with previous findings showing single parenthood is a risk factor for aggression (Coté et al., 2006; Tremblay et al., 2004) and for parent-child relationship problems (Cooper, McLanahan, Meadows, & Brooks-Gunn, 2009; Feldman, 2007). There are a number of stressors that are often (though not always) associated with living in a single-parent family (e.g., absence of consistent father figure, exposure to parental conflict, financial disadvantage, parental stress). These stressors may contribute to problems regulating emotions which may then be associated with less prosocial behaviour and more aggression in children. Additionally, mothers in single parent homes may have more negative perceptions of their children's behaviour because of their own increased stress and this may influence their ratings of children's social behaviour. Some previous research has shown that single parenthood on its own is not a significant predictor of children's physical aggression when controlling for associated factors, such as poverty (e.g., Tremblay et al., 2004).

Additionally, results revealed that a larger number of siblings in the home was associated with a greater number of mothers' punitive reactions and minimization reactions and fewer emotion-focused reactions. The increased demands on mothers' time and attention that are associated with a greater number of siblings may contribute to mothers resorting to less effective strategies. Punishing and minimizing children's emotional displays may take less time and mental effort in the short term than taking the time to help children express their emotions and learn from them. Indeed, focusing on children's emotions and helping them to problem-solve requires substantial effort on the mothers' behalf to control her own emotions; whereas, punishing and minimizing are more likely to be natural consequences of mothers' frustration. Also, the number of younger siblings that a child had was positively associated with mothers' distress reactions. Mothers with more than one young child may become more distressed by children's negative emotions because they may be under more stress overall and may have fewer cognitive and emotion resources for coping with parenting. Mothers' distress may also be related to worry that the older children will model negative behaviour for the younger children.

Gender. Mothers' reported using significantly more expressive encouragement reactions to boys' negative emotions compared to girls'. This is consistent with gender-based emotion socialization models that argue that boys and girls are socialized to display emotions differently, according to cultural values that emphasize agency in boys and cooperation in girls (e.g., Brody, 2000). Even young girls are encouraged to be passive and focus more on the emotions of others than their own (e.g., Chaplin, Cole, & Zahn-Waxler, 2005; Conway et al., 2005), whereas boys may be encouraged to express certain

emotions to a greater degree, particularly anger (e.g., Kennedy Root & Rubin, 2010). In fact, early research suggests that gender socialization actually starts as early as infancy, with adults handling infants differently depending on whether the adults assumed the infants were male or female (Seavey, Katz, & Zalk, 1975). According to gender-schema theory (Bem, 1981), children develop a conceptual framework of what it means to be male or female based on what they are told directly, by their observations of others' behaviours, and based on how they are treated by others. Girls who are not encouraged to show their negative emotions may develop a schema that includes a belief that serves as a basic guideline for future behaviour, such as "I am a girl and girls do not show negative emotions so I will not show negative emotions." Ostrov and Goldeski (2010) argue that this schema becomes ingrained in children's social-information processing, affecting how they decide to handle social interactions on a regular basis. While being able to hide one's negative emotions has its advantages (Saarni, 1999), the tendency for girls to suppress their negative emotions has been associated with a number of negative outcomes in children and adolescents, such as eating disorders (Zaitsoff, Geller, & Srikameswaran, 2001), depression (Rudolph & Conley, 2004), and anxiety (Zahn-Waxler, 1993).

Maternal Education. Maternal education was negatively associated with parent-reported physical aggression, parent-reported total aggression, and child-reported total aggression. This is consistent with previous research on aggression in preschool-age children, identifying low levels of maternal education as a risk factor for physical aggression during the preschool period (e.g., Benzies, Keown, & Magill-Evans, 2009; Coté et al., 2007; Tremblay et al., 2004) as well as putting children at risk for chronic physical aggression lasting into the high school years (Nagin & Tremblay, 2001).

Children's time spent outside of the home being cared for by other caregivers can serve as a buffer (Coté et al., 2007). Previous researchers have suggested that lack of maternal education may negatively affect children because of being associated with less stimulation of children and poorer parenting skills (e.g., Coté et al., 2007). The present study supports this association given that maternal education was associated with more problem-focused reactions and with fewer punitive reactions. More educated mothers may be aware that punitive reactions to children's negative emotions are not productive because these reactions fail to support children in learning to cope (Eisenberg et al., 1998; Jones, Eisenberg, & Fabes, 2002). Education may be associated with increased use of problem-focused reactions because as mothers learn new skills for themselves, they may develop a greater focus on helping children develop the skills to solve their own problems (Baker et al., 2011; Eisenberg et al., 1996).

Income. Family income was found to be negatively associated with parent-reported physical aggression and total aggression, which is consistent with previous research (e.g., Campbell et al., 2006, 2010; Tremblay et al., 2004). The reasons for this are complex and include findings that poverty is associated with risk factors at all of Bronfenbrenner's (1979) major systems levels, such as chronic stress on parents and less acceptance by peers in school (microsystems), less involvement of parents in school (mesosystem), exposure to violence in the community (exosystem), and lack of access to quality housing and education (macrosystem) (Eamon, 2001). Income was positively associated with parent-reported peer acceptance, with children from high-earning families being seen as more accepted by their peers, which is consistent with previous findings among school-aged children (e.g., Bolger, Patterson, Thompson, & Kupersmidt, 1995). Additionally,

income was positively associated with child-reported maternal acceptance, with children who came from high-earning families perceiving themselves as more accepted by their mothers. This is an important consideration given that previous research suggests that other risk factors, such as community violence, have a stronger impact on negative outcomes (including externalizing problems) when children perceive themselves as being less accepted by their mothers (e.g., Bailey et al., 2006). One potential reason for the association between income and maternal acceptance is that mothers from higher earning families may experience less income-related stress, which may contribute to spending more time with their children and being more focused and less anxious while spending time with them (e.g., Gershoff, Aber, Raver, & Lennon, 2007; Mistry, Lowe, Benner, & Chien, 2008). An additional explanation is that marketing to young children has resulted in an increase in young children's consumerism (Henry & Borzekowski, 2011; Hill, 2011), which may lead children to see themselves as rejected if their mothers cannot afford to buy the items that they perceive themselves as needing.

Hypothesis 1: Prosocial Behaviour

Maternal Emotion Socialization and Prosocial Behaviour

As expected, maternal emotion socialization was associated with prosocial behaviour. Results suggest that mothers who respond to their children's negative emotions with expressive encouragement tend to have children who are more prosocial toward their peers (based on parent-report). Examples of encouraging expression of negative emotions include telling children that it is okay to cry, encouraging the child to express anger, and allowing a child to talk about feelings of embarrassment. This is consistent with previous

research demonstrating associations between parents' tolerant, non-punitive responses to children's negative emotions and prosocial behaviour (Roberts, 1999) and longitudinal associations between authoritative parenting and prosocial behaviour (Hastings et al., 2005). Authoritative parents provide a balance between limit-setting and responsiveness by directing children's activities while explaining the reasoning behind expectations and being open to verbal exchange. The association between encouragement of expression of negative emotions and prosocial behaviour in young children is particularly important because it has received limited attention in previous literature. This finding is also consistent with Gottman et al.'s (1996) theory of "meta emotion philosophy," which promotes "emotion coaching" in parents. Parents who engage in emotion coaching are aware of and validate their children's emotions. These parents see emotional experiences as an opportunity for intimacy or learning and this philosophy is associated with more successful peer interactions. The association between expressive encouragement and prosocial behaviour also supports Halberstadt et al.'s (2001) model of affective social competence, which contends that being able to express one's own emotions is closely tied to the ability to understand and regulate one's emotions in order to maintain relationships. Furthermore, this result demonstrates the importance of programs such as "Tuning into Kids," which aim to change children's social behaviour by helping parents to use more effective emotion coaching strategies (Wilson, Havighurt, & Harley, 2012). Additionally, given the finding that boys were encouraged to express their negative emotions to a greater degree than girls, it would be helpful to educate parents about the association between encouraging children to express their negative emotions and children's displays of prosocial behaviour. Given that parents tend to be motivated to help their girls behave

prosocially (Chaplin et al., 2005), this information could be helpful in counteracting the negative effects of the cultural tendency to encourage girls to hide their unpleasant emotions.

Surprisingly, maternal emotion socialization variables were not associated with child-reported prosocial behaviour. One explanation is that the child-report measure did not offer a broad enough measure of prosocial behaviour given that it measures prosocial behaviour based on children's responses to ambiguous situations in which some type of harm has occurred. This captures a certain type of prosocial behaviour (prosocial behaviour in the context of a negative peer interaction); therefore, it could be that expressive encouragement is associated with prosocial behaviour generally, but not with this type of prosocial behaviour.

Contrary to what was expected, no significant relation was found between parents' expressive encouragement and children's emotion regulation problems or between parent's emotion-focused reactions and children's emotion regulation problems. This suggests that parents' expressive encouragement may influence children's prosocial behaviour through other means aside from influencing children's emotion regulation. One explanation is that experiencing expressive encouragement helps children to better develop theory of mind, or the ability to understand others' points of view. Support for this theory was provided by Eggum et al. (2011) who found a longitudinal association between theory of mind and prosocial behaviour. An additional explanation is that emotion has been found to enhance both memory and learning (Izard, 2002). Therefore, children who are encouraged to experience their negative emotions will be more likely to learn from their experiences. In addition, children who are able to fully experience

sadness and guilt over another person's situation may be more likely to respond prosocially (Izard, 2002). From a social learning perspective, children view their mothers as models and when they see their mothers respond by validating their negative emotions; this makes them more likely to validate the negative emotions of others, which likely leads to increased prosocial behaviour.

Emotional Competence and Prosocial Behaviour

As expected, emotion regulation problems were associated with less prosocial behaviour. Children with fewer emotion regulation problems displaying more prosocial behaviour, based on both mothers' and children's reports. This is consistent with previous research that shows that children who experience too much self-focused distress are less likely to respond prosocially to others (Eisenberg et al., 1996; Eisenberg, 2000; Preston & Hofelich, 2012). Furthermore, previous research has demonstrated that good emotion regulation skills are associated with social competence (e.g., Denham et al., 2003) and that more socially skilled children tend to also be more prosocial (Rose-Krasnor & Denham, 2009). Children who are able to develop the ability to gain control over their own emotions are more likely to behave in ways that are kind and supportive to their peers. Therefore, helping children to gain control over their own emotions helps not just that child, but also the child's peers.

Given that emotion regulation problems were assessed based on parent report, it is important to note that fewer emotion regulation problems were associated with both child- and parent-reported prosocial behaviour. This suggests that the connection is fairly robust and occurs in several different contexts. It also demonstrates that the association cannot simply be explained based on shared reporter.

It is interesting that the combination of being encouraged to express negative emotions and being able to control negative emotions are both associated with prosocial behaviour. This suggests that children require a healthy balance between emotion regulation and emotional expression to be able to focus on maintaining positive relationships with others while still feeling validated in their own emotional experiences.

Prosocial Behaviour and Perceived Social Acceptance

As predicted, children who perceived themselves as being more accepted by their peers were more likely to respond prosocially to ambiguous social situations. There are several explanations for this finding. Based on social-information processing theory (Crick & Dodge, 1996), children who perceive themselves as being accepted may be more likely to choose a prosocial response because they may have more positive attributions about the intentions of others and they may expect a more positive response from their peers (Runions & Keating, 2007). Additionally, prosocial children are often better liked by their peers (Cassidy et al., 2003) and therefore prosocial children may accurately be describing themselves as well-accepted. It is quite likely that prosocial behaviour and perceived social acceptance reinforce each other in a positive cycle with children perceiving themselves as being accepted and choosing to be prosocial as a result, and then becoming better liked because of their prosocial behaviour.

In contrast, perceived peer acceptance was not significantly associated with parent-reported prosocial behaviour. It could be that perceived peer acceptance is particularly associated with prosocial behaviour in the context of negative experiences (as was the context for the child-report measure). From a social-information processing perspective,

this is logical given that children's beliefs about their peers would be particularly relevant in the context of social problems.

Contrary to what was expected, maternal acceptance was not significantly linked with prosocial behaviour based on either parent report or child report. Optimistically, this suggests that children may behave prosocially toward their peers even if they do not perceive themselves as being particularly well-accepted by their mothers. Although previous research has shown that maternal rejection is associated with interpersonal problems (e.g., Khaleque & Rohner, 2002) and secure attachments are important for the development of successful friendships (e.g., Clark & Ladd, 2000), prosocial behaviour may simply require a certain basic amount of maternal acceptance. Prosocial behaviour may not be affected by small changes in maternal acceptance. Instead, results suggest that maternal behaviours are more important, especially the degree of encouragement that mothers show in response to children's expression of negative emotions.

Hypothesis 2: Physical Aggression

Maternal Emotion Socialization and Physical Aggression

This study found that mothers' distress reactions to children's negative emotions were associated with increased physical aggression in children, based on parent-report.

Additionally, the results revealed that children of mothers who react to their children's negative emotions by focusing on helping their children problem-solve, show lower levels of aggression. Taken together, these findings suggest that mothers who are better able to maintain control over their own emotions and support their children in resolving problems will have children who are less physically aggressive. In contrast, mothers who

are so overwhelmed by their children's negative emotions that they themselves experience distress tend to have children who are more physically aggressive. This is consistent with previous findings demonstrating a link between parenting stress and children's aggressive behaviour (Anthony et al., 2005; Baker, Blacher, Crnick, & Edelbrock, 2002; Podolowski & Nigg, 2001).

Contrary to what was expected, maternal emotion socialization was not associated with child-reported physical aggression. This can likely be explained in part by the fact that there was a greater degree of variability in parents' ratings of children's physical aggression than in children's physically aggressive responses. Stories designed to elicit more physically aggressive responses would be useful for future studies to increase the variability in the child-report measure of aggression. Additionally, the broader overview of physical aggression captured by the parent-report measure may be associated with maternal emotion socialization factors to a greater degree than the specific reactive aggressive behaviours captured by the child-report measure. Potential confounding variables should also be considered. It is possible that both maternal emotion socialization reports and parent-reported physical aggression were affected by parents' social desirability, and therefore the association may be partly explained by the variance in parents' desires to be perceived in a positive light. It is unlikely that this is the only explanation, however, given that only certain types of maternal emotion socialization variables were associated with physical aggression (distress reactions and problem-focused reactions), whereas other aspects of maternal emotion socialization would be expected to be influenced by social desirability as well, especially punitive reactions and minimization reactions.

Emotional Competence and Physical Aggression

Support for an association between emotion knowledge and physical aggression, both parent-reported and child-reported, was found based on bivariate correlations. This is consistent with previous research (e.g., Trentacosta & Fine, 2010) demonstrating that children who are better able to understand others' emotions are less likely to be physically aggressive. It is important to note that emotion knowledge was assessed based on children's performance on a task and it was associated with measures of physical aggression from the child's as well as the parents' perspective, indicating that the association is relatively robust.

Emotion regulation problems were found to significantly predict physical aggression above and beyond the influence of family structure (with single parent homes being more likely to have aggressive children). This suggests that physical aggression often results when children become so overwhelmed by their own emotions that they choose to lash out at others. This adds to the large body of literature supporting an association between emotion regulation problems and physical aggression (Batum & Yagmurlu, 2007; Chang et al., 2003; Eisenberg et al., 1997; Hill et al., 2006).

Emotion Regulation Problems Mediates the Association Between Distress Reactions and Physical Aggression

Emotion regulation problems were found to completely mediate the connection between mothers' distress reactions and children's physical aggression, which suggests that the influence of maternal distress reactions on children's physical aggression occurs by affecting children's emotion regulation problems. Responding to children's negative

emotions with distress contributes to children's development of emotion regulation problems, which in turn leads to increased physical aggression. This finding is consistent with Scaramella and Leve's (2004) Early Childhood Coercion Model in which harsh parenting and child emotion regulation problems reinforce each other over time. The present study expands on previous research by demonstrating the particular importance of distress reactions in the prediction of physical aggression. From a social learning perspective, if a child presents a negative emotion to a parent and the parent reacts with distress (i.e., appears dysregulated and overwhelmed in front of the child), the child begins to view this as the expected response to negative emotions. This will lead the child to feel even more overwhelmed the next time a negative emotion emerges and the child will be less likely to be able and willing to control the emotional experience, which could lead to lashing out physically. Distress reactions are also particularly upsetting for children because they suggest a lack of control on the parent's behalf. Given that preschool children are almost completely dependent on their parents, and because they see their parents as the most powerful people in their worlds, the possibility of their parents losing control could be terrifying. In addition, for children to know that their emotional expressions could have such a powerful influence on their parents adds to the upsetting nature of the response. In contrast, parents who are able to respond to their children's negative emotions without becoming distressed are modelling for their children that negative emotions are acceptable and can be controlled. This supports children in gaining control over their own responses, which in turn decreases the likelihood that they will resort to physical aggression. Additionally, the finding that negative emotionality did not moderate the relation between distress reactions and

emotion regulation problems suggests that this is a fairly robust connection that occurs at varying levels of children's negative emotionality, not just among children with particularly difficult temperaments.

Physical Aggression and Perceived Social Acceptance

As expected, children's physical aggression was associated with a discrepancy between perceived peer acceptance and peer acceptance based on parent-report using the PSBS. Specifically, physical aggression was associated with a tendency to overestimate how accepted one actually is. This is consistent with previous findings among older children (Baumeister et al. 1996; Ladd & Troop-Gordon, 2003), and adds to the literature by suggesting that this extends to young children (ages 3 to 6). Interestingly, previous research has suggested that aggressive preschoolers are less likely to expect to be rejected for engaging in aggressive behaviour (Yuzawa & Yuzawa, 2001). This suggests that aggressive children's inaccurately positive view of how accepted they are may serve to further perpetuate their aggressive behaviour. Unexpectedly, no significant link was found between discrepancy in child- and parent-reported peer acceptance and parent-reported physical aggression based on the CBCL. This may be because the Aggressive subscale of the CBCL is a broader measure of overt aggression and includes items that are statistically associated with physical aggression but are not physical aggression, per se, such as being loud. It could be that specific physically aggressive behaviors are associated with this discrepancy, rather than physical or overt aggression as a whole.

Additionally, as predicted, physical aggression was negatively linked with perceived maternal acceptance when considering child-reported physical aggression. In testing this association, the influence of age needed to be controlled as older children tended to view

themselves as less accepted by their mothers and also chose fewer physically aggressive responses to ambiguous situations. Results revealed that children who viewed themselves as being less accepted by their mothers were more likely to choose physically aggressive responses to ambiguous situations and this association was maintained above and beyond the influence of age. This is consistent with previous research across cultures (e.g., Khaleque & Rhoner, 2004). This association between maternal acceptance and physical aggression is likely reciprocal. Children who are physically aggressive may perceive themselves as less accepted by their mothers because their mothers likely react to their behaviour with disapproval and punishment. In addition, children's perceptions of not being accepted by their mothers may increase their likelihood of choosing physically aggressive responses because their feelings of rejection may contribute to anger and jealousy toward other children. Less aggressive children may also avoid choosing aggressive responses because they do not want to disappoint their parents, whereas children who lack a feeling of acceptance by their parents have less to lose and will thus be less influenced by a desire to maintain a positive parental relationship.

On the other hand, when controlling for the influence of family structure, no significant association was found between parent-reported physical aggression and perceived maternal acceptance. Taken together, these results suggest that maternal acceptance may be particularly important in relation to reactive aggression (given that the child-report focused on this type of aggression). One explanation is that children's attachment to their mothers may influence their tendency to perceive hostile intent in peers' behaviours, a tendency that has been found to be particularly important in the prediction of reactive aggression (Crick & Dodge, 1996). Securely attached children are

less likely to perceive hostile intent in the behaviour of others and are thus less likely to react aggressively (Cassidy, Kirsch, Scolton, & Park, 1996; Dodge, 2006).

Hypothesis 3: Relational Aggression

Maternal Emotion Socialization and Relational Aggression

Contrary to what was expected, no significant links were found between maternal emotion socialization and relational aggression. Previous research has suggested that children's relational aggression has been positively associated with uninvolved and harsh/authoritarian parenting (Casas et al., 2006; Kawabata, Alink, Wan-Ling, van Ijzendoorn, & Crick, 2011) and with psychological control (Nelson & Crick, 2002; Kawabata et al., 2011). This study specifically explored the connection between mothers' responses to children's negative emotions and young children's relational aggression. Relational aggression may not be directly linked with mothers' responses to children's negative emotions, but future research is needed to explore connections between relational aggression and maternal emotion socialization more broadly. It is possible that relational aggression is socialized primarily by peers and not by parents. Previous research with school-age children supports this theory as relational aggression has been associated with specific characteristics of friendships including high intimacy, frequent relational aggression in the friendship context, and high exclusivity and jealousy (Grotperter & Crick, 1996). Research also suggests that school-age girls who have relationally aggressive friends tend to become more relationally aggressive over time (Werner & Crick, 2004). The failure to find a significant link between maternal emotion socialization and relational aggression may also be explained by weaknesses in the measures used to assess relational aggression. For example, the relational aggression

scale of the PSBS was found to have questionable internal consistency in the current study. In addition, relatively few relationally aggressive responses were provided to ambiguous situations overall, which decreases the variability in responses. More psychometrically sound measures may be more likely to find existent relations between maternal emotion socialization and relational aggression.

Emotion Regulation Problems and Relational Aggression

Contrary to what was expected, emotion regulation problems were not significantly correlated with child-reported relational aggression. In addition, although emotion regulation problems were associated with parent-reported relational aggression, the correlation was no longer significant when controlling for family structure. The association between emotion regulation problems and parent-reported relational aggression can be explained based on their shared correlation with family structure as both are associated with single-parent families. Although emotion regulation problems were expected to be linked with relational aggression because choosing to harm others is generally a reaction to poor coping skills, relational aggression may actually require some degree of emotional control. Even in young children, relational aggression generally requires a child to inhibit the immediate impulse to physically strike a perpetrator and instead requires some basic thought and planning (e.g., “I will tell him he cannot come to my birthday party. That will upset him and teach him not to do that again.”) This notion is consistent with the finding that parent-reported relational aggression increased with children’s age.

Relational Aggression and Social Acceptance

Also contrary to what was expected, neither measure of relational aggression was associated with children's perceived peer acceptance. Previous research on peer acceptance has been mixed with some studies finding a negative association between peer acceptance and relational aggression (Crick et al., 2006; McNeilly-Choque et al., 1996) and others finding positive links (Burr, Ostrov, Jansen, Cullerton-Sen, & Crick, 2005; Crick et al., 1997; Hawley, 2003; Ostrov & Keating, 2004). One of the few studies to examine relations between perceived peer acceptance and relational aggression in young children failed to find a significant link (Lowe, 2006). The connection between relational aggression and perceived peer acceptance likely also varies based on the type of relational aggression used and the children involved. For example, peer acceptance may serve as a protective factor against aggression in general (Berden et al., 2008), but knowing that one is popular with some children may make children more likely to use their social resources to harm others, (e.g., by telling others not to play with a particular peer).

Study Limitations

This study has a number of limitations that should be considered. With respect to external validity, the homogeneity of the sample limits the degree to which results can be generalized. Although some single mothers participated, the majority of participants were in two-parent families. In addition, most of the sample was Caucasian. There is also a possibility of selection bias because participants were mostly recruited from parenting websites and magazines and parents who consume these media and are willing to take the time to come to the university with their children on two separate occasions may be higher functioning than the general population. Also, because participants were not

clinic-referred and did not display clinically significant levels of disruptive behaviour, the degree to which results can be extended to more severely aggressive behaviour may be questionable.

With respect to internal validity, there are several issues that should be considered. One important consideration is that of common method variance, which could affect Type 1 error. Because maternal emotion socialization, emotion regulation problems, and parent-reported aggression were all assessed using parent-report questionnaires, some of the associations between these variables might be explained by the fact that they were all assessed using a similar format. Nevertheless, there were associations between child-report and parent-report measures. For example, parent-reported emotion regulation problems were associated with child-reported prosocial behaviour and child-reported emotion knowledge was associated with parent-reported physical aggression. To improve accuracy, future studies should also include direct observation of some of these variables. Furthermore, the use of teacher report for aggression and prosocial behaviour could be a useful addition given that children's behaviour often varies across home and school contexts.

The lack of consistent correlations between parent and child-report measures of the same constructs (physical aggression, relational aggression, and prosocial behaviour) call into question the construct validity of these measures. Nevertheless, the use of both reports is also a strength of the present study given that the multi-informant data allow for a more comprehensive picture of each child's aggression. Neither measure perfectly captures the extent of each child's aggression or prosocial behaviour, but together, they provide a more informative view.

With respect to the content validity of the measures of children's emotional competence, the present study is somewhat lacking. Although the current research assesses three aspects of emotional competence (Denham et al. (2003), use of additional measures of emotional competence would have strengthened the study further. For example, the emotion knowledge task required children to label various emotions in different scenarios, but performance was highly associated with age. This task assessed children's emotion knowledge of others' emotions, but not of their own. It would be helpful to include a broader measure of emotional understanding including a child's ability to understand his or her own emotions as well as those of others. For example, Casey (1993) explored children's awareness of their own facial expressions. A parent-report measure of children's emotional understanding might also be added. In addition, the convergent validity of the emotional competence measure is questionable because emotion knowledge and emotion regulation problems were not significantly related.

The results are based on mother-reported questionnaires only, and therefore fail to capture the entire experience of parental socialization. Father reports were not measured, although attempts were made to recruit fathers for the study. Results of this study may not be generalized to fathers as research on fathers has shown that they have different styles of emotion socialization and different types of interactions with their children (e.g., Baker, Fenning, & Crnic, 2010).

Another internal validity concern is that the study design is correlational, and as a result, it is difficult to make inferences regarding causality (e.g., that distress reactions *cause* physical aggression in children). Longitudinal studies have the advantage of

identifying earlier parent factors that are associated with later child behaviour characteristics. Future studies would benefit from such approaches.

Type II error is also a consideration. As discussed previously, some meta-analyses have found medium effect sizes between parenting behaviours and certain social behaviours; however, effect sizes were not available for many of the relations examined in the present study (especially relational aggression). Therefore, it quite possible that small, but significant effects exist in the general population, but were not discovered in this study due to power limitations related to sample size. Future studies using larger samples may uncover significant relations that were missed here, such as links between parenting and relational aggression. Studies using larger samples might also benefit from the use of structural equation modeling (e.g., Garver & Mentzer, 1999 recommend 200 people or more).

Applied Implications

This research has a number of important applied implications. First, the present study suggests that increasing parents' use of expressive encouragement responses to children's negative emotions will promote an increase in young children's prosocial behaviour. This can inform both prevention and intervention efforts. For example, television commercials and radio spots can be used to promote the basic principle that parents would benefit from accepting and validating children's negative emotions and using them as a teaching tool. Likewise, parenting interventions aimed at increasing children's positive peer interactions would benefit from incorporating a segment on the importance of encouraging children to accept and appropriately express all of their emotions, even the negative ones. For example, the "Tuning Into Kids," program (Wilson et al., 2012) teaches parents to avoid

dismissing children's negative emotions and instead to use them as an opportunity for emotion coaching. Although its influence on prosocial behaviour has not yet been explored directly, the program has been found to positively influence maternal emotion socialization and result in positive outcomes for children, such as improved social competence and decreased aggression. Wilson et al. (2012) acknowledge the effectiveness of evidence-based programs like Parent Management Training (Pearl, 2009), The Incredible Years (Webster-Stratton, Reid, & Stoolmiller, 2008), and Triple P (Sanders, Markie-Dadds, Tully, & Bor, 2000) on children's behaviour, but argue that a greater emphasis on emotion socialization in parenting programs improves child outcomes further and increases the likelihood that the programs will be used by community clinicians.

Furthermore, the finding that emotion regulation problems were significantly linked with lower levels of prosocial behaviour and higher levels of physical aggression adds further evidence to the existing literature emphasizing the need for prevention and intervention programs that focus on children's emotional competence, and emotion regulation skills specifically. One such program is the Attachment, Self-Regulation, and Competency model of treatment (Kinniburgh & Blaustein, 2005), designed for children who have been traumatized and are displaying problems with emotion regulation as a result. By directly targeting emotion regulation difficulties, this program has been found to reduce disruptive behaviour (Kinniburgh & Blaustein, 2005). An additional means of improving children's emotion regulation skills may be through pretend play as children who engage in pretend play frequently have been found to have higher levels of emotion regulation and children who were able to continue their pretend play even when a

negative event was introduced were also more likely to show better emotion regulation skills.

The finding that parents' distress reactions to children's negative emotions results in increased aggression by influencing children's emotion regulation demonstrates the importance of helping parents to respond more adaptively to children's negative emotions. An important step in helping parents to reduce their distress reactions to children's negative emotions is to help them discover why they are reacting with such distress. In addition to traditional clinical interviews, a helpful tool to assess this is the "Working Model of the Child Interview" (Benoit, Zeanah, Parker, Nicholson, & Coolbear, 1997). This interview asks specific questions to help parents understand how they are thinking about their child and how their experiences with pregnancy, delivery, birth, and infancy of the child may affect the way they view their children. One important question is: "Who does the child remind you of?" Some women may discover that they are reacting particularly negatively toward a child because he reminds them of someone else, such as an estranged partner. In a case study of a 5-year-old presenting with aggressive behaviour, Menna and Landy (2001) found that identifying the mothers' emotions, thoughts, and attributions toward her child and helping her to change them to be more positive over time, resulted in improvements for both the child and the parent. Using the Working Model of the Child Interview, Menna and Landy (2001) discovered that the mother's relationship with her child was dominated by anger. The mother reported losing control because of her own anger toward her son and sometimes hitting him as a result. This in turn tended to escalate her son's negative behaviour. Through treatment, this mother gained a greater understanding of her child's emotions, was better

able to take his perspective, and learned alternative parenting practices that she could implement consistently. As a result, her thoughts and feelings toward her child changed and his behaviour improved significantly.

Direct observational tools can also be helpful in treatment when exploring mothers' distress reactions to their children's negative emotions (e.g., Crowell & Feldman, 1988). By helping mothers to identify when they become distressed by watching themselves on video, it is possible to detect patterns, which can be targeted in treatment. One such approach called "interaction guidance," has been found to be successful even for multi-risk families (McDonough, 1993; 1995). In a meta-analysis of 29 studies, Fukkink (2008) found that receiving feedback about their parenting behaviour while having an opportunity to watch themselves on video, resulted in consistent improvements in parenting and child behaviour problems as well.

The influence of parents' distress reactions on children's behaviour also illustrates the importance of helping parents to improve their own functioning in order to improve child outcomes. This is particularly important for mothers at higher risk for experiencing distress because of their own psychopathology. For example, family-based interventions have been found to improve children's externalizing problems by decreasing symptoms of depression in mothers (Nylen, Moren, Franklin, & O'Hara, 2006; Shaw, Connell, Dishion, Wilson, & Gardner, 2009). Likewise, treatment for mothers with substance abuse problems has been found to reduce parenting stress and improve children's emotional and behavioural functioning (Killeen & Brady, 2000). Mothers may also react with distress to children's negative emotions because they are overwhelmed by other stressors in their lives, such as intimate partner violence (Owen, Thompson, & Kaslow,

2006) and poverty (Evans & English, 2002). The present study provides further support for the ‘oxygen mask analogy,’ supporting the notion that just as one must adjust one’s own oxygen mask before assisting someone else, so mothers must gain control over their own distress before they are able to adequately help their children.

The finding that maternal acceptance is negatively linked with children’s physical aggression also demonstrates the importance of programs that improve children’s social behaviour by targeting the parent-child relationship. For example, the “Circle of Security” attachment-based program (Marvin, Cooper, Hoffman, & Powell, 2002) uses videotapes of parent-child interactions to help parents improve their ability to sensitively respond to their child’s needs, reflect on their own feelings toward their children, and reflect on how their earlier experiences may influence how they interact with their children. The program has been found to be effective in helping children go from feeling ambivalent about their attachment to their mothers to becoming securely attached and accepted (Hoffman, Marvin, Cooper, & Powell, 2006). Likewise, child-parent psychotherapy (Lieberman & VanHorn, 2012) aims to improve child functioning by intervening in the relationship between that parent and child so that their attachment is more secure.

Directions for Future Research

The results and limitations of this study can inspire numerous future research projects. First, it would be helpful to explore how the association between parents’ expressive encouragement and children’s prosocial behaviour occurs. One area to explore would be whether children’s empathy or theory of mind might mediate this connection.

Second, with respect to the child-report measure of aggression, it is suggested that future researchers use stories in which some type of aggression has clearly occurred. In the present study, the stories were ambiguous and it was not clear whether the negative outcome in each story was intentional or not. It is expected that including more overtly aggressive stories may elicit a greater degree of reactive aggressive responses.

Third, children's aggression or prosocial behaviour toward their siblings should be examined. While completing the Preschool Social Behaviour Scale, several mothers asked if they should answer in relation to their children's interactions with siblings or peers in general. Some indicated that their children got along quite well with classmates, but were more aggressive toward siblings. It would be helpful to explore sibling-specific aggressive behaviours in order to investigate what contributes to this problem and explore why some children can regulate their emotions when they are with peers outside of the family, but react more aggressively at home.

Fifth, future studies should include diverse samples including children displaying clinically significant problems with aggression, children from a greater number of single-parent homes, families with a wider array of income levels, and more racially diverse samples. This will allow for greater exploration of how demographic variables might interact with the variables of interest (e.g., emotional competence, maternal emotion socialization, children's social behaviour, and perceived social acceptance).

Finally, considerably more research is needed to explore the factors that contribute to young children's relational aggression. Future research should explore how relational aggression may be socialized through peers. In addition, direct observation of parent-

child interactions may be helpful in identifying specific types of parenting associated with relational aggression in young children.

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APPENDIX A



CONSENT TO PARTICIPATE IN RESEARCH

Correlates and Predictors of Young Children's Social Behaviour

You are asked to participate in a research study conducted by Dr. Rosanne Menna, Robert Clark, Sara O'Neil, Holly Ambrose, and Adam Kayfitz from the Psychology Department at the University of Windsor. This study is part of a Ph. D. dissertation by Robert Clark, Sara O'Neil, Adam Kayfitz, and Holly Ambrose. If you have any questions or concerns about the research, please feel to contact Dr. Rosanne Menna at 519-253-3000 extension 2230.

PURPOSE OF THE STUDY

The purpose of this study is to learn about how children's behaviour in situations with other children is related to their thinking style, their language skills, their knowledge about emotions, their relationships with their parents, and their parents marital interactions. Furthermore, this study is intended to further understanding in regards to the ways parents teach their children when spending time with them in one-to-one interactions.

PROCEDURES

If you volunteer to participate in this study, we would ask you to do the following things:

- Give permission for your child's teacher to fill out questionnaires about your child. These questionnaires will ask about your child's behaviour at school.
- Visit the university with your child. During this time, you and your child will be asked to engage in a series of interactive tasks while being videotaped. The tasks are intended to approximate the types of interactions you have with your child at home. Also, we would like to obtain measures of your child's language and cognitive skills. This assessment is expected to take about 60 minutes. While we are assessing your child's cognitive functioning and language skills, we would like you to fill out a few questionnaires about your child's behaviour and about your own experience as a parent. In total, this visit is expected to require 1½ to 2 hours of your time.
- Give permission for your child to work one-on-one with a researcher for approximately 20 minutes to 30 minutes. During this time, your child will listen to several brief stories accompanied by picture and will be asked questions about the stories. In addition, your child will be read some statements about activities that some children are good at and will be asked to decide whether or not he or she is good at those activities.

POTENTIAL RISKS AND DISCOMFORTS

When you visit the university, you will be asked to engage in two interactive tasks with your child, which he/she may find mildly frustrating. If at any time, you believe that your child is too frustrated, we will end the task immediately.

When filling out questionnaires about your child's behaviour, you may find that you are reminded of some negative behaviours your child may exhibit. This may cause you to feel somewhat uncomfortable. You may also experience some negative feelings when filling out a questionnaire on your marital interactions. If this is the case, please feel free to discontinue the questionnaire and return to it later, or not at all. Also, please

feel free to talk to us about your discomfort. We have included the telephone numbers of local resources should you feel the need to discuss with someone your concerns in regards to your child's behaviour:

Parent Help Line	519-257-5437
Children First	519-250-1850
Windsor Regional Children's Centre	519-257-5215

POTENTIAL BENEFITS TO PARTICIPANTS AND/OR TO SOCIETY

By participating in this study, you may become more aware of your child's behaviour, as well as his/her strengths and weaknesses. In addition, you will receive feedback on your child's language skills and cognitive functioning. Your child is expected to enjoy the tasks as they are designed to be developmentally appropriate and feature stories, puppets, toys, and stickers. In addition, by participating in this study you will be contributing to science by increasing our understanding of the links between children's thoughts and behaviour. The information obtained from this study may help with the development of special programs intended to help children and their families.

PAYMENT FOR PARTICIPATION

As a token of our appreciation for your help with this study, you will be given a \$5 gift certificate to Tim Horton's when you complete the questionnaires. You will also be provided \$10 in cash when you come to the University of Windsor to complete the additional tasks.

CONFIDENTIALITY

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission to the people who are working on this particular project. The information will be kept in a locked cabinet and will be destroyed after 5 years. Group results may be published in a professional journal and/or at professional conferences, but no identifiable information will be included. In addition, you will have permission to review videotapes if you would like to do so.

PARTICIPATION AND WITHDRAWAL

You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. You may also refuse to answer any questions you don't want to answer and still remain in the study. The investigator may withdraw you from this research if circumstances arise which warrant doing so.

FEEDBACK OF THE RESULTS OF THIS STUDY TO THE PARTICIPANTS

Group results will be presented here:

<http://web4.uwindsor.ca/units/researchEthicsBoard/studyresultforms.nsf/VisitorView?OpenForm>

Preliminary results are expected to be available by September 2010. Further results will be available by September 2011.

SUBSEQUENT USE OF DATA

Do you give consent for the subsequent use of the data from this study? Yes No

May we contact you for future studies similar to this one? Yes No

If yes, please provide phone number: _____

If yes, please also provide mailing address

STUDY LOCATION

You may withdraw your consent at any time and discontinue participation without penalty. If you have any questions regarding your rights as a research subject, contact: Research Ethics Coordinator, University of Windsor, Windsor, ON N9B 3P4; Telephone: 519-253-3000 ext 3948, email ethics@uwindsor.ca

SIGNATURE OF RESEARCH SUBJECT/LEGAL REPRESENTATIVE

I understand the information provided for the study “Correlates and Predictors of Young Children’s Social Behaviour” Parent/Guardian Consent Form as described herein. My questions have been answered to my satisfaction, and I agree to participate in this study. I have been given a copy of this form.

Name of Child

Name of Parent or Guardian

Signature of Parent or Guardian

Date

SIGNATURE OF INVESTIGATOR

These are the terms under which I will conduct research.

Signature of Investigator

Date



LETTER OF INFORMATION

Correlates and Predictors of Young Children's Social Behaviour

You are asked to participate in a research study conducted by Dr. Rosanne Menna, Robert Clark, Sara O'Neil, Holly Ambrose, and Adam Kayfitz from the Psychology Department at the University of Windsor. This study is part of a Ph. D. dissertation by Robert Clark, Sara O'Neil, Adam Kayfitz, and Holly Ambrose. If you have any questions or concerns about the research, please feel to contact Dr. Rosanne Menna at 519-253-3000 extension 2230.

PURPOSE OF THE STUDY

The purpose of this study is to learn about how children's behaviour in situations with other children is related to their thinking style, their language skills, their knowledge about emotions, their relationships with their parents, and their parents marital interactions. Furthermore, this study is intended to further understanding in regards to the ways parents teach their children when spending time with them in one-to-one interactions.

PROCEDURES

If you volunteer to participate in this study, we would ask you to do the following things:

- Give permission for your child's teacher to fill out questionnaires about your child. These questionnaires will ask about your child's behaviour at school.
- Visit the university with your child. During this time, you and your child will be asked to engage in a series of interactive tasks while being videotaped. The tasks are intended to approximate the types of interactions you have with your child at home. Also, we would like to obtain measures of your child's language and cognitive skills. This assessment is expected to take about 60 minutes. While we are assessing your child's cognitive functioning and language skills, we would like you to fill out a few questionnaires about your child's behaviour and about your own experience as a parent. In total, this visit is expected to require 1½ to 2 hours of your time.
- Give permission for your child to work one-on-one with a researcher for approximately 20 minutes to 30 minutes. During this time, your child will listen to several brief stories accompanied by picture and will be asked questions about the stories. In addition, your child will be read some statements about activities that some children are good at and will be asked to decide whether or not he or she is good at those activities.

POTENTIAL RISKS AND DISCOMFORTS

When you visit the university, you will be asked to engage in two interactive tasks with your child, which he/she may find mildly frustrating. If at any time, you believe that your child is too frustrated, we will end the task immediately.

When filling out questionnaires about your child's behaviour, you may find that you are reminded of some negative behaviours your child may exhibit. This may cause you to feel somewhat uncomfortable. You may also experience some negative feelings when filling out a questionnaire on your marital interactions. If this is the case, please feel free to discontinue the questionnaire and return to it later, or not at all. Also, please feel free to talk to us about your discomfort. We have included the telephone numbers of local resources should you feel the need to discuss with someone your concerns in regards to your child's behaviour:

Parent Help Line
Children First

519-257-5437
519-250-1850

Windsor Regional Children's Centre

519-257-5215

POTENTIAL BENEFITS TO PARTICIPANTS AND/OR TO SOCIETY

By participating in this study, you may become more aware of your child's behaviour, as well as his/her strengths and weaknesses. In addition, you will receive feedback on your child's language skills and cognitive functioning. Your child is expected to enjoy the tasks as they are designed to be developmentally appropriate and feature stories, puppets, toys, and stickers. In addition, by participating in this study you will be contributing to science by increasing our understanding of the links between children's thoughts and behaviour. The information obtained from this study may help with the development of special programs intended to help children and their families.

PAYMENT FOR PARTICIPATION

As a token of our appreciation for your help with this study, you will be given a \$5 gift certificate to Tim Horton's when you complete the questionnaires. You will also be provided \$10 in cash when you come to the University of Windsor to complete the additional tasks.

CONFIDENTIALITY

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission to the people who are working on this particular project. The information will be kept in a locked cabinet and will be destroyed after 5 years. Group results may be published in a professional journal and/or at professional conferences, but no identifiable information will be included. In addition, you will have permission to review videotapes if you would like to do so.

PARTICIPATION AND WITHDRAWAL

You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. You may also refuse to answer any questions you don't want to answer and still remain in the study. The investigator may withdraw you from this research if circumstances arise which warrant doing so.

FEEDBACK OF THE RESULTS OF THIS STUDY TO THE PARTICIPANTS

Group results will be presented here:

<http://web4.uwindsor.ca/units/researchEthicsBoard/studyresultforms.nsf/VisitorView?OpenForm>

Preliminary results are expected to be available by September 2010. Further results will be available by September 2011.

SUBSEQUENT USE OF DATA

Do you give consent for the subsequent use of the data from this study? Yes No

May we contact you for future studies similar to this one? Yes No

If yes, please provide phone number: _____

If yes, please also provide mailing address

STUDY LOCATION

You may withdraw your consent at any time and discontinue participation without penalty. If you have any questions regarding your rights as a research subject, contact: Research Ethics Coordinator, University of Windsor, Windsor, ON N9B 3P4; Telephone: 519-253-3000 ext 3948, email ethics@uwindsor.ca

APPENDIX B

Demographics Questionnaire

The Canadian Psychological Association recommends that researchers report the major demographic characteristics of research participants. To assist us in collecting this information, please complete this brief questionnaire (use the back if needed). All data are confidential and will not be used in any way that identifies you or your child. If you have any questions concerning any of the items, please do not hesitate to ask them.

Child's Name _____

Today's Date _____

Child's birth date (please include day, month, and year) _____

Child's current grade _____

Child's gender _____

Your relationship to child (e.g., mother, father) _____

Parents' Marital Status

- Married, If so, for how long? _____
- Divorced
- Separated
- Living together, If so, for how long? _____
- Remarried
- None of the above (Please Specify: _____)

Who does the child live with most of the time?

- Mother
- Father
- Step-father
- Step-mother
- Other (Please Specify: _____)

Father's education

- Less than 7 years
- Junior high school (Grade 9)
- Some high school (Grade 10 or 11)
- Graduated from high school or equivalent high school diploma
- Some college or university (at least one year)
- Graduated from college or university
- Graduate/professional school (e.g., Master's, Ph.D.)
- Other _____

Mother's education

- Less than 7 years
- Junior high school (Grade 9)
- Some high school (Grade 10 or 11)
- Graduated from high school or equivalent high school diploma
- Some college or university (at least one year)
- Graduated from college or university
- Graduate/professional school (e.g., Master's, Ph.D.)
- Other _____

Please describe stepparents' education if applicable:

Stepmother:

- Less than 7 years
- Junior high school (Grade 9)
- Some high school (Grade 10 or 11)
- Graduated from high school or equivalent high school diploma
- Some college or university (at least one year)
- Graduated from college or university
- Graduate/professional school (e.g., Master's, Ph.D.)
- Other _____

Stepfather:

- Less than 7 years

- Junior high school (Grade 9)
- Some high school (Grade 10 or 11)
- Graduated from high school or equivalent high school diploma
- Some college or university (at least one year)
- Graduated from college or university
- Graduate/professional school (e.g., Master's, Ph.D.)
- Other _____

Mother's occupation _____

Father's occupation _____

Please describe stepparents' occupations if applicable: _____

Mother's ethnicity: (please choose the one that fits best)

- South Asian
- East Asian
- Caucasian
- African Canadian
- Caribbean
- Hispanic
- Native Canadian
- Biracial - Please Specify _____
- Multi-racial - Please Specify _____
- Other – Please Specify _____

Father's ethnicity (please choose the one that fits best):

- South Asian
- East Asian
- Caucasian
- African Canadian
- Caribbean
- Hispanic
- Native Canadian
- Biracial - Please Specify _____
- Multi-racial - Please Specify _____

Other – Please Specify _____

If applicable: Stepfather's ethnicity

- South Asian
- East Asian
- Caucasian
- African Canadian
- Caribbean
- Hispanic
- Native Canadian
- Biracial - Please Specify _____
- Multi-racial - Please Specify _____
- Other – Please Specify _____

If applicable: Stepmother's ethnicity

- South Asian
- East Asian
- Caucasian
- African Canadian
- Caribbean
- Hispanic
- Native Canadian
- Biracial - Please Specify _____
- Multi-racial - Please Specify _____
- Other – Please Specify _____

Has your child been diagnosed with a disability or a psychological disorder? _____

If so, please specify _____

Has your child been suspected of having a learning disorder?

If so, please specify _____

Do you think your child has a disorder of any kind? _____

If so, what do you think the child has? _____

Is your child receiving any psychological services? _____

If so, please describe: _____

Does your child have a serious illness? _____

If so, please specify _____

Is your child currently taking any medications? _____

If so, please specify _____

Approximate total annual income of parent(s) who live with the child

- Under \$30 000
- \$ 30 000 to \$60 000
- \$ 61 000 to \$100 000
- \$ 101 000 to \$150 000
- \$ 151 000 to \$250 000
- Over \$250 000

Does your child have any siblings? If so, please indicate gender and date of birth for each child.

How would you describe your child as an infant? (e.g., easy, difficult, slow-to-warm up)

Imagine that your child came to you and told you that another child hit your child while they were playing on the playground. What would you tell your child to do?

Imagine that your child came to you and told you that another child was telling other children not to be friends with your child. What would you tell your child to do?

Please tell us anything else that you think we should know:

APPENDIX C

Preschool Social Behaviour Scale

Child's Name _____	Child's sex: Male or Female?
Parent's Name _____	Age _____

	Never or almost almost never true	always not often	some times	or often	
1. This child is good at sharing and taking turns	1	2	3	4	5
2. This child kicks or hits others.	1	2	3	4	5
3. This child is helpful to peers.	1	2	3	4	5
4. This child tells a peer that he/she won't play with that peer or be that peer's friend unless he/she does what this child asks.	1	2	3	4	5
5. This child verbally threatens to hit or beat up other children.	1	2	3	4	5
6. This child is kind to peers.	1	2	3	4	5
7. This child pushes or shoves other children.	1	2	3	4	5
8. This child tells others not to play with or be a peer's friend.	1	2	3	4	5
9. This child doesn't have much fun.	1	2	3	4	5
10. This child says or does nice things for other kids.	1	2	3	4	5
11. When mad at a peer, this child keeps that peer from being in the play group.	1	2	3	4	5
12. This child verbally threatens to physically harm another peer in order to get what they want.	1	2	3	4	5
13. This child tries to embarrass peers by making fun of them in front of other children.	1	2	3	4	5

14. This child ruins other peer's things (e.g. art projects, toys) when he/she is upset.	1	2	3	4	5
15. This child tells a peer they won't be invited to their birthday party unless he/she does what the child wants.	1	2	3	4	5
16. This child looks sad.	1	2	3	4	5
17. This child throws things at others when he/she doesn't get his/her own way.	1	2	3	4	5
18. This child smiles at other kids.	1	2	3	4	5
19. This child walks away or turns his/her back when he/she is mad at another peer.	1	2	3	4	5
20. This child verbally threatens to push a peer off a toy (e.g. tricycle, play horse) or ruin what the peer is working on (e.g. building blocks) unless that peer shares.	1	2	3	4	5
21. This child tries to get others to dislike a peer (e.g. by whispering mean things about the peer behind the peer's back).	1	2	3	4	5
22. This child verbally threatens to keep a peer out of the play group if the peer doesn't do what the child says.	1	2	3	4	5
23. This child hurts other children by pinching them.	1	2	3	4	5
24. This child is well liked by peers of the <u>same</u> sex.	1	2	3	4	5
25. This child is well liked by peers of the <u>opposite</u> sex.	1	2	3	4	5
26. This child punches peers.	1	2	3	4	5
27. This child pokes peers.	1	2	3	4	5

The items from this measure have been published in Crick, Casas, & Mosher (1997).

Scales used in the current study are as follows:

Physical Aggression: 2, 5, 7, 17, 23, 26, 27

Relational Aggression: 4, 8, 11, 13, 15, 19, 21, 22

Total Aggression: 2, 4, 5, 7, 8, 11, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 26, 27

Prosocial Behaviour: 1, 3, 6, 10

Depressed Affect: 9, 16, 18 (this item is reverse coded)

Child's acceptance with same sex peers: 24

Child's acceptance with opposite sex peer: 25

APPENDIX D

Corresponding Items Between BRIEF-P and BRIEF Emotional Control Scale

BRIEF-P	BRIEF
1	1
6	7
11	70
16	25
21	26
26	64
31	62
36	45

APPENDIX E

Responses to Ambiguous Stories

Each of the following vignettes were pre-recorded and played to the children on a laptop accompanied by the appropriate illustrations. After hearing each story, children were asked, “What would you do if this happened to you?” Children were presented with one image each per story. The images that best matched the skin colour and gender of the given child were used.

The Shoes Story, Race Story, Standing Story, Playground Story, Party Story, and Puzzle Story were adapted from stories written by Crick et al. (2002; Crick, personal correspondence, 2008) and The Tag Story and The Colouring story were written by the current author.

Shoes Story

Pretend that you are playing outside and you’re wearing new shoes. You really like your new shoes and this is the first day you have worn them. Suddenly, you are bumped from behind by another kid. You fall into a mud puddle and hurt your knee and your new shoes get muddy.

Race Story

Pretend that you are on the playground. You and some other kids are having a race. Another kid is standing on the side, bouncing a basketball. The next thing you know is that the kid has bounced the ball and it rolls under your feet. It makes you fall. You hurt your hand and someone else wins the race.

Colouring Story

Pretend that you are at school colouring a picture. You want to use the red crayon. You ask a kid, “could you pass me the red?” The kid throws the red crayon toward you. It hits your head and it hurts.

Tag Story

Pretend that you are on the playground playing tag. You are running away from the kid who is it. The kid who is it comes up and hits you hard and says “you’re it!” It hurts.

Standing Story

Pretend that you are standing in the hallway one morning at school. As you are standing there, two kids from your class walk by. As they walk by you, the two kids look at you, whisper something to each other, and then they laugh.

Playground Story

Pretend that your friend asked you to wait by the swings so that you could play together. You wait by the swings, but your friend is not there. You look for your friend on the playground for a while. By the time you find your friend, your friend is already playing with someone else— a kid that you don’t like very much.

Party Story

Pretend that you are at school one day. Two other kids from your class start talking to each other. You hear one of the kids invite the other one to a birthday party. The kid says that there are going to be a lot of people at the party. You have not been invited to this party.

Puzzle Story

Pretend that you are at school. Some kids are sitting together doing a puzzle. You are looking for a place to sit. The kids are laughing and talking to each other and they look like they are having a good time. You walk over to their table. As soon as you sit down, the kids stop talking and no one says anything to you.

Responses to Ambiguous Stories Forced-Choice Response Options

If the child said, "I don't know," when asked what he/she would do in any given story, this was noted and the rest of the stories were presented as usual. After going through all of the stories once, the examiner returned to the stories to which the child said "I don't know." Those stories were played again and after each story, the child was presented with 4 options of what might be done and was asked to decide which he or she would choose. The options that correspond to each story are presented below.

Shoes Story

- a) push that kid in the mud
- b) yell "you're not coming to my birthday party!"
- c) ask the kid to play with you
- d) do nothing

Race Story

- a) throw the ball at the kid's head
- b) ask the kid to join the race
- c) do nothing
- d) tell the other kids not to talk to that kid

Colouring Story

- a) do nothing
- b) Say, "Ouch, that hurts, please be careful."
- c) Throw the crayon back at the kid
- d) Say, "you're not my friend anymore!"

Tag Story

- a) stop talking to the kid for the rest of the day
- b) punch the kid in the stomach

- c) keep playing the game
- d) do nothing

Standing Story

- a) do nothing
- b) say “you are not my friends!”
- c) push the kids
- d) tell a joke

Playground Story

- a) throw rocks at them
- b) say “can I play, too?”
- c) do nothing
- d) say “I don’t like you!”

Party Story

- a) have your own party and invite everyone
- b) kick the kids
- c) say, “Your parties are stupid!”
- d) do nothing

Hallway Story

- a) do nothing
- b) pinch the kids
- c) say “hi” to the kids
- d) Say, “I don’t want to play with you!”

APPENDIX F

Additional Tables

Table 3

Descriptive Statistics for Parent and Child Measures of Children's Social Behaviour

	<i>M</i>	<i>SD</i>	<i>Min.</i>	<i>Max.</i>	<i>Range</i>
Prosocial Behaviour					
PSBS	16.61	2.29	10	20	10
RAS	1.77	1.57	0	7	7
Physical Aggression					
PSBS	11.32	3.94	7	27	20
CBCL	0.53	0.35	0	1.68	1.68
RAS	0.53	1.17	0	8	8
RAS (Transformed)	0.12	0.12			
Relational Aggression					
PSBS	10.39	2.46	6	18	12
RAS	0.53	0.91	0	4	4
Social Acceptance					
Peer (Parent)	8.78	1.31	4	10	6
Peer (Child)	17.58	3.43	10	24	14
Maternal (Child)	18.41	3.50	7	24	17

Note: PSBS = Preschool Social Behaviour Scale, RAS = Responses to Ambiguous Situations, CBCL = Child Behavior Checklist
 RAS (Transformed) = Squareroot (N + 0.01)
 N = 136 for all variables

Table 4

Descriptive Statistics for Measures of Children's Emotional Competence and Temperament

	<i>M</i>	<i>SD</i>	<i>Min.</i>	<i>Max.</i>	<i>Range</i>
Emotion Knowledge	21.35	4.90	8	28	20
BRIEF Emotional Control	14.11	4.08	7.82	25.9	18
CBQ Negative emotionality	50.64	7.51	30	68	38

Note: BRIEF = Behaviour Rating Inventory of Executive Function (measure of emotion regulation problems), CBQ = Child Behaviour Questionnaire
N = 136 for all variables

Table 5.

Descriptive Statistics for Measures of Maternal Emotion Socialization

	<i>M</i>	<i>SD</i>	<i>Min.</i>	<i>Max.</i>	<i>Range</i>
Expressive Encouragement	5.31	.94	2.73	7.00	4.27
Emotion-focused	5.79	.75	2.67	7.01	4.34
Problem-focused	5.90	.52	4.08	7.00	2.92
Minimization Reactions	2.30	.90	0.56	5.89	5.33
Distress Reactions	2.58	.64	1.17	5.00	3.83
Punitive Reactions	2.11	.63	.99	4.33	3.35

Note: $N = 136$ for all variables

Table 6.

Correlations between Demographic Variables and Children's Social Behaviour Variables

	Child Age	M. Age	M. Ed	Income	FS
N	136	113	130	126	131
RAS Prosocial	.26**	.09	.03	-.08	-.04
RAS Phys Aggress ^a	-.17*	-.19*	-.13	-.13	-.05
RAS Rel Aggress	-.10	-.06	-.13	-.05	-.03
RAS Total Aggress	-.07	-.12	-.18*	-.07	.06
PSBS Prosocial	-.04	-.02	.03	-.01	-.12
PSBS Phys Aggress	.06	-.01	-.18*	-.20*	.38**
PSBS Rel Aggress	.24**	.13	-.14	-.13	.35**
PSBS Total Aggress	.16*	.06	-.18*	-.19*	.42**
CBCL Phys Aggress	.02	-.03	-.23**	-.12	.41**

* $p < .05$; ** $p < .01$

^aTransformed (Square root (N + .01)),

Note: M = Maternal, FS = Family Structure (two-parent homes versus single-parent homes), RAS = Responses to Ambiguous Stories, PSBS = Preschool Social Behaviour Scale, Phys = Physical, Rel = Relational, Aggress = Aggression

Table 7.

Correlations Among Demographic Variables and Emotional Competence, Maternal Emotion Socialization, and Social Acceptance Variables (N = 136)

	Child Age	M Age	M Ed	Income	FS
<i>N</i>	136	113	130	126	131
Emotion Knowledge	.57*	.17*	.07	.02	.18*
Emotion Regulation	.04	-.01	-.11	-.01	.19*
Expressive Enc	-.01	.05	.03	-.10	-.05
Emotion-focused	.03	.17*	.08	-.07	.01
Problem-focused	.09	.06	.23**	-.09	-.04
Minimization	.13	-.02	-.07	-.13	.11
Distress	-.06	-.13	-.06	-.01	.02
Punitive	-.16*	-.02	-.23**	-.04	-.03
Parent Peer Accept	-.03	.00	.06	.16*	-.11
Child Peer Accept	.02	-.03	.04	.09	-.07
Maternal Accept	-.18*	.07	.03	.15*	-.15*

* $p < .05$; ** $p < .01$

Note: M = Maternal, FS = Family Structure (two-parent homes versus single-parent homes), Enc = Encouragement, Accept = Acceptance

APPENDIX G

Copyright Permissions

RE: permission to reproduce figure

3 messages

Nancy Eisenberg< Nancy.Eisenberg@asu.edu>
To: seoni@mta.ca

Sun, Jul 29, 2012 at 12:43 PM

Sure Sara,

Nancy

From: Sara O'Neil [mailto:oneilb@uwindsor.ca]
Sent: Sunday, July 29, 2012 11:41 AM
To: Nancy Eisenberg
Subject: permission to reproduce figure

Hi Dr. Eisenberg,

I am doing my dissertation research on maternal emotion socialization and your work has been very helpful in informing my research. I was wondering if you could give me permission to reproduce the figure called:

A heuristic model of the socialization of emotion. From 'The socialization of emotion: reply to commentaries' by N. Eisenberg, T. Spinrad, & A. Cumberland (1998). *Psychological Inquiry*, 9, 317-333.

I would cite the figure appropriately. Thank you for considering this.

Sincerely,

Sara O'Neil Woods

RE: permission to reproduce early child coercion model

1 message

Laura Scaramella< lscaram@uno.edu>
To: seoni@mta.ca

Mon, Jul 30, 2012 at 7:42 AM

Sure, you can have my permission. I think you may need to contact Clinical Child and Family Psychology though. Do they need to give you permission too?

Also, let me know what you are doing and what you find out! I'd love to hear about your research.

Laura

From: Sara O'Neil [mailto:oneilb@uwindsor.ca]
Sent: Sunday, July 29, 2012 1:47 PM
To: Laura Scaramella
Subject: permission to reproduce early child coercion model

Hi Dr. Scaramella,

I am doing research on maternal emotion socialization for my dissertation. Your research has been important in informing my work. In my dissertation, I would like to reproduce the figure called: The early childhood coercion model. From L. Scaramella and L. Leve (2004). Clarifying parent-childhood reciprocities during early childhood: The early childhood coercion model. *Clinical Child and Family Psychology Review*, 7, 89-109. I would cite the figure appropriately. Would you be willing to give me permission to do so? Thank you for your time.

Sara O'Neil Woods

RE: permission to reproduce figure

2 messages

Thomas Ollendick <tho@vt.edu>
To: seonl@mta.ca

Sun, Aug 12, 2012 at 4:43 PM

Permission is granted – I am delighted you found the figure useful for your purposes. Good wishes in your dissertation and congratulations on getting to this point in your career! Tom

Thomas H. Ollendick, Ph.D.

Co-Editor, CCFR

University Distinguished Professor

Director, Child Study Center

Department of Psychology

Virginia Tech

Blacksburg, VA 24060

Phone: 540 231-6451

<http://www.psyc.vt.edu/labs/csc>

From: Sara O'Neil [mailto:oneillb@uwindsor.ca]
Sent: Sunday, August 12, 2012 6:00 PM
To: tho@vt.edu
Subject: permission to reproduce figure

Hi Dr. Ollendick,

My name is Sara O'Neil Woods and I am a student at the University of Windsor. In my dissertation, I would like to include a copy of figure called the early childhood coercion model. From L. Scaramella and L. Leve (2004). Clarifying parent-childhood reciprocities during early childhood: The early childhood coercion model. *Clinical Child and Family Psychology Review*, 7, 89-109. I would cite the figure appropriately. Dr. Scaramella has given my permission to include the figure but advised me to contact the *Clinical Child and Family Psychology Review* as well. Would you give me permission to reproduce this figure?

Sara O'Neil Woods, MA

VITA AUCTORIS

Name: Sara Eileen O'Neil Woods
Place of Birth: Halifax, NS
Year of Birth: 1982
Education: Halifax West High School, Halifax, NS
1997-2000
Mount Allison University, Sackville, NB
2000-2005 B.A. (Hons)
University of Windsor, Windsor, Ontario
2006-2008 M.A.
LSU Health Sciences Center, New Orleans, LA
2011-2012 Clinical Psychology Internship