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Children's Socio-Emotional Development and Adjustment: Role of Maternal Trauma, Mentalization and Parenting Style

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Children's Socio-Emotional Development and Adjustment:
Role of Maternal Trauma, Mentalization and Parenting Style

By

Andrea R. Kapeleris

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
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2014

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Role of Maternal Trauma, Mentalization and Parenting Style

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ABSTRACT

The present study examined the links between children's socio-emotional functioning and adjustment problems, and maternal mentalization, parenting style, and history of trauma. Participants were 75 mothers and their children age 6-12 years (43 males and 32 females). Mothers' reports of their childhood trauma, mentalization capacity, symptoms of post-traumatic stress and depression, and emotion-related parenting style were obtained along with their reports of their children's social and emotional skills and emotional and behaviour problems. Children completed tasks that assessed their mentalization ability. Children also completed reports of their emotional intelligence and trauma symptoms. Maternal history of emotional abuse significantly predicted maternal depression, and maternal history of sexual abuse significantly predicted maternal PTSD symptoms. Maternal depression and PTSD were both significantly related to children's social skills, and children's internalizing and externalizing problems. Maternal mentalization was significantly associated with children's internalizing and externalizing behavior problems, and children's social skills. After controlling for the effects of a history of maternal psychotherapy, maternal mentalization partially mediated the relationship between maternal PTSD symptoms and children's internalizing problems, and maternal mentalization fully mediated the relationship between maternal PTSD symptoms and children's social skills. Emotion-coaching parenting style did not mediate the relationship between maternal trauma and children's adjustment, however, parental uncertainty and ineffectiveness in emotion socialization were significantly associated with both maternal PTSD symptoms and children's internalizing and externalizing problems. These findings highlight the importance of maternal mentalization as an explanatory mechanism in the intergenerational transmission of trauma, and emphasize the need for early intervention and prevention efforts, which focus on bolstering mentalization abilities for traumatized mothers in a parenting role.

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INTRODUCTION

Rationale for the Present Study

Mentalizing is defined as an individual's ability to understand or reflect on the causes of one's own and others' thoughts and feelings, and to use this information to formulate interpretations about one's own and others' behavior (Ha, Sharp, Ensink, Fonagy, & Cirino, 2013; Fonagy, Steele, Moran, Steele, & Higgitt, 1991a). Research shows that mentalization is related to emotion regulation, the development of self-agency, and social competence (Fonagy, Gergely, Jurist, & Target, 2002). For example, lower levels of mentalizing are related to difficulty coping with interpersonal stress, and greater likelihood of experiencing chronic depression and post-traumatic stress disorder (PTSD) (Fischer-Kern, 2012; Knetig, 2013). The concept of mentalizing has also been applied to attachment contexts such as, a mother's engagement with her child at a mental level (Sharp, 2006), parenting style (Gottman, 1997), self-organization and emotional regulation (Allen, Fonagy, & Bateman, 2008; Fonagy et al., 2002; Gergely, 2007), interpersonal relationships and social competence (Fonagy, Stein, Allen, & Fultz, 2003; Leary, 2007; Liotti & Prunetti, 2010; Subic-Wrana, 2011), response to trauma (Allen & Fonagy, 2006; Slade, Grienenberger, Bernbach, Levy, & Locker, 2005), and children's adjustment (Ostler, Bahar, & Jessee, 2010; Sharp, Crouace, & Goodyer, 2007).

A number of studies support the notion that deficits in mentalization capacity occur as a result of experiencing a history of trauma in the parent-child relationship, or the attachment system. Experiencing childhood trauma perpetuates difficulty expressing and modulating emotions, and changes to one's self perception, which may include a sense of self impacted by shame, guilt, and low self-worth, and a sense of one's relationship to

others as impacted by feelings of distrust and isolation (Bryant, 2010; Robinaugh & McNally, 2011; Roth, Newman, Pelcovitz, van der Kolk, & Mandel, 1997; Yehuda, Halligan, & Grossman, 2001). Fonagy and colleagues (2002) suggest that trauma undermines the child's capacity for mentalization by discouraging self-reflection and impeding the development of self-agency. For example, mothers with a higher prevalence of abuse and neglect occurring within the primary attachment context in childhood have lower levels of mentalization in adulthood (Fonagy, Steele, & Steele, 1994; Fonagy et al., 1996). Thus, adults who experienced maltreatment in childhood may have learned to inhibit their mentalizing function, or may not have developed the capacity to mentalize due to the trauma they experienced to their attachment system (Allen & Fonagy, 2006; Slade et al., 2005a). Significant links have been found between adult attachment representations and maternal mentalization, and child attachment styles and maternal mentalization, suggesting that maternal mentalization may mediate the relation between adult and child attachment (Arnott & Meins, 2007; Fonagy et al., 1991a; Fonagy, Target, Schechter et al., 2005; Steele, & Steele, 1998; Slade et al., 2005a). The overall purpose of the present study was to examine the influence of maternal mentalization on the links between maternal trauma, emotion-related parenting style, and child outcomes.

In a study by Schechter and colleagues (2005), they tested 41 mothers of children ages 8-50 months who were enrolled in a hospital-based infant mental health clinic specializing in families at risk for child abuse, neglect, and domestic violence. All mothers included in the study had directly experienced or witnessed one or more types of interpersonal violence events listed on a standard life events checklist. This study demonstrated that (1) mothers with a higher severity of PTSD were twice as likely to be

classified as having distorted mental representations of the child (involving excessively negative perceptions of the child including, unrealistic expectations and gross insensitivity), (2) mothers with less severe PTSD were three times more likely to be classified as disengaged (pervasive emotional distance from the child as a defensive maneuver to self-regulate affect), (3) mothers with higher levels of mentalization were 4.5 times more likely to be classified as balanced (able to identify both positive and negative characteristics of the child with an overall positive emphasis), and (4) mothers with lower levels of mentalization were nearly 11 times more likely to be classified as disengaged. The results suggest that the relation between PTSD and reflective functioning impact the quality of maternal mental representations in a complex way whereby mothers who had high reflective functioning as well as severe PTSD continued to harbor distorted mental representations of their children. Schechter and colleagues (2005) postulated that a mother's perception of her children could be distorted by feelings of anger, fear, and helplessness related to unresolved trauma despite being able to understand her child as an individual with a separate mind.

The way in which parents respond to the expression of negative emotion in their children reflects the parents' own mentalization capacity, attitudes toward emotion socialization, and capacity to cope with stressful situations. Studies by Gottman and colleagues have shown that mothers who have an open and accepting attitude towards the identification and expression of emotions, and who use their children's expression of negative emotion as an opportunity for problem-solving and teaching, have higher levels of mentalization ability (Gottman, Katz, & Hooven, 1996; Gottman, 1997). Specifically, mothers with higher mentalization capacity and an emotion-coaching parenting style tended to have children with lower levels of psychopathology, better emotion regulation, better

social skills, and higher levels of mentalization ability (Paterson et al., 2012; Sharp, Fonagy, & Goodyer, 2006). An additional aim of the present study was therefore to investigate how maternal mentalization was related to emotion-related parenting style, specifically, an emotion coaching parenting style.

Very few studies have assessed mentalization in school-aged children (Ostler et al., 2010; Sharp et al., 2007). Yet, it is during this developmental period (age 6-12 years) in which mentalization in children is most pronounced (Fonagy, 2006). School-aged children are at a stage of development in which they are actively internalizing their parents' ability to mentalize (Fonagy, 2006; Jemerin, 2004; Steele & Steele, 2005) and are in the midst of acquiring concrete and early formal operational thought structures and applying them to increasingly complex emotions and memories (Steele & Steele, 2005). Furthermore, children in this age range are actively engaged in a process of self-development (Erikson, 1950; Sandler, Kennedy, & Tyson, 1980). As such, there is the opportunity for intervention before adolescence – a developmental stage in which there is an increased risk for mental disorders and at-risk behaviors such as drug and alcohol abuse, teenage pregnancy, and criminality. This study adds to the literature by examining mentalization abilities of school-age children.

Two studies have shown associations between children's mentalization and mental health outcomes (specifically psychopathology) demonstrating that there is a link between mentalization and children's adjustment (Ostler et al., 2010; Sharp et al., 2007). For example, Ostler and colleagues (2010) found that children with higher mentalization had fewer internalizing and externalizing symptoms, lower levels of posttraumatic symptoms, and were more socially competent than children with lower mentalization. In another study,

researchers investigated biases in mentalizing in school-aged children and found that the denial of negative emotions in peer scenarios was associated with externalizing problems and symptoms of psychopathology (Sharp et al., 2007). The findings from these studies support child mentalization as a factor in children's overall well-being and social and emotional competence. An additional aim of this study was therefore to examine the relations between children's mentalization capacity and their psychological adjustment and socio-emotional functioning.

It has been theorized that poor maternal mentalization may play a role in the development of psychopathology in the child by altering the child's mentalization abilities (Sharp & Fonagy, 2008), but this model has not yet been tested. The present study aimed to test this model empirically with the addition of maternal childhood trauma as a predictor of maternal mentalization. The links between maternal trauma and child mentalization were examined to better understand the intergenerational transmission of trauma through the mechanism of maternal mentalization and parenting.

The review of the literature begins with an overview of maternal childhood trauma and mentalization capacity, depression, and PTSD. The relations between maternal trauma, mentalization, emotion-related parenting and children's socio-emotional functioning and adjustment are also discussed.

Literature Review

Childhood Trauma, Post-Traumatic Stress Disorder (PTSD) and Depression

Childhood trauma refers to trauma (e.g., physical, sexual, emotional abuse, and physical and emotional neglect) occurring within the attachment relationship (parent-child relationship) usually in the form of long-term child maltreatment (Bryant, 2010). Childhood trauma that occurs within the family has the power to stay with the individual and has a higher probability of impacting the next generation than trauma that occurs outside the family unit (Sagi-Schwartz et al., 2003; Steele, Steele, & Murphy, 2010; Van IJzendoorn, 1995). Traumatic experiences that are relational in context are critical and speak to the extent of transmission of unresolved trauma across generations (Steele et al., 2010). For example, Sagi-Schwartz and colleagues (2003) conducted a study on the transmission of trauma with 48 Holocaust survivors and their daughters and grandchildren. They found that the extent of unresolved trauma across generations was much less than what is typically found when the trauma resides within the family relationship. Thus, these authors concluded that Holocaust survivors may have had secure attachment relationships that provided them with a measure of resilience in facing the atrocities of World War II.

In contrast, studies examining intra-familial trauma find that abuse can shatter a child's previously held beliefs that the world is benign, the world is meaningful, and the self is worthy, and often results in avoidance coping and an increase in overall level of arousal and anxiety (Roth et al., 1997). Approximately 20-50% of children and adolescents who have experienced trauma meet criteria for PTSD, and nearly 75% are also comorbid for depression and substance use (Elwood, Hahn, Olatunji, & Williams, 2009). Examples of childhood trauma include witnessing domestic violence and chronic trauma secondary to

childhood physical, sexual, or psychological abuse or neglect (Bryant, 2010; Herman, 1992; Holt, Buckley, & Whelan, 2008; Roth, Newman, Pelcovitz, van der Kolk, & Mandel, 1997). The present study focuses on the effect of trauma exposure and symptoms secondary to childhood physical, sexual, or psychological abuse or neglect as this has been shown to directly impact the child's developing sense of self and is linked to Fonagy's concept of poor mentalizing capacity into adulthood (Fonagy, 1999; 2006; Bartholomew, Courtney, Rowan-Szal, & Simpson, 2005; Lieberman, Padron, Van Horn, & Harris, 2005). However, children witnessing domestic violence also experience negative long-term effects to their well-being including, anxiety, depression, and low self-esteem (Holt et al., 2008; Goodall & Lumley, 2007), and this often occurs in concordance with other forms of child abuse (Barrett, 2010).

Childhood trauma, PTSD, and depression are significant social problems for women. According to a recent study by Afifi and colleagues (2014), which used nationally representative data from the 2012 Canadian Community Health Survey, the prevalence of child abuse in Canada was 32.1%, with physical abuse being most common (26.1%), followed by sexual abuse (10.1%). Women were more likely than men to have experienced sexual abuse (14.4% v. 5.8%, $p < .001$) as children. Sex-related effects were also found for several child abuse types and suicidal ideation and suicide attempts, with higher prevalence noted among women in all cases (Afifi et al., 2014). In a Canadian study by Wolfe (2001), girl victims of childhood trauma reported emotional distress, depressive symptoms, post-traumatic-stress related symptoms and acts of both violent and non-violent delinquency. Boy victims reported far less emotional distress and fewer delinquent behaviours; however, they were far more likely to assault their dating partners. Childhood trauma impacts one's

view of self and others, causing changes to the developing child's intrapersonal and interpersonal world (Bryant, 2010). Depression and PTSD have been shown to be common outcomes of childhood trauma due to their effect on interpersonal problems and the negative influences on interpersonal interactions (Afifi et al., 2014).

Research has shown that differences exist in the type of avoidance symptoms and how avoidance symptoms are displayed between children and adults who have experienced trauma (Scheeringa, Zeanah, Drell & Larrieu, 1995; Scheeringa, Zeanah, Myers & Putnam, 2003). For example, children tend to behaviorally exhibit a "constriction of play" instead of verbal endorsing anhedonia (Coates & Schechter, 2004). Also, children may withdraw socially or display regression in accordance with their developmental level. These can be conceptualized as avoidance symptoms and may be a behavioral representation of numbing and a diminished participation in important events (Scheeringa, Peebles, Cook & Zeanah, 2001; Scheeringa et al., 1995; Scheeringa et al., 2003). Scheeringa and colleagues (2003) assessed 62 traumatized children and 63 healthy controls, aged 20 months through 6 years, following traumatic experiences (included motor vehicle collisions, accidental injuries, abuse, and witnessing violence). They found that using the traditional DSM-IV algorithm for PTSD no children met criteria. However, with an alternative set of criteria of PTSD for preschool children, which took into consideration these behavioural manifestations of avoidance symptoms and used an adapted algorithm (one cluster B symptom, one cluster C symptom, and two cluster D symptoms), PTSD was diagnosed at a rate of 26%.

A recent study by Weems and Scheeringa (2013) examined maternal and child characteristics as moderators of posttraumatic stress (PTS) treatment outcomes in preschool children. Sixty-four mother-child dyads were assessed, in which the child had experienced

a life-threatening traumatic event, and had four or more PTSD symptoms with at least one of them being a re-experiencing symptom from criterion B or an avoidance symptom from criterion C. The youth were randomly assigned to either 12-session manualized CBT or 12-weeks wait list. Results indicated that not only did the intervention group improve significantly more on symptoms of PTSD, but that maternal depression was associated with higher initial child posttraumatic stress disorder (PTSD) symptoms, and was also associated with increasing PTSD symptom trends at follow-up. Furthermore, maternal PTSD symptoms similarly predicted differential child separation anxiety symptom change, but not child PTSD symptom change. Thus, this study pointed to maternal factors, specifically maternal depression and PTSD, as predictors of poorer child outcomes in treatment for anxiety disorders.

Recent prevalence statistics show that approximately 14% of people exposed to a clinically significant stressor (i.e., an event involving actual or threatened injury or death, which the person responds to with intense fear, helplessness, or horror) go on to develop PTSD (Terhakopian, Sinaii, Engel, Schnurr, & Hoge, 2008), and women are about twice as likely as men to develop PTSD after a trauma (Kessler, Berglund, & Demler, 2005). Women's role in childbearing also puts them in a unique position to potentially experience postpartum depression, especially if they have had prior depressive episodes (Chaudron, Szilagyi, Kitzman, Wadkins, & Conwell, 2004; Freeman et al., 2005). Stressful life events, such as trauma, often occur before a depressive episode and additional responsibilities, such as caring for children may also trigger a depressive episode. Women may respond to stressful life events and trauma in such a way that prolongs their feelings of stress more so than men, increasing the risk for depression (Hankin & Abramson, 2001). Research also

affirms that PTSD affects pregnant women. PTSD has been found to be more prevalent in perinatal than general samples of women (6-8% versus 4-5%), and women with PTSD in pregnancy were more likely to have had exposures to childhood abuse, as well as comorbid depression and anxiety (Seng et al., 2010; Seng, Low, Sperlich, Ronis, & Liberzon, 2009). However, it is unclear why some women faced with challenges develop depression and PTSD, and some with similar challenges do not. The answer may be the impact of childhood trauma, PTSD symptoms, and depression on the capacity to mentalize.

Allen and Fonagy (2006) suggest that mentalizing may promote resiliency to trauma and reduce vulnerability to depression and PTSD later in life through the development of an “intrapsychic filtering system.” This filtering system develops through early secure relationships and allows children to endure and process negative emotions. Negative emotions may initially narrow the variability of thought-action responses, progressively collapsing mentalizing relative to the intensity of danger, while positive emotion can facilitate resiliency by fostering recovery from distress-related physiological reactions. Individuals with a higher capacity for mentalization can continue to think without decompensating or becoming disorganized when triggered by trauma-linked memories and negative affects (e.g., anxiety, depression, disgust, anger, resentment, guilt) (de Tyche, Lighezzolo-Alnot, Claudon, Garnier, & Demogeot, 2012, Porcerelli, Huprich, & Marcova, 2010). Although we understand more about the long-term effects of childhood trauma, PTSD, and depression for adults, less is known about how parents with a history of childhood trauma relate to their children and, in turn, how this affects their children’s socio-emotional development and mentalization capacity.

Mentalization

Mentalization is a multifaceted ability which involves perceiving, acknowledging, and making sense of oneself and others in terms of mental states (e.g., needs, desires, feelings, beliefs, goals, purposes, and reasons), and attributing meaning to emotions and overt behaviours (Allen et al., 2008; Fonagy & Bateman, 2006; Slade, 2005). The primary function of mentalizing is to predict, explain, and justify the actions of the self and others by inferring the mental states that cause them – as such, it is a key determinant in self-organization (Fonagy et al., 2002). Mentalization and reflective functioning have often been referred to interchangeably in the literature (Slade, 2005; Fonagy et al., 2002; Meins et al., 2002). Reflective functioning refers to the operationalization of the quality of mentalizing in the specific context of attachment narratives (Allen et al., 2008). Other related terms include self-reflectivity, psychological mindedness, insight introspection (Oppenheim & Koren-Karie, 2002), self-awareness, metacognition, metacognitive monitoring (Main, 1991), and mind-mindedness (Meins, 1997). All of these alternative terms fall short, however, in that they do not explicate the dynamic relation between mental states and behavior (Fonagy et al., 2002). Namely, parental mentalization not only refers to the capacity to recognize mental states, but also the capacity to link mental states to behavior in meaningful and accurate ways, in this case, the mother's ability to reflect on the motives of her own behavior, as well as respond appropriately to the desires, beliefs, and wishes underlying her child's behavior without being unduly influenced by unresolved past experiences (Fonagy et al., 2002).

While there has been a growing body of research on parental mentalization, little is known about children's mentalization. In prior studies, children's mentalization was inferred from proxy measures of mentalization rather than directly examined (Sharp et al.,

2006; 2007). Self-report measures have been developed to assess components of mentalization in an adolescent population (e.g., the Movie for the Assessment of Social Cognition, the Child's Eyes Task, the Mentalizing Stories Test for Adolescents, and the Basic Empathy Scale) (Dziobek et al., 2006; Baron-Cohen, Wheelwright, Scahill, Lawson, & Spong, 2001; Vrouva & Fonagy, 2008; Jolliffe & Farrington, 2006). Two measures, namely, the Family and Friends Interview (FFI; Steele & Steele, 2005) and the Child Attachment Interview (CAI; Shmueli-Goetz, Target, Fonagy, & Datta, 2008) assess the internal world of children aged 8-13 years by assessing their ability to speak coherently about attachment relationships, recent attachment events, and their relationships with their parents, although the measures do not explicitly assess reflective function.

More recently, Ostler and colleagues (2010) developed a semi-structured interview and scale (the Child Mentalization Scale; CMS) to directly and comprehensively assess the mentalization abilities of school-aged children (6-12 years old) from multi-problem contexts. It is the only measure to date that assesses the mentalization skills of school-aged children. The scale assesses children's ability to attend to, hold in mind, and talk coherently and openly about their thoughts, feelings, and behaviours in relation to emotional events in their lives. Aside from Ostler (2010), the present study was the first to use this measure to assess the mentalization capacity of school-aged child participants.

Previous research has focused on assessing mentalization in mothers by focusing on representations of attachment in expectant mothers (i.e., Adult Attachment Interview, Working Model of the Child Interview, or the Parent Development Interview) (Fonagy et al., 1991b; 1998; Slade, 2005; Slade et al., 2005a; Slade et al., 2005b), and conducting observational studies of mother-infant interactions and coding dimensions of maternal

responsiveness (Meins, Fernyhough, Fradley, & Tuckey, 2001; 2002). Comparisons of ratings on maternal reflective functioning and infant attachment have shown that ratings were significantly related to parents' interactions with their infants at 12-15 months of age (Fonagy et al., 1991a; 1998). An alternative method of capturing mentalization has been by assessing parents' meta-emotion philosophy (Gottman et al., 1996; 1997). Instead of focusing on attachment quality as an indicator of child social development (as has been done in other studies of maternal reflective functioning), the present study investigated the relations between maternal mentalization and a broader definition of child adjustment, including, child mentalization, social and emotional skills, and internalizing and externalizing behaviour problems. The present study's aim was to examine the links between maternal trauma, maternal mentalization, and child mentalization to better understand the intergenerational transmission of trauma through the mechanisms of maternal mentalization and emotion-related parenting, specifically emotion-coaching parenting.

Development of Self-Agency

As mentalization involves being in-tune with one's emotional state, it is also thought to facilitate the development of the agentic self (Allen et al., 2008; Fonagy et al., 2002). Fonagy described five levels regarding the development of self agency which include the emergence of the self as physical agent, social agent, teleological agent, intentional agent, representational agent, and the autobiographical self (Fonagy et al., 2002) which all develop within the first five years of life. The development of the self and the capacity to reflect on mental states becomes increasingly complex during the latency stage (Jemerin, 2004; Steele & Steele, 2005).

When infants are 9 months of age they develop the teleological framework; they develop the expectation that agents' actions will be rational, goal-directed, and based on observable physical realities (Fonagy et al., 2002). At approximately 2 years of age, most children begin to mentalize in the teleological stance. As such, they begin to understand that their actions are based on desires, wants, and intentions, they show an implicit understanding of true and false beliefs, and they engage in shared imaginative play. Furthermore, during this time, children also begin to acquire language to represent internal states (e.g., 'I want'). Although children are beginning to show the development of mentalization at this stage, they are unable to fully separate mental states from external reality, and the distinction between internal and external becomes blurred (Fonagy et al., 2002). The gradual move in infancy from the teleological to mentalizing model likely depends on the quality of the infant-parent interpersonal interactions. There is a process of moving from imitation seen in the neonatal stage to 'representational mapping' or coordinating representations of self and others that evolves during the development of joint attention typically seen between 6 and 18 months (Fonagy et al., 2002).

Children under the age of 4 experience reality in the psychic equivalence mode, meaning that what exists in the mind and what exists 'out there' is one and the same (the equation of the internal and the external) (Fonagy et al., 2002). Thus, the world is how the mind represents it, and alternative perspectives cannot be generated. This representation involves the projection of fantasy to the outside world, which can at times be distressing. At this stage of development, children usually have fears associated with their imagination (e.g., if they think there is a monster in the closet, there is a monster in the closet) (Fonagy et al., 2002). The development of pretend mode (pretense) involves the ability to represent

an object as if it were something else. This facilitates the decoupling of mental states (internal) from physical reality (external), and children begin to develop awareness that their experience does not mirror the outside world. The experience of affect-congruent, contingent, and appropriately marked mirroring displays from the parent facilitates the development of this decoupling (Fonagy et al., 2002). In typical development, the child integrates the psychic equivalent and the pretend modes in coming to mentalize. When the child begins to mentalize, mental states represent reality (unlike pretend) but are not equated with it (unlike psychic equivalence); thus, the child can adopt multiple perspectives of the same situation. Mentalizing enables the recognition that others' actions are understandable given their mental states (Fonagy et al., 2002).

If the child has been able to develop the capacity to reflect on mental states thus far (through the mother's ability to accept the child's projections of intolerable affects and represent them from a different perspective), the child entering latency will experience the emergence of a reflective mode of mental functioning. The child at this stage begins to recognize that her experience is one perspective of many, but continues to require the reflective function of the parent in times of crisis (Jemerin, 2004). By middle childhood, children are capable of telling a coherent and integrated story about their thoughts, feelings, and experiences concerning the self, friends, parents, and siblings (Steele & Steele, 2005). A child with the ability to mentalize will develop a sense of assuredness that his or her own actions and behaviors are meaningfully connected to their internal feelings, which are based upon their perception of the external environment (Fonagy et al., 2002). As such, they learn that their intentional actions predictably affect the external environment in a

meaningful way. This constancy in meaningfully interacting with the external world facilitates the development of a sense of self (Fonagy et al., 2002).

Mentalization has been found to predict the development of self-organization and emotional regulation (Allen et al., 2008; Fonagy et al., 2002; Gergely, 2007; Gergely & Watson, 1996). The theory of intersubjective space and the symbolization of emotion (Fonagy et al., 2002) posits that appropriately marked mirroring interactions serve to soothe and downregulate the infants' arousal. 'Marked mirroring' means that the mother reflects back to the infant his/her affect in a more manageable form, which resonates with the infant's self state without overwhelming their capacity to cope. It contains cues that let the infant know that the caregiver is representing the infant's emotional state, not her own emotional state (Fonagy et al., 2002). These representations become internalized by the infant. Furthermore, because most caregivers' reflected image is appropriately contingent, infants also experience their sense of self as validated. In the case of mirroring which is noncontingent (e.g., infant biting, mother reflects infant aggressions), the internalization of this mismatched mirroring response will likely generate an internal experience that contributes to a fragmented sense of self (Fonagy et al., 2002). Through the process of affect mirroring and the development of intersubjective space, the infant begins to develop mental representations of his or her own emotional state as a 'feeling' which leads to the development of emotional self-awareness, followed by mentalizing emotion, and finally, affect regulation and emotional control (Gergely & Watson, 1996; Gergely, 2007).

Individuals who are able to mentalize are better able to recognize, describe, and express their own emotions, as well as acknowledge and modulate the emotions of others (Hooker, Verosky, Germine, Knight & D'Esposito, 2008; Subic-Wrana, 2011). Furthermore, they

are better able to tolerate feelings of anger, anxiety, shame, and sadness, and express distress in a manner that is likely to elicit social support from others (Allen et al., 2008; Leary, 2007).

As mentalization involves emotional understanding and attunement to the mental states of the self and other, it is also thought to facilitate and enhance the development of interpersonal relationships and social competence (Allen et al., 2008; Fonagy et al., 2003; Leary, 2007; Liotti & Prunetti, 2010; Subic-Wrana, 2011). Individuals with the capacity to mentalize are less likely to experience an activation of their attachment system while engaged in relationships with other people, as they perceive others to react in a predictably benign and non-threatening manner (George & Solomon, 2008). As such, they have a greater amount of free mental space to mentalize within their relationships and be in-tune with their partner (George & Solomon, 2008; Fonagy et al., 2003). Also, a person with the ability to mentalize will have a greater capacity to internally regulate emotions through thought, tolerate negative feelings, develop a sense of self, and enjoy healthy interpersonal relationships and social support, all of which will likely protect them against trauma and enhance resiliency (Allen et al., 2008).

Highly traumatized mothers experience relationship disruptions and difficulties parenting that stem from their early trauma and subsequent deficits in mentalization capacity (Slade et al., 2005b). The goal of mentalization-based programs for parents such as *Minding the Baby* (Slade et al., 2005b) and *Child Parent Psychotherapy* (Lieberman & Van Horn, 2005) is to help parents deal with their personal trauma by increasing their capacity to mentalize. *Minding the Baby* (MTB) is a home visiting program serving high-risk (histories of trauma and mental illness) first-time mothers living in the inner city, with an

aim to develop reflective parenting. Mothers developing ability to separate her experience of the child from her own projections and distorted affects is a specific outcome of the development of mentalization, and mentalization provides the mechanism whereby both representations and behaviour are changed. Once a mother first learns to label her own internal experience, feelings, and life history, she can then begin to tolerate and regulate her baby's experience. A program evaluation showed that maternal mentalization was low at baseline and inversely correlated with posttraumatic stress symptoms. Maternal mentalization at 24 months improved from baseline, and preliminary review of infant attachment at 12-18 months indicated only 8% of the sample showed the most insecure pattern of attachment (Slade et al., 2005b). This maternal ability to regulate one's own emotions, in turn helps to restore the child's sense of safety, attachment, and appropriate affect and improve the child's cognitive, behavioral, and social functioning (Lieberman & Van Horn, 2008; 2005; Slade et al., 2005b).

The Impact of Trauma on Mentalization

Individuals who experience childhood trauma may have coped with the traumatic experience by inhibiting their mentalizing function. In a 1996 study by Fonagy, mothers with a higher prevalence of childhood trauma reported in their Adult Attachment Interview (AAI) narratives, were more likely to have a diagnosis of BPD, had significantly lower ratings on the Reflective Functioning Scale (RFS), and had significantly higher ratings on the Lack of Resolution of Abuse or Loss scales. Thus, individuals who experienced childhood trauma may have coped by avoiding contemplating the mind and mental states of their caregiver in order to protect the self (Fonagy et al., 1996). This defensive disruption of the capacity to depict feelings and thoughts in themselves and others drastically limits the

capacity to come to terms with these traumatic experiences later in life and creates a vulnerability to interpersonal stress (Fonagy et al., 1994; Lagos, 2007). It also becomes a characteristic response to all subsequent intimate relationships, including the parent-child relationship (Fonagy et al., 1991a; Fonagy, Moran, & Target, 1993).

Trauma also interferes with a parent's ability to be present, and to think and respond in a reflective manner rather than with projections, distortions, or premature conclusions when considering motives for children's behaviors (Gara, Allen, Herzog, & Woolfolk, 2000; Slade et al., 2005b; Schechter et al., 2005; Schechter et al., 2008; Schechter & Willheim, 2009). For example, in a study by Gara and colleagues (2000), 56 abused mothers and 47 non-abused controls were followed longitudinally to determine whether a mother's history of being physically abused as a child impacts the perceptions and beliefs concerning her own child. Mothers were assessed when their children were 6 months old, 1 year old, and 2 years old. Maternal abuse history was assessed using the Physical Punishment Scale (Rausch & Knutson, 1991), and information provided during a structured clinical interview. Maternal perceptions were assessed first during an interview in which each mother was given a list of significant people (her infant, the infant at his or her worst, her mother, her father, the father of the infant, siblings, and the mother herself) and asked to describe each person using trait adjectives. The mother's self-generated list of adjectives was amalgamated into a list (e.g., "moody", "worth nothing", "smart"). In a subsequent interview the mothers indicated whether each significant person, including herself, was or was not described by each attribute. Mothers re-rated the attributes when her child was 1 and 2 years old. The study showed that at-risk mothers were significantly poorer than controls at identifying well-differentiated negative perceptions of their children, but were

comparable to controls with respect to differentiation of positive perceptions of their children. Based on these findings, the authors suggest that mothers with a history of trauma have more difficulty focusing attention on their children and tolerating their negative attributes, as these negative attributes may trigger their own trauma history (Gara et al., 2000). A mother's inability to differentiate both her child's positive and negative attributes leads to a rigid and defended experience of the child evident in the mother's distorted mentalization of her child's behavior (Gara et al., 2000).

Maternal Trauma and Children's Mentalization, Socio-Emotional Functioning and Adjustment

Mothers who have experienced childhood trauma are more likely than those who have not to have children who experience behavioural adjustment difficulties, and internalizing and externalizing behaviour problems (Min, Singer, Minnes, Kim, & Short, 2013; Nuttall, Valentino, Borkowski, 2012; Riser, 2009). Research by Riser (2009) has shown that mothers who have experienced childhood trauma, specifically emotional neglect, are more likely to have children who experience higher levels of traumatic symptoms, as well as have more internalizing and externalizing problems. Riser (2009) assessed 358 children (191 boys and 167 girls) and a primary caregiver (48 fathers and 310 mothers) to explore the relations between parent trauma, parenting behavior, child trauma, and child adjustment. The children's ages ranged from 10 to 17 years with an average age of 13 years ($SD = 1.92$). Parent maltreatment history was assessed using the Childhood Trauma Questionnaire (CTQ) and the Life Incidence of Traumatic Events (LITE) and was completed by both caregiver and the child to measure the occurrence of negative and

potentially traumatic life events. Child outcome was measured using the Child Behavior Checklist (CBCL) and Youth Self Report (YSR) (Achenbach & Rescorla, 2001).

Structural equation modeling revealed that for the ‘child report’ model, parent trauma was not significantly related to parenting behaviors or child symptomatology. For the ‘parent report’ model, parental history of physical abuse was significantly related to parent-child negativity, sexual abuse was significantly related to child externalizing symptomatology, and emotional abuse and emotional neglect were significantly related to both parent-child negativity and child trauma.

Ostler and colleagues (2010) investigated the mentalization capabilities of 26 school-aged children (age range = 5.5 – 14 years) in foster care exposed to parental methamphetamine abuse. School-aged children are at a stage of development in which they are actively internalizing their parents’ ability to mentalize and are in the midst of acquiring concrete and early formal operational thought structures and applying them to increasingly complex emotions and memories (Ostler et al., 2010; Steele & Steele, 2005). The mentalizing task involved administering the My Family Stories Interview (MFSI; Ostler et al., 2010), which was designed to activate children’s attachment systems, and yields a rating of each child’s mentalization skills using the Child Mentalization Scale (CMS; Ostler et al., 2010). In this study, mentalization was positively correlated with age, with older children evidencing higher mentalization. Mentalization was negatively correlated with underreporting on the Trauma Symptom Checklist for Children (TSCC), with children higher in mentalization significantly less prone to underreport symptoms. Children high in mentalization had fewer mental health problems, scoring lower on internalizing and externalizing symptoms. Analyses revealed positive correlations between children’s

mentalization and social competence scores, with children higher in mentalization being rated by their foster caregivers as more socially competent. The findings support the notion that children's own internalized ability to mentalize plays an ever-increasing role in their own well-being and ability to make sense of their feelings and experience (Ostler et al., 2010). Furthermore, in a review article on emotion regulation and understanding, children experiencing psychological distress exhibited limited, underdeveloped understandings of emotion (e.g., poor comprehension of the "causes" of emotion and limited recognition of emotion regulation strategies), and deficits in emotion understanding appeared to be in the realm of self-understanding rather than peer or other-understanding. However, it was uncertain whether the evidence suggested limited emotion understanding or a reluctance to discuss emotions among children experiencing psychological problems (Southam-Gerow & Kendall, 2002).

Maternal Mentalization and Children's Mentalization, Socio-Emotional Competence and Adjustment

As noted earlier, maternal mentalization refers to the mother's capacity to reflect upon her own and her child's internal mental experience. Mothers with higher levels of mentalization will ascribe more realistic and positive attributions and less negative and blaming intentions to their children, thereby behaving in a nurturing and sensitive manner (Landy & Menna, 2006). Parents who promote the development of mentalization reflect on, understand, and respond to their children's internal experiences rather than their overt behaviors (Sharp, 2006). For example, Sharp (2006) stated that parents who are aware of early indicators of intentionality in their children perceive their children's mental states and modify their behaviors accordingly. The child's observation of their caregiver's response

to their own behavior allows the child to gradually conclude that he or she has feelings, desires, and beliefs that determine their actions. Accurate mentalizing requires parental sensitivity, emotional availability, and attunement (Slade, 2009). Parents who facilitate the development of mentalization in their children harbor a general sense of curiosity and ‘wonder’ about their children’s inner thoughts and feelings, while at the same time being open to mutual exploration of the parent’s mind by the child (Gergely & Watson, 1996). Mothers who are engaged in contingently responsive mentalizing will promote the development of mentalizing in the child (Landy & Menna, 2006).

Mothers’ ability to mentalize predicts children’s attachment security (Grienenberger, Kelly, Slade, 2005; Meins et al., 2002; Shmueli-Goetz et al., 2008) and children’s mental health outcomes and social-cognitive reasoning (Sharp & Fonagy, 2008). Children of poor mentalizers are at greater risk of symptoms of psychopathology including, conduct problems, anxiety with peers, fighting requiring parental intervention, and depression (Katz & Windecker-Nelson, 2004; Sharp et al., 2006; Strassberg, 1997). For example, in a study by Katz and Windecker-Nelson (2004), 131 mothers with children aged 4 to 6 years were recruited for participation in a study of children at risk for the development of conduct problems. The study used the Meta-Emotion Interview (Katz & Gottman, 1986) to assess the mother’s awareness of her own emotion, mother’s awareness of her child’s emotion, and mother’s coaching of emotion. Mothers of children with conduct problems were less aware of their own emotions and engaged in less coaching of their children's emotions than mothers of children without conduct problems. For both aggressive and nonaggressive children, higher levels of mothers’ awareness and coaching of emotion was associated with more positive and less negative peer play, although effects

were stronger for families with nonaggressive children.

Further, mothers who are unable to mentalize or who show deficits in their ability to accurately use mentalization have children with ineffective social-cognitive reasoning during interactions with peers (Sharp et al., 2006; Sharp et al., 2007). For example, Sharp (2007) investigated biases in mentalizing in 659 children aged 7 to 11 years through the use of ambiguous peer-related social scenarios. The mentalizing task involved 15 vignettes in which the researcher read the story aloud and presented the children with a pictorial representation of the scenario and then asked them to indicate which of three response options they agreed with most (overly positive style, overly negative style, or a rational/neutral style). Denial of negative emotions and the absence of a rational mentalizing response style were associated with symptoms of externalizing disorder and an increased likelihood of being above the cut-off on a population screen for psychopathology.

In another study, Sharp and colleagues (2006) examined mothers' accuracy of predicting their children's responses to distressing peer-related scenarios by testing 354 mothers of 7- to 11-year-old children drawn from a community sample. Children were first presented with cartoon stories and asked to choose from three fixed response options: 1) unrealistic and positive bias with strong self-reference (e.g., "they would think I'm cool not to play silly games with the rest of the kids"); 2) negative bias with strong self-reference (e.g., "they would think nobody likes me"); 3) neutral/rational/adaptive response devoid of global, internal, and stable self-attribution (e.g., "they would think I'm just sitting down to think and have a rest"). To test maternal accuracy, mothers were then presented with the same social scenarios and asked to guess which response option they imagined their child had chosen. Mothers were above chance in identifying their child's mental state attributions

and predicting their child's overall attributional style. Higher maternal accuracy predicted reduced scores on child psychopathology measures (lower scores on child measures of depression, anxiety, and conduct problems) even after the effects of gender and IQ were controlled. Low maternal accuracy was found to be associated with an unrealistic and positive child attributional style and poor socio-cognitive reasoning. The finding that low maternal accuracy is associated with ineffective attributional processes in the child speaks to the possibility that poor mentalizing in the mother (low maternal accuracy) may carry over so that ineffective mentalizing and deficits in socio-emotional competence are perpetuated in the child (Sharp et al., 2006).

Maternal Trauma and Child Outcomes: Maternal Mentalization as an Explanatory Mechanism

Children who have been raised by caregivers with a history of trauma may differ in their level of mentalization based on the level of mentalization in their caregivers, which will essentially depend on whether caregivers have integrated and resolved their own trauma (Slade, 2005; Fonagy, 2006). Specifically, children whose parents exhibit distorted mental representations of them often commonly present as angry, confused, and fearful of relationships, tend to either heighten affect or underregulate emotional arousal, and generally exhibit low levels of reflectiveness and cannot think about mental states but rather are buffeted by them (Slade et al., 2005a).

In a study by Slade and colleagues (2005a), 40 first-time pregnant women and their infants from a community sample were assessed to investigate the role of maternal reflective functioning in the intergenerational transmission of attachment. Adult attachment was measured using the AAI, and infant attachment was measured using a videotaped free

play when the infant was 4 months old, and the Strange Situation when children were 28 months of age. Maternal mentalization was assessed using the Parent Development Interview (PDI; Aber, Slade, Berger, Bresgi, & Kaplan, 1985) and coded with an adaptation of the Reflective Functioning (RF) scale (Slade, Bernbach, Grienenberger, Levy, & Locker, 2004) when children were 10 months old.

To test whether maternal attachment classification would be linked to maternal reflective functioning, these researchers compared mothers across the four AAI categories in level of RF. Securely attached mothers had significantly higher RF scores than dismissing, preoccupied, and unresolved mothers, and both dismissing and preoccupied mothers had higher RF scores than unresolved mothers. These researchers then tested whether infant attachment status would be predicted by maternal reflective functioning. They found that the mothers of secure infants had significantly higher RF scores than those of either resistant or disorganized children. Lastly, Slade and colleagues tested whether maternal RF mediates the link between adult attachment organization (measured in pregnancy) and infant attachment organization (measured at 14 months). They found that maternal RF largely accounted for the modest link between adult attachment and infant attachment security. Results of this study suggest that RF is a core capacity that differentiates secure and insecure states of mind and is a critical mechanism in the intergenerational transmission of attachment (Slade et al., 2005a).

The tendency for mothers with unresolved trauma to have lower levels of mentalization ability, speaks to what Fonagy (2006) termed the ‘psychic equivalence’ mode. The psychic equivalence mode is the absence of “as if” thinking, and occurs when one perceives mental

events to be equal to events in the physical world in terms of power, causality and implications (Baradon, 2010; Fonagy, 2006). For example, the absence of “as if” thinking is exemplified in PTSD symptoms, where the flashbacks and nightmares are experienced as real – the sense of representingness is lost and external reality is equated with the mental state (Davidson et al., 2003). In psychic equivalence mode, there is the inability to contemplate the child’s mind as separate from the parent (e.g., “My child’s need to spend time with peers means she is rejecting me.”). In contrast, a symbolic representation or mentalizing response may include an acknowledgement of one’s own feelings as separate from the child’s mental state (e.g., “My child’s need to spend time with peers makes me feel as if I can’t cope and I don’t know why.”) (Baradon, 2010). The absence of ‘as if’ thinking is at the core of why caregivers with a traumatic history often exhibit context-inappropriate responding and non-congruent affect mirroring in relationship with their child (Davidson et al., 2003).

Freud’s (1909) concept of repetition compulsion is also useful in understanding how an inability to mentalize can perpetuate the intergenerational transmission of trauma. Repetition compulsion can occur when a parent unwittingly confuses the child with a figure from the parent’s past (e.g., a mother’s relationship to her own mother) (Jones, 2010). These repressed feelings and experiences become projected onto the child, thereby stimulating feelings in the child that actually belong to the parent and rendering the child saturated with their parent’s traumatizing experience (Jones, 2010). These repetitions in ‘ways of being’ will likely affect the parent’s own mood when interacting with her child, thereby impacting the dynamic parent-child relationship as well as her child’s development (Baradon, 2010). Furthermore, the internalization of this mismatched mirroring response

will likely generate an alien internal experience that contributes to a fragmented sense of self (Fonagy et al., 2002). As a result of this lack of congruent mirroring and shared subjectivity, children may experience deficits in executive functioning (including problems focusing and problem solving), cognitive and affective self-regulation, social-developmental capacities, relating to peers, self-efficacy, conversational fluency, and social competence (Baranowsky, Young, Johnson-Douglas, Williams-Keeler, & McCarrey, 1998; Dunn & Cutting, 1999; Fonagy et al., 2002; 2006; Lalonde & Chandler, 1995; Landy & Menna, 2006; Slomkowski & Dunn, 1996).

Research by Katz and colleagues (2008) has demonstrated that emotion-coaching parenting may serve as a mediator in the relation between trauma and child outcome. Parents who had experienced intimate partner violence (IPV) had children with more behaviour problems, and had children who were more likely to respond oddly to peer interaction scenarios (e.g., the optimal social response to peer provocation in middle childhood is to appear unfazed or affected by the provocative remarks, rather than openly displaying anger or sadness). When parents were lower in emotion-coaching, increases in IPV were associated with higher levels of odd behaviour in the child. When parents were higher in emotion-coaching, IPV was unrelated to odd behaviour. For use of humour/laughing behaviour, when parents were lower in emotion-coaching, IPV was unrelated to laughing behaviour in the child. However, when parents were higher in emotion-coaching, increases in IPV were associated with increases in children's laughing behaviour as adaptive coping in peer-interaction scenarios (Katz, Hunter, & Klowden, 2008). These study findings suggest that emotion-coaching parenting behaviours may moderate the relationship between trauma and child outcomes, specifically children's

socio-emotional functioning and overall adjustment.

Emotion-Related Parenting Style and Mentalization

Research by Gottman and colleagues (1997) extend the concept of mentalization to parenting. Specifically, they developed the concept of “parental meta-emotion philosophy”, which refers to an organized set of feelings and thoughts about one’s own emotions and one’s children’s emotions. Gottman’s philosophy includes three components: 1) mother’s awareness of her own emotion, (2) mother’s awareness of her child’s emotion, and (3) mother’s coaching of her child’s emotion. The mother’s coaching of the child’s emotion may include, assisting the child in verbally labelling his or her emotions and problem-solving with the child, setting behavioral limits, and discussing goals and strategies for dealing with the situation that led to the negative emotion. Parents’ meta-emotion philosophy describe parents’ reactions to their children’s emotions, and their reasoning about these emotions (e.g., what the parent is trying to teach the child when responding to the child's anger) (Gottman, Katz, & Hooven, 1997). Meta-emotion philosophy emphasizes that parental coaching of emotion is adaptive and central to children’s healthy development. Gottman and colleagues (1996) found that children learn better to regulate their emotions through the parents’ ability to ‘manoeuvre in the world of emotions’ (Gottman et al., 1996, p. 244). Gottman and colleagues have demonstrated that children whose parents engage in emotion coaching tend to have fewer problem behaviours, healthier social relationships, better academic performance, and are in better physical health than children whose parents do not practice such emotional coaching parenting style (e.g., Gottman, 1997; Gottman, et al., 1996). Furthermore, their work has shown that emotion-coached children experience fewer negative emotions and more positive feelings than children who receive less parental

emotion coaching. They have also shown that parents' meta-emotion philosophy buffered children from the negative and harmful effects of marital conflict and divorce (Duffett, 2010; Gottman, 1997).

Emotion coaching is one of four emotion-related parenting styles identified by Gottman (1997), and is considered the most adaptive type of parenting style. The other three styles are: dismissing, disapproving, and laissez-faire. The four emotion-related parenting styles have been measured in the past by a measure called the Emotion-Related Parenting Styles Self-Test (ERPSST; Gottman, 1997; Hakim-Larson, Parker, Lee, Goodwin, & Voelker, 2006). More recently, Paterson et al. (2012) created a psychometrically valid short-form of this measure called the Emotion-Related Parenting Styles questionnaire. Although the factor structure that emerged from this work was very similar to Gottman's four emotion-related parenting styles, the measure revealed slightly different parenting styles. The emotion coaching subscale remained unchanged. The dismissing and disapproving styles were combined into a parental rejection of negative emotion subscale as they were highly correlated with each other and are characterized by parents' rejecting their children's emotional experiences. The laissez-faire style was identified as the parental acceptance of negative emotion subscale, which measures parents' acceptance of their children's expression of negative emotion without providing guidance. Finally, a new subscale emerged: Feelings of uncertainty/ ineffectiveness, which measures parental doubt and feelings of ineffectiveness when dealing with children's negative emotional expression.

The overlap of Fonagy's concept of mentalization and Gottman's parental meta-emotion philosophy is clear. Both share a philosophical basis in the notion of 'meta'-

processing of cognitions or emotions. At the core of Gottman's concept of parental meta-emotion philosophy lies the notion of self- and other-reflection in mentalistic terms, specifically during highly charged emotional experiences. Fonagy et al. (2002) refer to this capacity as RF and give similar weight to reflecting on emotions and cognitions. Moreover, the concept of parental meta-emotion philosophy overlaps with RF in that they are seen as the mechanisms by which the parent helps the child to learn emotion regulation. Although evaluations of RF do not explicitly measure emotion regulation, it is implied by RF theories. For Fonagy and colleagues, it is through the primary caregiver's capacity to mentalize that children learn to regulate their own behavior and emotions (Fonagy et al., 2002). A further goal of the present study was to examine the relations between mentalization and emotion-related parenting style.

Maternal Trauma and Parenting

Painful affect associated with early traumatic experiences with caregivers are carried over into the next generation through the role of parenting (Baradon, 2010; Lieberman et al., 2005). The intimate relationship between parent and child can retrigger painful memories for the parent living with a history of childhood trauma (Hesse & Main, 2006). For example, the sound of their children crying may trigger re-experiencing of their own helplessness during abuse because they are reminded of their own pain. Parents may therefore avoid or disengage with their child when the child is expressing a negative emotion, thus communicating that this emotion is dangerous or unwelcome.

Lyons-Ruth and Block (1996) and Lyons-Ruth and colleagues (1999) proposed that a caregiver's own attachment history is likely connected to a "failure to repair"; a caregiver's unresponsiveness to infant affective communications as part of a self-protective

process associated with unresolved loss and trauma. They suggest that if as an infant, a caregiver did not experience comforting during times of extreme distress and suffering, then it is likely that these feelings in the infant will evoke in the caregiver unresolved and overwhelming fear. They posit that these frightening feelings then block the caregiver from recognizing her infant's anguish and prevent her from being able to provide soothing and calming to her infant. As a result, the infant experiences the activation of his attachment system with neither the recognition of his attachment needs, nor the opportunity to be soothed and settled.

As such, Lyons-Ruth and colleagues (1999) developed an instrument intended to code atypical and disrupted maternal caregiving behavior during the Strange Situation: the Atypical Maternal Behavior Instrument for Assessment and Classification (AMBIANCE; Lyons-Ruth, Bronfman & Parsons, 1999). They applied the AMBIANCE measure to a sample of 65 high-risk caregivers and their 18-month-olds, and their results indicated that mothers of disorganized infants displayed more atypical behavior overall, and specifically, increased rates of disrupted affective communication such as, contradictory cues, or nonresponse/inappropriate response (e.g., invites approach verbally than distances, or does not offer comfort to distressed infant); more fearful/disoriented behavior such as, being confused or frightened by the infant, or becoming disorganized/disoriented (e.g., exhibits frightened expression, or sudden loss of affect unrelated to the environment); and, more negative-intrusive behaviour (e.g., mocks or teases the infant, or pulls the infant by the wrist). They also found that violence in mothers' childhoods was associated with maternal hostile/intrusive behaviours, while a maternal history of childhood sexual abuse was associated with maternal withdrawal such as, creating physical or verbal distance (e.g.,

holds the infant away from the body with stiff arms, or does not greet the infant after separation).

In another study from Lyons-Ruth and colleagues (2003), 45 high-risk mothers and infants were assessed at both 12 and 18 months of age, in order to examine the model of intergenerational transmission of disorganized attachment. The model posits that maternal childhood experiences of loss or trauma contribute to maternal states of mind on the AAI, which in turn contribute to infant disorganization. Results indicated that severity of maternal trauma had no direct relation to infant disorganization but severity of trauma was related to Hostile-Helpless states of mind, which in turn predicted infant disorganization. A Hostile-Helpless state of mind is characterized by pervasive indicators of hostile and/or fearful states of mind and, in some cases, by explicit continued identifications with hostile or helpless caregivers from the past. There are often concurrent indicators of affective numbing (e.g., laughter at painful anecdotes), and evidence of affectively intense, unstable relationships (e.g., ruptures in contact with family members in adulthood). The authors suggest that among mothers exposed to violence or abuse, the infant's increased mobility and agency, including the new capacity to say 'no', may be a particularly potent trigger for the mother's feelings of both helplessness and hostility related to past abuse.

Mothers with a history of childhood trauma will likely experience challenges in parenting due to an number of issues which include: 1) they may be experiencing symptoms of post-traumatic stress disorder (PTSD) (Landy & Menna, 2006), 2) they are likely to socialize their own children through abusive, neglectful, and maladaptive parenting practices (Appleyard & Osofsky, 2003; Eisenberg et al., 1998), 3) they likely experience anxiety regarding relationships (Fonagy et al., 2002; Shaffer & Sroufe, 2005),

and 4) they likely have great difficulty reflecting on the thoughts, feelings, and intentions of the self and others and have a propensity toward distortion (Fonagy et al., 2002; Sharp, 2006). Parents who have experienced trauma are likely to allocate at least some of their resources to managing the symptoms of PTSD, and as such, their capacity to provide sensitive and attuned caregiving to their children may be adversely affected (Landy & Menna, 2006). Caregivers who experience the intrusion of traumatic experiences through flashbacks and nightmares have less energy to provide nurturing interactions, structure and discipline, and engage in play or joint problem-solving tasks with their children (Landy & Menna, 2006). The caregiver's hypervigilance to certain perceptions (e.g. perceptions of criticism or cruelty from others) may make them less likely to attend to other pleasurable stimuli and more likely to attribute hostile intentions to others (Landy & Menna, 2006; Hesse & Main, 2006).

In a study by Barrett (2009), the independent effects of childhood trauma on parenting were assessed in 483 predominately African-American mothers with a child at least 3 years of age or younger. Measures included a two-part indicator for childhood sexual abuse, as well as additional questions assessing other childhood adversities (i.e., childhood physical abuse, perceiving that one had been neglected in childhood, observing domestic violence in childhood, childhood poverty, and living apart from one or both parents for all or a portion of time prior to the age of 16). Dependent variables included parenting stress, parental warmth, and discipline. Lower parental warmth was associated with being an older mother, perceiving that one had been neglected as a child, and childhood poverty. Childhood physical abuse, perceiving that one had been neglected as a child, observing domestic violence in childhood, living apart from one or both parents

during childhood, and childhood poverty were all found to predict dimensions of parenting (i.e., parental stress, warmth, nonviolent discipline, psychological aggression, corporal punishment). Childhood sexual abuse did not have an independent impact on the dimensions of parenting explored in this study after other factors were considered for this population of women. Based on these findings, the author highlighted the importance of considering the impact of other forms of childhood adversity on parenting.

Parents' reactions to their child's experience and expression of emotion can directly socialize the child's emotion-related reactions (Eisenberg, Cumberland, & Spinrad, 1998). As such, parents who believe that negative emotions are 'bad' and should be repressed and controlled will likely socialize their children to minimize, ignore, or deny negative emotions and refrain from expressing them. On the other hand, parents who believe it is important to be in touch with one's full range of emotions will likely model adaptive ways of expressing negative emotion and encourage their children to do the same (Eisenberg et al., 1998; Gottman et al., 1996).

Shipman and colleagues (2007) investigated the differences in parent emotion socialization between maltreating and non-maltreating families. Eighty mother-child dyads participated in this study (maltreatment group, $N = 40$; non-maltreatment group, $N = 40$), with children ranging from 6–12 years of age. The parent-child emotion interaction task (PCEIT; Shipman & Zeman, 1999) was used to observationally assess mothers' responses to children's emotion. Children were asked to 'talk with your mother about a time that you felt ____ (i.e., anger, sadness, fear, respectively) with someone in your family' and mothers were asked to respond as they would on a typical day. Mothers who physically maltreated their children provided less validation and emotion-coaching and more invalidation in

response to their children's negative emotions. Additionally, maternal responses to children's emotions (i.e., validation, emotion-coaching and invalidation) was found to mediate the relation between maltreatment status and children's adaptive emotion regulation, suggesting that lower levels of maltreatment is predictive of higher levels of children's emotion regulation, due to more instances of emotion-coaching from parents.

It may be the case that mothers low in mentalization and high in PTSD will be less likely to use parenting styles focused on tolerating and problem-solving difficult negative emotions. In the present study, links between maternal trauma and maternal mentalization and emotion related parenting style were investigated in terms of their effect on children's adjustment and socio-emotional functioning.

Maternal Trauma and Children's Outcomes: Emotion Related Parenting Style as an Explanatory Mechanism

Parenting behaviors associated with poor child outcomes include punitive parental reactions and minimization (Fabes, Poulin, Eisenberg, & Madden-Derdich, 2002), controlling behaviors (Huth-Bocks & Hughes, 2008), parent-child negativity (Riser, 2009), detachment or hostility (Cook, Kenny, & Goldstein, 1991), derogation, derisive humor, and criticism (Gottman et al., 1996), and parental distress reactions (Fabes, Eisenberg, & Miller, 1990; Gottman et al., 1996). These nonsupportive parenting behaviors are associated with lack of empathy, social unresponsiveness, poor socio-emotional competence, and problematic peer relationships in children (Huth-Bocks & Hughes, 2008), internalizing problems (e.g. anxiety and depression) and externalizing problems (e.g. aggression and anti-social behavior), and hostile attribution bias (Deater-Deckard, 2005; Huth-Bocks & Hughes, 2008). In addition, for mothers with a history of childhood trauma

the risk for poor developmental outcomes for their children are much higher (Huth-Bocks & Hughes, 2008). Research has found significant associations between parental history of emotional and physical abuse and parent-child negativity, assessed with a report of being critical of or nagging the child (Dixon, Hamilton-Giachritsis, & Browne, 2005; Riser, 2009). Furthermore, parent-child negativity was found to relate to children's internalizing and externalizing symptomatology (Riser, 2009).

In a recent meta-analysis of 193 studies, Goodman and colleagues (2011) investigated the impact of maternal depression on child outcome. They found that maternal depression was significantly related to higher levels of internalizing and externalizing problems, more general psychopathology and negative affect/behavior in children, and significantly related to lower levels of positive affect/behavior in children. Furthermore, the relation between maternal depression and internalizing problems was not significantly stronger than the relation between maternal depression and externalizing problems, although maternal depression was more strongly associated with internalizing problems in girls than in boys. Results were moderated by child age, gender, income, family structure, and ethnicity, with effect sizes being stronger for younger children and girls, single-parent families in poverty, and ethnic minorities (Goodman, Rouse, Connell, Broth, Hall, & Heyward, 2011). Research has shown that depression and PTSD frequently co-occur (Devane, Chiao, Franklin, & Kruep, 2005).

Summary and Study Objectives

The overall objective of the present study was to examine mothers with a history of childhood trauma and the intergenerational link to children's socio-emotional functioning

and adjustment, through maternal mentalization and emotion-related parenting, specifically emotion coaching parenting style.

Experiencing trauma during childhood perpetuates changes to one's intrapersonal and interpersonal relationships (Bryant, 2010). As noted in the literature reviewed, depression and PTSD are possible outcomes of childhood trauma as a result of changes to one's view of self as unworthy or unimportant, and one's view of others as dangerous or threatening (Bryant, 2012; Wolfe, 2001). As a result, children growing up in an environment of chronic trauma may avoid their own thoughts and feelings, and dedicate the majority of their mental resources to understanding their caregiver's state of mind, which may be anxiety-provoking (Fonagy et al., 2002). This lack of development in mentalizing ability makes these children more vulnerable to experiencing trauma and mood disturbances such as, depression and PTSD, later in adulthood (Allen & Fonagy, 2006; Fischer-Kern, 2012; Knetig, 2013).

Research has also demonstrated that mothers who have experienced childhood trauma are more likely to have children who experience higher levels of traumatic symptoms, as well as have more internalizing and externalizing problems, lower mentalization ability, and poorer social skills as rated by peers (Riser, 2009; Sharp, 2006; Sharp et al., 2007). Studies have also shown associations between children's own mentalization ability and their overall adjustment. For example, Ostler and colleagues (2010) found that children with lower mentalization abilities also have lower levels of social competence and more mental health problems. Similarly, Southam-Gerow and Kendall (2002) found that children experiencing psychological distress exhibited limited recognition of emotion-regulation strategies and poor comprehension of the "causes" of

emotion.

Children of poor mentalizers are at greater risk of symptoms of psychopathology including, conduct problems, anxiety with peers, fighting requiring parental intervention, and depression (Gottman et al., 1996; Katz & Windecker-Nelson, 2004; Sharp et al., 2006; Strassberg, 1997). Furthermore, mothers who show biases in mentalizing tend to have children with ineffective attributional processes (poor mentalizing) and ineffective social-cognitive reasoning during interactions with peers (Sharp et al., 2006). Maternal biases in mentalizing associated with child noncompliance, defiance, and hostile intent have also been linked with increased aggression in children (Dix & Lochman, 1990; MacKinnon-Lewis, Lamb, Arbuckle, Baradaran, & Volling, 1992; Smith & O'Leary, 1995; Strassberg, 1995, 1997). Thus, an aim of the present study was to examine whether mothers with lower levels of mentalization will have children with lower levels of mentalization, fewer social skills and adjustment problems.

Trauma also interferes with the parent's ability to be present, and to think and respond in a reflective manner rather than with projections, distortions, or premature conclusions when considering motives for children's behaviors (Slade et al., 2005b). The goal of mentalization-based programs for parents (Slade et al., 2005b) (Lieberman & Van Horn, 2005) is to help the parent deal with her personal trauma by increasing the capacity to respond realistically to threat, and to place the traumatic experience in perspective. This maternal ability to regulate one's own emotions, in turn helps to restore the child's sense of safety, attachment, and appropriate affect and improve the child's cognitive, behavioral, and social functioning (Lieberman & Van Horn, 2008; 2005; Slade et al., 2005a). Links in the literature have also been found between poor maternal mentalizing and maternal

psychopathology (Gottman et al., 1996; Sharp et al., 2006), and between child psychopathology and child emotion regulation (Southam-Gerow & Kendall, 2002). A further aim of the present study was to examine whether maternal mentalization mediates the associations between maternal childhood trauma and children's psychological adjustment and socio-emotional competence.

A higher capacity to mentalize has also been found to be associated with the capacity to parent (e.g., show positive emotions during interactions with children, and avoid harmful negative interactions) (Suchman et al., 2010). Gottman's work (1996; 1997) highlights the importance of emotion in maternal mentalizing by explicitly focusing on the parent's capacity to recognize emotions in themselves and their children, and by empirically linking parental mentalizing to the child's capacity to regulate his or her own emotions. One study showed that mothers low in mentalization are less likely to use parenting styles focused on tolerating and problem-solving difficult negative emotions (e.g., anger, sadness) (Gottman et al., 1996). Low levels of maternal mentalization has also been associated with insensitive and emotionally unresponsive maternal behaviors (e.g., withdrawal, hostility and intrusiveness) (Levy & Truman, 2002).

Children of parents high in emotion-coaching experience less stress and illness, higher self-esteem, higher levels of academic achievement, less externalizing behaviour problems, lower score in depression symptomatology, and also tend to develop strong emotion regulation and social skills (Dunsmore, Booker, & Ollendick, 2013; Garner, Dunsmore, Southam-Gerrow, 2008; Gottman et al., 1996; Gottman, 1997; Katz & Hunter, 2007). Parents who use an emotion-coaching parenting style are high in emotional awareness, acceptance, regulation, and coaching of their children's emotions (Gottman et

al., 1996; Gottman, 1997). Mothers with a history of childhood trauma are likely to have difficulty reflecting on their emotions and have a propensity toward distortion (Fonagy et al., 2002; Sharp, 2006). Shipman and colleagues (2007) found that mothers who physically maltreated their children tended to use less emotion coaching when their children displayed negative emotion in a mother-child interaction task as compared to non-maltreating mothers. According to Shipman et al. (2007), mothers who physically maltreated their children may view negative emotion as useless. In turn, children's experience of negative emotions may be invalidated and fewer adaptive emotion regulation strategies may be used by the children. Children of emotion disapproving parents may be less emotionally and socially competent (Gottman, 1997) and tend to have elevated anxiety and poor emotion regulation (Lagacé-Séguin & Coplan, 2005). A further goal of this study was to examine whether mothers who have experienced childhood trauma would be less likely to utilize an emotion-coaching parenting style, and whether, as a result, their children would have fewer social skills and more adjustment problems.

Research findings support the intergenerational transmission of parenting styles, suggesting that parents who have experienced trauma may socialize their children to perpetuate abusive, neglectful, and maladaptive parenting practices (Appleyard & Osofsky, 2003; Covell, Grusec, & King, 1995; Eisenberg et al., 1998). Studies have also revealed evidence of significant mediation of parent emotional abuse and partial mediation of parent emotional neglect experiences, to both child internalizing and externalizing symptomatology through parent-child negativity (Riser, 2009).

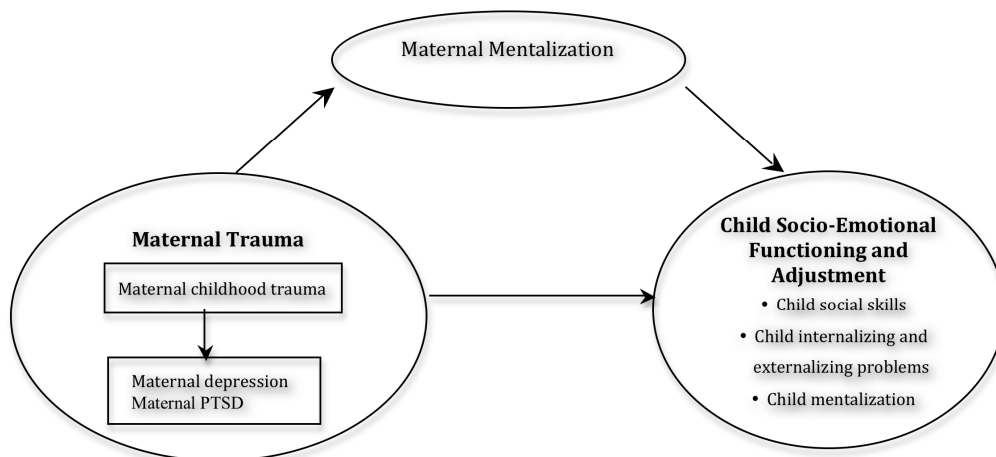
Parents currently experiencing trauma (in the form of IPV) had children with more behaviour problems (Klassen, Porcerelli, Sklar, & Markova, 2013), and had children who

were more likely to respond to peer interaction scenarios with behaviours that were considered nonsensical or age inappropriate, and this relationship was moderated by emotion coaching parenting style (Katz, Hunter, & Klowden, 2008). In a study of women residing in a battered women’s shelter, for example, higher levels of parenting stress were associated with more dysfunctional disciplinary parenting practices, and more child adjustment problems and child self-reported depressive symptoms (Huth-Bocks & Hughes, 2008). Thus, the final aim of the present study was to examine whether maternal emotion coaching parenting style mediates the association between maternal trauma and child social skills and adjustment.

Research Questions and Hypotheses

Based on the review of the literature presented above, the following research questions and two models were proposed. They are presented in Figure 1 and 2.

Figure 1. Mediation model with maternal childhood trauma (*X*), maternal mentalization (*M*), and child socio-emotional functioning and adjustment (*Y*)



Research Question 1. Does maternal mentalization mediate the links between maternal trauma and children’s social and emotional functioning, and adjustment (Figure 1)?

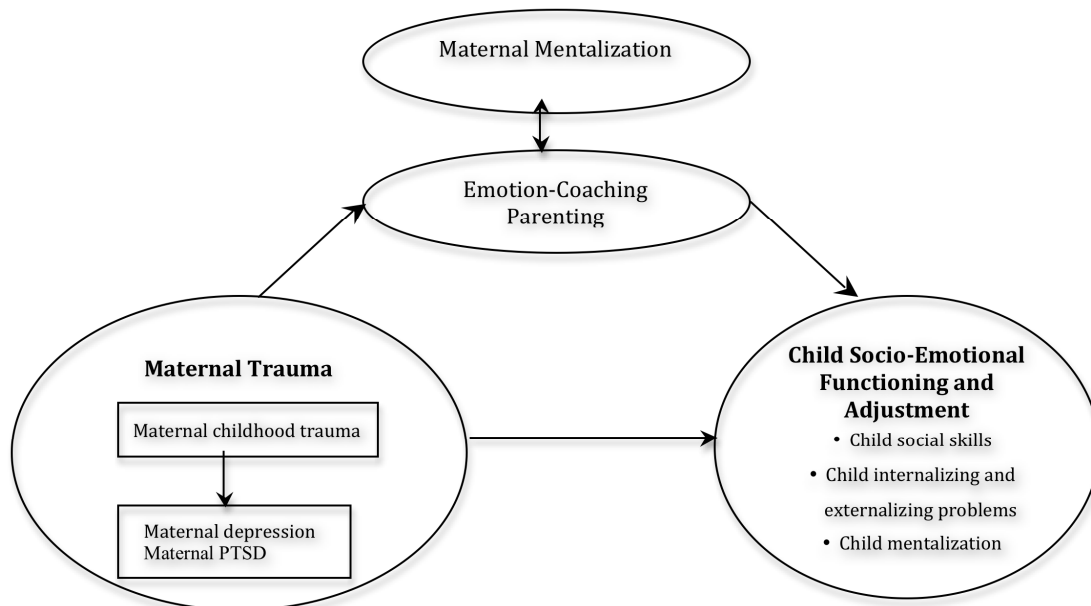
Hypothesis 1a. Mothers who have experienced childhood trauma will report lower levels of mentalization ability and higher levels of depression and PTSD.

Hypothesis 1b. Mothers who have experienced childhood trauma, and who have symptoms of depression and PTSD, will have children with lower mentalization ability, fewer social skills, and more behaviour problems.

Hypothesis 1c. Mothers with lower levels of mentalization ability will have children with lower levels of mentalization ability, fewer social skills and more behaviour problems.

Hypothesis 1d. More maternal trauma will be linked to fewer child social skills and more behaviour problems through lower levels of maternal mentalization.

Figure 2. Mediation model with maternal childhood trauma (*X*), emotion-coaching parenting (*M*), and child socio-emotional functioning and adjustment (*Y*)



Research Question 2: Does emotion-coaching parenting mediate the links between maternal trauma and child social and emotional functioning, and adjustment (Figure 2)?

Hypothesis 2a. Higher levels of maternal mentalization will be related to more emotion-coaching parenting.

Hypothesis 2b. More maternal trauma will be associated with less emotion-coaching parenting.

Hypothesis 2c. Less emotion-coaching parenting will be associated with lower levels child mentalization ability, fewer child social skills, and more child behaviour problems.

Hypothesis 2d. More maternal trauma will be linked to lower levels child mentalization ability, fewer child social skills and more child adjustment problems through lower levels of emotion-coaching parenting.

METHOD

Participants

Participants were 75 children ranging in age from 6 to 12 years ($M = 7.8$ years, $SD = 1.67$) and their mothers. There were 43 male children (57.3%), ranging in age from 6 to 12 years ($M = 7.74$ years, $SD = 1.70$) and 32 female children (42.7%), ranging in age from 6 to 11 years ($M = 8.1$ years, $SD = 1.88$). Males and females did not significantly differ in age $t(73) = .66, p = .51$. Thirty-four dyads were recruited from a pool of parents who participated in a previous psychology study conducted by Dr. Rosanne Menna at the University of Windsor investigating the psychosocial correlates of young children's social skills, and indicated that they would be interested in participating in future studies. Nineteen dyads were recruited from flyers posted at local community centres, outdoor parks, learning centres, and community website, 11 dyads were recruited from word of mouth, 6 dyads were recruited from the University of Windsor Psychology Research

Participant pool, and 3 dyads were recruited from the local children's protection agency. Recruitment information was missing for 2 dyads.

At the time of the study, 12 children (16%) were currently taking medication (i.e., allergy and asthma medication, ear infection, ADHD medication). Two children (2.7%) were in treatment for speech and language delay, and one child (1.3%) was in psychological treatment for anxiety and behaviour problems. The number of siblings that each child had ranged from zero to four ($M = 1.54$, $SD = 1.0$).

Demographic information for mother and family variables appear in Table 1. The mothers involved in this study ranged in age from 26 to 52 years ($M = 37.6$ years, $SD = 5.4$). The majority of mothers were married or living with a partner, identified themselves as Caucasian, reported that they had obtained a college diploma or university degree, and were currently employed. Of the 74 mothers who reported on their family income, 62 percent reported family incomes of at least \$60,000. Fifty-five percent of mothers reported that they have received psychotherapy for personal problems at some point in their life. Almost all of the mothers in the study had read a parenting book or visited a parenting website, and more than half of the mothers had attended a parenting class.

Table 1.
Mother Demographic Characteristics (N = 75)

	<i>N</i>	<i>%</i>
Marital Status		
Dating but not living with a partner	3	4
Married or living with a partner	59	78.7
Separated/divorced	12	16
Never married	1	1.3
Race or Ethnic Background		
Caucasian	53	70.7
Black	3	4
Hispanic	5	6.7
Asian/Pacific	5	6.7
South Asian	3	4
Other ethnic background	6	8
Education		
Grade 8 to 11	3	4
High school/GED	8	10.7
Post high school (trade/tech school)	7	9.3
1-3 years of college/university	10	13.3
College diploma/university degree	35	46.7
Graduate/professional school	11	14.7
Other	1	1.3
Household Income		
Less than \$20, 000	8	10.7
\$20,000 to \$39,999	15	20
\$40,000 to \$59,999	4	5.3
\$60,000 to \$99,999	19	25.3
\$100,000 or more	23	30.7
Prefer not to answer	5	6.7
Missing	1	1.3
Number of Children		
One	9	12
Two	33	44
Three	18	24
Four	11	14.7
Five	3	4
Attended Psychotherapy	41	54.7
Parenting Class	46	61.3
Parenting Books	68	90.7
Parenting Websites	61	81.3

Measures

Mother measures.

Background information. Mothers completed a demographic questionnaire on the child, and family characteristics (see Appendix B). Mothers reported their age, sex, ethnic background, marital status, level of education, occupation, and combined household income. Mothers reported if they have ever sought personal counseling or psychotherapy. They also reported on the age and sex of their child/ren, their own age at their first child's birth, and whether the child has any medical or psychiatric disorders or developmental delays. Finally, they reported if their children were currently in any form of treatment or taking any medications.

Childhood trauma. Mothers completed the Childhood Trauma Questionnaire – Short Form (CTQ-SF; Bernstein & Fink, 1998), a 28-item retrospective measure to assess the frequency and severity of emotional, physical, and sexual abuse, and emotional, and physical neglect. In the present study it was used to assess childhood trauma in mothers. Mothers were asked to rate statements about childhood experiences (before age 18) on 5-point Likert-type scales from (1) “never true” to (5) “very often true.” Three validity items were included to assess minimization and denial. The CTQ-SF provides a measure of overall childhood maltreatment (by summing each item to acquire a total score), as well as individual subscale scores of the various forms of abuse described above (by summing each item in each subscale). The CTQ-SF has shown adequate to excellent levels of test-retest reliability with Cronbach's alphas ranging from .57 to .93 according to each of the five subscales: emotional neglect ($\alpha = .68$ to $.93$), emotional abuse ($\alpha = .76$ to $.93$), physical abuse ($\alpha = .80$ to $.92$), sexual abuse ($\alpha = .88$ to $.97$), and physical neglect ($\alpha = .57$ to $.80$)

(Locke & Newcomb, 2008; Minnes et al., 2008). The CTQ has been used with diverse samples including, alcoholics (Mirsal et al., 2004), American Indian women in primary care (Duran et al., 2004), dyadic adjustment in dating couples (Riggs et al., 2011), and with individuals with posttraumatic stress and emotion regulation deficits (Burns et al., 2010). The CTQ has also demonstrated good convergent validity with a structured interview for childhood trauma and with therapists' ratings (Bernstein, Ahluvalia, Pogge, & Handelsman, 1997; Bernstein et al., 1994). The CTQ has also shown high levels of internal consistency (Cronbach's alpha = .80–.97) (Bernstein et al., 1994).

Within the present sample, Cronbach's alpha for the total scale was .89. Cronbach's alpha's for the subscales were: Emotional Abuse (.88), Emotional Neglect (.88), Physical Abuse (.83), Physical Neglect (.63), and Sexual Abuse (.96). The present study used the CTQ subscale scores in the analyses to assess the different long-term trajectories of various types of child abuse (Gibb, Chelminski, & Zimmerman, 2007).

In terms of emotional neglect, about 42 percent ($n = 32$) of mothers scored in the none to minimal range, about 25 percent ($n = 19$) scored in the low to moderate range, 24 percent ($n = 18$) scored in the moderate to severe range, and 8 percent ($n = 6$) scored in the severe to extreme range. For emotional abuse, about 63 percent ($n = 47$) of mothers scored in the none to minimal range, about 25 percent ($n = 19$) scored in the low to moderate range, about 7 percent ($n = 5$) scored in the moderate to severe range, and 4 percent ($n = 3$) scored in the severe to extreme range. One participant's data was missing on this variable.

In terms of physical neglect, about 84 percent ($n = 63$) of mothers scored in the none to minimal range, 12 percent ($n = 9$) scored in the low to moderate range, and 4 percent ($n = 3$) scored in the moderate to severe range. No mothers scored in the severe to

extreme range for physical neglect. For physical abuse, about 83 percent ($n = 62$) of mothers scored in the none to minimal range, about 9 percent ($n = 7$) scored in the low to moderate range, about 1 percent ($n = 1$) scored in the moderate to severe range, and 4 percent ($n = 3$) scored in the severe to extreme range. Two participants were missing data on this variable.

For sexual abuse, about 87 percent ($n = 65$) of mothers scored in the none to minimal range, about 3 percent ($n = 2$) scored in the low to moderate range, about 3 percent ($n = 2$) scored in the moderate to severe range, and about 7 percent ($n = 5$) scored in the severe to extreme range. One participant's data were missing on this variable.

Mentalization. Mothers completed the Reflective Function Questionnaire-46 (RFQ; Fonagy & Ghinai, unpublished) to assess mentalization. The measure is a 46- item self-report questionnaire that is based on Fonagy's (1998) Reflective Function (RF) scale for use with the Adult Attachment Interview (AAI). Each item on the RFQ46 is rated on a 6-point scale from "strongly disagree" (1), "disagree" (2), "disagree somewhat" (3), "agree somewhat" (4), "agree" (5), and "strongly agree" (6). There are three subscales: RFQ-A (central response items), RFQ-B-hl (strong disagreement represents high mentalizing), and RFQ-B-lh (strong agreement represents high mentalizing). These subscales are conceptually meaningless, but divided in terms of their scoring procedures. The central response items form the 23-item RFQ-A subscale, and are comprised of items that elicit a balanced mentalizing perspective. On the central response items, disagreeing somewhat (3) or agreeing somewhat (4) indicated high mentalization and items are scored as deviations from the mid-point; the less deviation, the higher the mentalizing skill. For example, Item 1, '*People's thoughts are a mystery to me*' requires a balanced recognition that we can

never completely know others' thoughts. Disagree somewhat (=3) or agree somewhat (=4) would be equally high mentalizing responses, whereas strongly disagree (1) or strongly agree (6) would be the lowest mentalizing responses. Thus, an initial answer of a 1 or 6 would be recoded as a 1, a value of 2 or 5 recoded as a 2, and a 3 or 4 as a 3. The high mentalizing response items form the 23-item RFQ-B subscale, and are comprised of all the polar scoring items. On the polar response items, high mentalization was indicated by either strong agreement (6) or strong disagreement (1) with the statement. The RFQ-B subscale is made up of two subsidiary scales: The RFQ-B-hl subscale is comprised of 8 items where strong disagreement (1) represented high mentalizing (e.g., "*I get confused when people talk about their feelings*"). These items were reverse scored. The RFQ-B-lh subscale is comprised of 15 items where strong agreement (6) represented high mentalizing (e.g., "*I pay attention to my feeling*"). Items were recoded and the scales added to obtain a total mentalization score.

At the present time, the RFQ-46 is unpublished, thus permission was obtained to use it from the Fonagy research team (See Appendix C). Fonagy and Ghinai initially developed the RFQ self-report questionnaire composed of 101 items, which were subsequently examined by 14 international mentalization experts for face and content validity. Items that were insufficiently reliable or repetitious were reportedly deleted, and the 46 remaining items formed the final Reflective Function Questionnaire (Perkins, 2009, unpublished dissertation). Fonagy and Ghinai conducted a trial data reduction on a non-clinical population of 212 participants recruited from the dining area of a university teaching hospital. They identified 10 items as redundant, and reported that the reduced 36-item scale displayed good internal reliability (Cronbach's alpha = .74). Perkins (2009) then

re-administered the full 46-item scale to a mixed clinical and non-clinical sample with the intention that a more robust item analysis and data-reduction could be carried out, before further reliability-testing and validation was pursued.

Perkins (2009) examined the factor structure and reliability of the RFQ by conducting an exploratory factor analysis. The sample consisted of participants recruited from several outpatient services (clinical sample), and students at two colleges (non-clinical sample), for a total of 403 participants. An initial data screening on the whole sample ($N = 403$) was conducted to identify any problematic items. Two items were rejected due to deviations in normality. Fifteen items were rejected because of low ($r < .30$) and insignificant ($< 50\% p < .05$) correlations. Nine items were rejected because they failed to meet both conditions of normality and significant correlations. An exploratory factor analysis was conducted on the reduced dataset of 20 items. A two-factor solution appeared to best meet simple structure, and therefore, the factor analysis was re-run extracting two factors. Five items did not load significantly (i.e., factor loadings $\leq .4$) onto either factor and were then dropped. The analysis resulted in a two-factor solution with 15 items. A reliability analysis was run on the 15-item scale and confirmed to be good ($\alpha = .77$) (Perkins, 2009).

Internal consistency coefficients for the subscales of the present sample ranged from .37 to .84 with a mean coefficient of .65. Cronbach's alpha for the RFQ-46 total scale was .34. Mirroring the procedure by Perkins (2009), an initial data screening on the 46 RFQ items was conducted on the whole sample ($N = 75$) to identify any problematic items prior to the calculation of reliability. Descriptive statistics revealed no items had failed to elicit a full range of responses. Deviations from normality were deemed to have occurred if

skewness or kurtosis were above the recommended absolute score of +/-2 (Field, 2005). Three items were therefore rejected (item 6, 31, and 45). These deletions increased Cronbach's alpha to .63 for the total scale. Twenty-nine further items were rejected because of low correlations ($r < 0.3$), making a reduced set of 14 items. These 14 items had a total Cronbach's alpha of .75 (See Table 2 for corrected item-total correlations). Of these 14 items, 10 items are the same as those reported by Perkins (2009) (Q2, 8, 10, 22, 23, 27, 29, 35, 36, 38). The ratings for each item were summed to acquire a total score of maternal mentalization.

Table 2.

RFQ Item-Total Correlations

RFQ Items	Corrected Item-Total Correlation
2. I worry a great deal about what people are thinking and feeling	.42
8. I always know what I feel	-.52
10. I often get confused about what I am feeling	.39
13. I get confused when people talk about their feelings	.51
14. I believe other people are too confusing to bother figuring out	.49
18. I pay attention to my feelings	-.39
22. When I get angry I say things without really knowing why I am saying them	.55
23. Those close to me often seem to find it difficult to understand why I do things	.53
27. Strong feelings often cloud my thinking	.52
29. When I get angry I say things that I later regret	.63
32. I frequently feel that my mind is empty	.35
35. If I feel insecure I can behave in ways that put others' backs up	.43
36. Sometimes I do things without really knowing why	.54
38. Sometimes I find myself saying things and I have no idea why I said them	.60

Post-traumatic stress. Mothers completed the Post-Traumatic Stress Disorder Checklist-Civilian Version (PCL-C; Weathers, Litz, Herman, Huska, & Keane, 1994), a self-report rating scale for screening for post-traumatic stress disorder (PTSD). It consists of 17- items that correspond to the DSM-III-R symptoms of PTSD. Respondents were asked to indicate how much they have been bothered by each symptom in the past month using a 5-point Likert scale from 1 “not at all” to 5 “extremely”. The PCL can be used both as a continuous measure of PTSD symptom severity by summing scores across the 17 items or to derive a PTSD diagnosis by considering a score of 3 (moderately) or greater as a symptom, then following the DSM diagnostic rules. Weathers et al. (1994) showed that the PCL exhibits sensitivity for the diagnosis of PTSD ranging from .79 to .94, specificity for PTSD ranging from .68 to .81, and very good internal consistency (Cronbach’s alpha of .97). The PCL total score was used in the present analyses and Cronbach’s alpha for the total scale was .93. Within the present study, eight parents (10.7%) met diagnostic criteria for PTSD.

Depression. The Beck Depression Inventory-II (BDI-II; Beck, 1996) is a 21-item self-report instrument measuring the severity of depression in adults and adolescents, and was developed for the assessment of symptoms corresponding to criteria in the DSM-IV (1994). The questionnaire consists of 21 groups of statements assessing sadness, pessimism, past failure, loss of pleasure, guilty feelings, punishment feelings, self-dislike, self-criticalness, suicidal thoughts or wishes, crying, agitation, loss of interest, indecisiveness, worthlessness, loss of energy, changes in sleeping pattern, irritability, changes in appetite, concentration difficulty, tiredness or fatigue and loss of interest in sex. Participants were asked to read each group of statements and pick the one statement in each

group that best describes the way he or she has been feeling during the past two weeks. The ratings for each item are summed to acquire a total score. The BDI has been shown to have high levels of internal consistency for outpatients in a psychiatric clinic (coefficient alpha = .92) and college students (coefficient alpha = .93). Estimates of stability for the BDI-II were based on a subsample of 26 outpatients, and the test-retest correlations of .93 were significant ($p < .001$). Within the present study, internal consistency was high with a Cronbach's alpha coefficient of .90. None of the mothers in the present sample scored in the severe or extreme range for clinical depression.

Parenting style. The Emotion-Related Parenting Styles (ERPS) Self-Test – Likert (Gottman & DeClaire, 1997, modified by Paterson et al., 2012) is a subset of 20 items selected from the long form ERPSST-L (81 items) (Gottman & DeClaire, 1997, modified by Hakim-Larson et al., 2006), used to assess predominant parenting style. Each item on the ERPS is rated on a 5-point scale from “always false” (1) to “always true” (5). The ERPS produces scores on four different emotion-related parenting styles: emotion coaching (5 items), parental acceptance of negative emotion (5 items), parental rejection of negative emotion (5 items), and feelings of uncertainty/ineffectiveness in emotion socialization (5 items). Scoring for the ERPS involves summing responses for each scale and dividing by the total number of items for that scale. The highest emotion-related parenting style score reflects the predominant parenting style. Because they are thought to be distinct emotion-related parenting styles, and that each mother has qualities of all the styles to some degree, the calculation of an overall score for the entire scale is not recommended (Gottman & DeClaire, 1997). For the present study, Patterson et al.'s (2010) emotion-related parenting style categories, Emotion-Coaching, Parental Rejection of Negative Emotion, Parental

Acceptance of Negative Emotion, and Uncertainty and Ineffectiveness in Emotion Socialization were used.

The emotion-coaching subscale (EC) represents an acceptance of children's expressions of emotions and the use of these opportunities to teach children about emotions and emotion regulation (sample item: "*When my child is sad, we sit down and talk over the sadness*"). Mothers with an emotion-coaching parenting style tend to have children with stronger emotion regulation and social skills (Paterson et al., 2012). The parental acceptance of negative emotion subscale (PA) measures the passive acceptance of children's emotional expression, but differs from the EC style in that it does not use these opportunities to teach children about emotions and emotion regulation (sample item: "*I want my child to experience anger*"). The parental rejection of negative emotion subscale (PR) measures the active rejection of children's expression of negative emotions through disregard and trivialization, or explicit criticism or punishment of their children for the expression of emotions (sample item: "*Children acting sad are usually just trying to get adults to feel sorry for them*"). Mothers exhibiting a style indicative of the rejection of negative emotion tend to have children who are less emotionally and socially competent (Snyder et al., 2003) and demonstrate poorer emotion regulation and greater anxiety (Lagacé-Séguin & Coplan, 2005 as per Paterson et al., 2012). The feelings of uncertainty/ineffectiveness subscale (UI) reflects a passive rejection of children's negative emotions through items indicating mothers' frustration with their lack of ability to deal with their child's emotions and a desire for the emotions to stop without parental intervention (sample item: "*When my child is angry, I'm not quite sure what he or she wants me to do*").

Validity for the ERPS was strong in that each subscale correlated in the expected

direction for each corresponding subscale of the ERPSST-L, and for behavioural indicators of empathy and emotion discussions, as well as other standardized measures of coping socialization and emotional expressiveness (Coping with Children's Negative Emotions Scale and the Parent Attitude toward Children's Expressiveness Scale; Fabes, Poulin, Eisenberg, & Madden-Derdich, 2002). Cronbach's alpha for the ERPS ranged from .70 to .80: EC ($\alpha = .79$), PR ($\alpha = .70$), PA ($\alpha = .79$), and UI ($\alpha = .75$) (Paterson et al., 2012).

In the present study, all subscales were used in analyses to provide an assessment of mothers' response to their child's emotional expression, and whether or not their parenting was geared toward enhancing emotional competence in their children. Cronbach's alpha coefficients for the EC, PR, PA, and UI scale were .62, .58, .70 and .72, respectively. The removal of one item from the EC subscale ("*when my child gets angry, it's time to solve a problem*") increased alpha for that subscale to .68. The removal of one item from the PR subscale ("*children often act sad to get their own way*") increased alpha for that subscale to .59. As the removal of this PR item did not result in substantial improvement, this item was retained.

Child behaviour problems. Mothers completed the Child Behaviour Checklist (CBCL: Achenbach & Rescorla, 2001) to assess child behavior problems. The measure consists of 113-items that assess a variety of internalizing and externalizing problems, as well as adaptive skills among children ages 6-18 years. Behaviors are rated on a 3-point scale (0 = not true, 1 = somewhat true, 2 = often true) and sample items include: "*Can't concentrate, can't pay attention for long*" and "*Impulsive or acts without thinking.*" Mothers were asked to rate the degree to which they believe each item is true about their child's behavior within the past 2 months. The ratings for each item are summed to acquire

a total score. The range of test-retest reliability for the CBCL has been reported between .95 and 1.00, the range of inter-rater reliability has been reported at .93 to .96, and the range of internal consistency has been reported at .78 to .97 (Achenbach & Rescorla, 2001). Within the present sample, Cronbach's alpha for the Internalizing and Externalizing subscale was .91 and .92, respectively. Cronbach's alpha for the CBCL total scale was .96.

Child social skills. The Social Skills Rating Scale-Parent Form-Elementary Level (SSRS: Gresham & Elliott, 1990) is a standardized norm-referenced instrument that provides an assessment of children's social behaviors. Mothers were asked to rate their child on this 55-item measure based on the frequency (from 0 "never" to 2 "often") and importance (from 0 "not at all important" to 2 "very important") of different social behaviors. The SSRS includes five subscales and all subscale scores can range from 0-20 with higher scores indicating greater skills in that area. The Cooperation subscale assesses behaviours such as helping others, sharing materials, and complying with rules and directions (sample item: "*The child will use free time at home in an acceptable way*"). The Assertion subscale assesses initiating behaviours such as asking others for information, introducing oneself, and responding to the actions of others (sample item: "*The child will join group activities without being told to*"). The Responsibility subscale assesses behaviours that demonstrate the child's ability to communicate with adults and regard for property or work (sample item: "*The child will report accidents to appropriate persons*"). The Self-Control subscale assesses behaviours that emerge in conflict situations, such as responding appropriately to teasing, and in non-conflict situations that require taking turns and compromising (sample item: "*The child will speak in an appropriate tone of voice at home*"). A Total Social Skills score is comprised of the sum of each item and ranges from

0-80. The Total Social Skills score is converted to a standard score that ranges from 0-130 with higher standard scores indicating greater levels of overall social skills. Standard scores that range from 90-110 are considered to be in the average range when compared to similar aged children (Gresham & Elliott, 1990).

This measure has been shown to have good internal reliability, with Cronbach's alpha ranging from .73 to .80 for the Cooperation subscale, .72 to .73 for the Assertion subscale, .65 to .69 for the Responsibility subscale, .74 to .79 for the Self-Control subscale, and .90 for the Social Skills total score (Mounts, 2011). In the present study, the total score on the Social Skills measure was used. The internal consistency of this scale was high according to Kline (2013), with a Cronbach's alpha for total Social Skills of .90.

Child Measures.

Emotional intelligence. Children completed the BarOn Emotional Quotient Inventory: Youth Version-Short Form (BarOn EQ-i: YV-S: Bar-On & Parker, 2000) to assess coping skills, adaptability, and well-being. The measure consists of 30-items. Each item is rated on a 4-point scale from "not true of me (never, seldom)" (1) to "very much true of me (very often)" (4). According to the Bar-On model, emotional intelligence is a cross-section of interrelated emotional and social competencies that determine how well youth understand and express themselves, understand others and relate with them, and cope with daily demands, challenges and pressures. The BarOn EQ-i: YV(S) includes four scales that assess the respondent's interpersonal (e.g., "I can talk easily about my feelings") and intrapersonal abilities (e.g., "I care what happens to other people"), stress management (e.g., "I get angry easily"), and adaptability (e.g., "I can come up with many ways of answering a hard question when I want to"). The four scales are summed to acquire the

total EQ scale score. The measure includes an additional scale that assesses positive impression management (“I like everyone I meet”).

The BarOn EQ-i: YV scales correlate well with other measures of emotional intelligence, and various measures of internalizing and externalizing problematic behaviours (Bar-On & Parker, 2000). Moderate to very high correlations were found between the adult (BarOn EQ-i) and youth forms (BarOn EQ-i: YV) (Bar-On, 1997). Correlations between the NEO-Five Factor Inventory and the BarOn EQ-i:YV have demonstrated good convergent and divergent validity (Brackett & Mayer, 2003). In a sample of 9,172 children and adolescents, Bar-On and Parker (2000) reported satisfactory internal reliability, ranging from .65 to .87. The manual also reported adequate test-retest correlations (3 weeks) ranging from .81 (for interpersonal) to .88 (for stress management) for the short form. In this study, the BarOn EQ-i:YV-S total score was used to provide an assessment of children’s emotional intelligence, and Cronbach’s alpha for the total scale was .84.

Child trauma. Children were administered the Trauma Symptom Checklist for Children–Alternate Form (TSCC–A; Briere, 1996), a 44-item self-report measure designed to assess posttraumatic stress and related psychological symptomatology in children ages 6-18 years. As per recommendations by Ostler (2010), in this study the TSCC was administered in an interview format. The TSCC includes two validity scales (Underresponse and Hyperresponse), 5 clinical scales (Anxiety, Depression, Anger, Posttraumatic Stress, and Dissociation), and 8 critical items. Children respond using a 4-point Likert scale, ranging from “never happens” to “happens almost all the time.” The TSCC has moderate to high reliability and good concurrent and construct validity, as well

as internal consistency for the clinical scales ranging from .77 to .89 in the standardization sample (Briere, 1996). The ratings for each item are summed to acquire a total score. The TSCC total score was used in the present analyses to provide a measure of children's posttraumatic stress symptoms, and Cronbach's alpha for the total scale was .92.

Vocabulary. Children were administered the Peabody Picture Vocabulary Test-III (PPVT-III) to assess their receptive vocabulary. The PPVT-III is an individually-administered, norm-referenced test. The measure is scored by subtracting the total number of errors from the number associated with the most difficult item answered correctly. Using a set of tables, the raw scores can then be converted into standard scores, percentile ranks, and age equivalent scores. The measure has demonstrated good reliability ($r=.72$) and validity (Dunn & Dunn, 1997). In the present study, the PPVT was used to ensure that children's verbal comprehension skills did not create a barrier to complete the study tasks that relied on verbal communication skills.

Child mentalization. The My Family Stories Interview (FSI; Ostler et al., 2010) is a semi-structured interview in which children recall family stories about a fun, sad, scary, and happy time. This interview is suitable for children aged 5½-14 years old. This measure was developed by Ostler and colleagues (2010) to assess the mentalization abilities of school-aged children from multi-problem contexts and is based on The Friends and Family Interview (FFI; Steele & Steele, 2005) and the Child Attachment Interview (CAI; Shmueli-Goetz et al., 2008). The aim of the FSI is to engage in a dialogue with children so as to listen to and understand their perspectives on experiences, feelings, and thoughts they had about themselves and their attachment figures during these experiences (Ostler et al., 2010). The sad or scary story is designed to activate children's attachment systems (Bowlby,

1973). In addition to the sad or scary story, the fun and happy story allow for the assessment of children's mentalization capabilities under less stressful conditions. The FSI is conducted as a dialogue; as children tell their stories, the interviewer offers different probes, such as how old they were when the event occurred, what they felt and thought about the experience, as well as what their parents did and how they responded. Children were also asked what they themselves did in each story. Each story (Happy, Sad, Scary, Fun) was rated on a scale of 1-9 using the Child Mentalization Scale (CMS), which is based on increasing levels of mentalization ability. The scores are then averaged across stories to arrive at an overall mentalization score for each child. The CMS will be described more extensively below.

The FSI consists of three parts: (1) orientation and rapport-building, (2) assessment of attachment style, and (3) emotion story-telling. To begin with, children were asked: *"I wonder if you could start by telling me a little bit about your family and yourself."* This initial open-ended question allowed the interviewer to gain a sense of the child's level of initiation, and general comfort and openness. It also assisted the child in orientating towards the task and beginning to build rapport with the interviewer in a non-threatening context. If the child did not initiate the conversation, the interviewer used follow-up questions/probes: "Who is in your family?" "What are they like?" "Where do you live?" "What do you do together?"

In the next portion of the interview, the interviewer asked if the child could tell about a time when he or she was away from his/her parents for a longer period of time (i.e., over night, a few days). Focusing on one time, the interviewer then asked the child the following probes: "How did you feel when you were away?" "What did you think about in

that time?” “What did you do?” “What did you feel when you came home?” “How did your parents feel?” This task served to prime the child toward mentalization (i.e., how did you think, feel, and behave, and how do you think others thought, felt, and behaved).

The third and final portion of the interview was querying the child on four different emotion-type stories: (1) Can you tell me about a time that was happy? (2) Can you tell me about a time that was sad? (3) Can you tell me about a time that was scary? and (4) Can you tell me about a time that was fun? To keep the level of "scaffolding" constant to each of the above four stories, children were then asked the following probes: “How did you feel about (the time that was happy)?” “What did you think?” “What did you do?” “What did others feel?” “What did they think?” “What did they do/How did they act?” To encourage the child’s own level of mentalization, but still provide a standardized level of scaffolding, interviewers repeated a child’s spontaneous statement if the child was struggling and then repeated the feeling question once, when applicable.

At the beginning of the interview children were encouraged to use puppets and tell their stories in the third person. The following script was used:

“This next thing is kind of fun. I’m going to ask you to tell me some stories. And while we are telling stories, I brought some things with me that can help us tell the stories. I have some puppets. Sometimes it’s easier to have the puppets tell the story and your hand can go in here. That’s the panda bear and she/he’s really good at telling stories. And this is the cow. Sometimes she/he’s kind of shy. So if you’re feeling shy, she/he’s really good at helping. Okay, so here are the puppets if you want to use them. I can be a puppet or you can be a puppet. We can tell stories like that. Or if you don’t want to do that I brought some coloring stuff. Sometimes when you’re telling stories about your life it’s fun to color while you talk. I’ll set these things out in case you decide you want to color. We can color together or you can color alone whichever you like. And these are going to be stories about your life. I don’t know much about your life so the first question I have is for you is - can you tell me a little bit about your family?”

Child mentalization rating. The Child Mentalization Scale (CMS; Ostler, Bahar, & Jessee, 2010) is used to rate the My Family Stories Interview. It is the only published

measure that assesses the mentalization skills of school-aged children (6-12 years). It is based on the Reflective Functioning Scale for adults (Fonagy et al., 1998) and work on containment by Wilfred Bion so as to tailor it more to children (Bion, 1962). The scale assesses children's ability to attend to, hold in mind, and talk coherently and openly about feelings and experiences in their families of origin without distorting, ignoring, or denying information (Allen et al., 2008; Steele & Steele, 2005). The measure also examines children's ability to identify emotions and thoughts, to modulate feelings, and to contextualize feelings.

The CMS scale ranges from levels 1-9, each level becoming increasingly more sophisticated with respect to mentalization abilities (see Appendix D for description and an example of each level from the present study). The CMS scale was originally developed through the analysis of 16 TSCC transcripts which were administered clinically to children (Ostler et al., 2010). In Ostler's (2010) study, two independent trained raters were utilized, as well as the team consensus best estimate technique, which involves a group of experts coming to consensus on the basis of a set of data on what the best diagnosis is given the evidence (Klein, Ouimette, Kelly, Ferro, & Riso, 1994). Gamma coefficients were used to calculate interrater reliability because, like Cohen's kappa, chance agreement is taken into account, yet gamma is more appropriate for use with ordinal rating scale data (Hays, 1981; Liebetrau, 1983). The gamma for children's responses to the interview was .98. Scores on the CMS were associated with CBCL scores (Ostler et al., 2010). Children higher on mentalizing had lower scores on the Anxious/Depressed, Social Problems, and Aggressive Behavior subscales, $r(23) = -.28$, $r(23) = -.32$, and $r(23) = -.28$, respectively. The CBCL competence subscales were utilized to assess children's competence in three areas:

activities, social, and school. Of the subscales on the competency scale, higher mentalization was only associated with higher social competence, $r(17) = .51, p < .05$. There was no relation between children's mentalization and their competency in activities or at school (Ostler et al., 2010).

The CMS scale (Ostler et al., 2010) depicts that children with high levels of mentalization (7-9) have a clear awareness of and an ability to contain, make sense of, and reflect on their own feelings and those of others. They can link their feelings to relevant thoughts and memories. Children scoring at mid range (4-6) show an emerging, but limited ability to tolerate, express, acknowledge, contain and make sense of thoughts and feelings. There are some clear elements of containment and mentalizing that may be present, but this ability is limited. The child shares, expresses and considers, but responses are more fragmented, brief, or have less depth than those that score higher (they are nonetheless real connections). Overall, the basic elements of mentalization are present or strongly emerging. A score of 4 or 5 is typically scaffolded, meaning that the interviewer helped the child to contain by asking follow-up questions or reflecting back/mirroring the child's expressed emotion. Children scoring in the low range (1-3) cannot or struggle to tolerate, express, or explore feelings with words. They also show high levels of defensiveness or lack of understanding. A summary of parent and child measures, the specific scales of these measures used in analyses, and their associated variable are presented in Table 3.

Training

Interview training for administration of the My Family Stories Interview

The researcher, research supervisor, and two female graduate students (one doctoral level and one masters level) in the Clinical Psychology Program at the University of

Windsor were trained by Dr. Teresa Ostler in conducting the My Family Stories Interview (MFSI; Ostler et al., 2010). Training for interviewing children involved review of the *Containment/Mentalization Interview and Scoring Manual for Children* (Ostler et al., 2011), and review of “*How you are is as important as what you do . . . in making a positive difference for infants, toddlers, and their families*” (Pawl & St. John, 1998), an article discussing important considerations when interviewing children about sensitive topics. Training involved the systematic review of five My Family Stories Interviews obtained from Dr. Ostler’s published study on this measure (2010). Training consisted of three Skype™ sessions (approximately 1 hour each) prior to data collection, and regular supervision sessions throughout data collection when needed. The primary researcher conducted two pilot interviews which were reviewed and discussed with Dr. Ostler, prior to proceeding to data collection. The majority of the child interviews ($n = 53$) were conducted by the primary researcher. The remaining mentalization interviews were conducted by two female upper-level masters and doctoral students in the Clinical Psychology Program at the University of Windsor. The interviewers had 2 to 4 years of training/experience in the graduate program, and had completed one Introduction to Psychotherapy course and an additional

Table 3.

Summary of Parent and Child Measures

Measure	Study Variable
Mother Measures	
Demographic Questionnaire	
Childhood Trauma Questionnaire (CTQ)	Childhood trauma
Emotional Abuse	Emotional abuse
Emotional Neglect	Emotional neglect
Physical Abuse	Physical abuse
Physical Neglect	Physical neglect
Sexual Abuse	Sexual abuse
Reflective Functioning Questionnaire	Mentalization
PTSD Checklist (PCL)	Post-traumatic stress
Beck Depression Inventory-II (BDI-II)	Depression
Emotion-Related Parenting Styles (ERPS)	Parenting style
Emotion-Coaching	Emotion-Coaching
Parental acceptance of negative emotion	Parental acceptance of negative emotion
Parental rejection of negative emotion	Parental rejection of negative emotion
Uncertainty/ineffectiveness	Uncertainty/ineffectiveness in emotion socialization
Child Behaviour Checklist (CBCL)	Child internalizing and externalizing problems
Social Skills Rating Scale (SSRS)	Child social skills
Child Measures	
BarOn Emotional Quotient Inventory (BarOn)	Emotional intelligence
Trauma Symptom Checklist for Children (TSCC)	Trauma
Child Mentalization Scale (CMS)	Child mentalization

psychotherapy course. Three sessions of group supervision were conducted with the interviewers in which the interviewers observed the primary researcher conduct the child mentalization interview through a one-way mirror in the laboratory. Each interviewer then conducted one co-interview with the researcher and were given detailed feedback afterwards and an opportunity to discuss questions, concerns, or obtain clarification on the interview process. The researcher (AK) met with Dr. Ostler for one initial training session and three follow-up sessions to consult on interviewer training, as well as on an as-needed basis via email correspondence. Following this training, interviewers signed up to conduct interviews on an online calendar and were observed by the researcher (AK) for the majority of their interviews. The researcher provided interviewers with feedback on an on-going weekly basis through email correspondence and phone conversations, and consulted with Dr. Rosanne Menna (supervisor) for supervision on several occasions to ensure proper standardization and assessment procedures were followed for each protocol.

An important goal of the interview process was the establishment of a safe relationship between the interviewer and the child. A brief period of rapport-building took place prior to the interview to establish safety and encourage disclosure. Interviewers focused on thoroughly exploring the child's thoughts and feelings as well as maintaining momentum through the stories to reduce potential for boredom in the child. Interviewers were prepared to monitor any emotional discomfort in the child during the assessment, and provide support or stop this part of the assessment as needed. In addition, they were instructed to follow a pace most comfortable to the child, and were prepared to schedule a second session within a week if needed, or if desired by the child. Interviewers were able to regularly access supervision from Dr. Rosanne Menna.

To keep the level of scaffolding constant, interviewers were trained to ask the following probing questions: (1) How did you feel about (the time that was happy)? (2) What did you think? (3) What did others feel? and (4) What did they think? As a rule, interviewers were instructed to repeat a child's spontaneous statement if the child was struggling, and then to repeat the feeling question once. Probing was to occur a maximum of 4-5 times overall throughout the entire interview.

Administration of the TSCC in interview format. Interviewers probed items that represent extreme feelings as reported by the child (3=almost all the time), or items that represent feelings that possibly are being denied (For example, during one of our interviews a child denied ever feeling frightened; 0=never). Occasionally, younger children struggled with some TSCC questions and interpreted them literally. In these cases, the interviewer attempted to rephrase in different words or provide an example. Children were then given the opportunity to share their feelings with their mothers at the end of the assessment, with the guidance of the interviewer in an informal “feedback” session to mothers. When children responded with a 2 (most of the time) or 3 (almost all of the time) to critical questions indicating harm to self or others, the interviewer conducted a suicide risk assessment. Mothers and children were given various forms of support following the interview depending on the child’s risk level. Seven children were determined to be at risk of harming themselves and required a suicide risk assessment. When a child was determined to be at risk, the interviewer reminded the child of the informed consent at the beginning which indicated that in the case of risk of harm to self or others, their mother or another adult would need to be informed. Five cases were determined to be low risk, as the child did not indicate any intent to harm or a plan, but rather passive suicidal thoughts (e.g.,

“When I’m angry I want to hurt myself by banging my head against the wall over and over”). In these cases, these concerns were discussed with parents at the end of the assessment, and parents were provided with resources for helping their child deal with difficult emotions (e.g., books for the child, community resources). Two cases were determined to be moderate to high risk and included follow-up with the family and/or caseworker. In both of these cases, the child was currently receiving community support (e.g., current involvement with services through Children’s Aid Society; current psychiatric treatment at local hospital). In these cases, the interviewer obtained permission to contact the primary care worker, and also arranged for telephone follow-up with the parent in one week in order to check in on the child’s well-being and their ongoing mental health support.

Training for coding interview transcripts. The researcher, research supervisor, and two female graduate students (one doctoral level and one masters level) in the Clinical Psychology Program at the University of Windsor were trained for the coding of the My Family Stories Interview (MFSI; Ostler et al., 2010) with the Child Mentalization Scale (CMS; Ostler et al., 2010). These graduate student research assistants differed from the research assistants who were trained in the administration of the My Family Stories Interview. The author of the measures, Dr. Teresa Ostler, from the University of Illinois at Chicago, and her graduate student, Dr. Allison Jessee, conducted the training. Following approval from the Research Ethics Board, training took place by SkypeTM and involved the systematic review of interview protocols and the scoring of mentalization using the Child Mentalization Scale (CMS). Coders were required to read and continually refer to the *Containment/Mentalization Interview and Scoring Manual for Children* (Ostler, T.,

Sensoy-Bahar, O., & Jessee, A., 2011) to maintain consistency and reliability in coding. Training occurred in three steps. First, coders were provided background information regarding the construct of mentalization and were asked to review definitions of the levels of mentalization contained in the *Containment/Mentalization Interview and Scoring Manual for Children* (Ostler et al., 2011). This detailed manual was supplied to the coders to assist with coding. The manual featured clear and concise definitions for the nine levels of mentalization as well as illustrative case examples. In addition, the coders were instructed to note particular aspects of the interaction that served as the basis for their rating by underlining or highlighting that section of the transcript. Second, sample protocols in the *Mentalization Manual* were reviewed with each coder prior to viewing transcripts. The purpose of this exercise was to help prepare the coders to identify the types of markers of mentalization they would be coding. Third, Dr. Ostler provided five transcripts for the coders to code, in order to further orient them to the nature of the interaction and allow for practice with the application of the child mentalization scale. These transcripts were not selected for calculation of inter-rater agreement. Prior to the calculation of inter-rater agreement, the primary researcher, graduate students, and Dr. Ostler met to discuss the interviews, and clear up any inconsistencies with respect to the application of the coding criteria. Coders were unaware of the participants' scores on other measures.

Inter-Rater Agreement and Internal Consistency

Inter-rater reliability for the child interview was determined on the basis of the first 10 audio-recorded transcripts from the present study. In order to ensure the quality of training, these first 10 transcripts were coded by the researcher (AK), the two University of Windsor graduate students, Dr. Ostler, and her research assistant, Jessee Allison. As noted,

coders were trained in the use of the coding system and had practiced coding five transcripts prior to calculating inter-rater reliability. For each child interview, the coders were required to provide a rating ranging from 1 to 9 for each of the emotion-focused stories (happy, sad, scary, fun). The results of inter-rater analyses revealed relatively strong agreement between the Illinois team and our team of coders. Of the four family stories rated using the coding system, the minimum rate of agreement following coding was 71% (i.e., *Happy Story*); however agreement reached as high as 100% for two variables (i.e. *Overall Mentalization score*; *Sad story*). Following this initial phase of establishing inter-rater reliability with our training team, all remaining transcripts were coded only by the two research assistants. Scores for which the coders were not within the same level of agreement were discussed and reviewed until a consensus was agreed upon. Inter-rater reliability between the two research assistants was calculated on the basis of 20 percent of the sample.

Since the coding scale is divided into 9 levels with each level consisting of three points, it is important to note that all codes were within the same level of mentalization (low, medium, high). To control for chance agreement, an inter-rater reliability analysis, using the intra-class correlation coefficient, was performed. Intra-class correlation coefficients for the stories had adequate to high inter-rater reliability (see Table 5). Internal consistency reliability for the total mentalization score was .81. In the present study, the total mentalization score was used in all analyses.

Table 4.

Inter-rater Reliability for Coding Mentalization with the Illinois Team

Coders	<i>ICC</i>				
	Overall Mentalization	Happy Story	Sad Story	Scary Story	Fun Story
Coder 1	.95	.80	.97	.85	.92
Coder 2	.90	.74	.96	.91	.73
Coder 3	.92	.87	.96	.90	.87

Table 5.

Inter-rater Reliability for Coding Mentalization

Variable	<i>ICC</i>
Overall Mentalization	.81
Happy story	.73
Sad story	.92
Scary story	.85
Fun story	.54

Procedure

The present study was approved by the Research Ethics Board of the University of Windsor and the Research Ethics committee of Windsor-Essex Children's Aid Society (CAS). Prospective participants were contacted by phone, or electronic mail, and provided information on the study, including a brief description of the study aims, the activities and time required to participate (for both parent and child), and compensation for participation. Parents completed written, informed consent and assent prior to completing the measures and consented to their children's participation in the study. Written, informed consent was also obtained from the child participants (Appendix A). Referrals to community services were provided to participants who felt upset or concerned following the completion of the study. The study took place in a laboratory in the Psychology Department at the University of Windsor. The measures and interview took approximately 1.5 hours to complete, and the questionnaires were administered randomly to control for order effects. Individual interviews, paper-and-pencil questionnaires, and language testing with the children were conducted in a separate room from mothers as they completed paper-and-pencil questionnaires. As a token of appreciation, children were allowed to choose a small prize, such as stickers or a toy, after completion of the session and mothers received 25 dollars for their participation in the study, as well as up to 10 dollars for parking costs. Mothers who were enrolled in a psychology course at the University of Windsor ($n = 6$) received two bonus marks toward one psychology course of their choice. Participants who were unable to complete the study, either by choice or lack of availability, were still offered compensation for any time contributed to the study. The measures were administered by the

researcher and trained graduate student research assistants. Four Master's and Doctoral level research assistants in the Clinical Psychology program assisted with this project.

RESULTS

Data Screening and Preparation

SPSS Statistics 20.0 (Statistical Product and Service Solutions, Version 20) was used for all statistical analyses, including data screening and preparation, correlations, regressions, and mediation analyses. Prior to conducting both preliminary and main analyses, the data were screened for data entry errors and missing data. The statistical assumptions of multiple regression were evaluated and steps were taken to address any apparent violations. Thorough consideration was given to the deletion of cases, replacement of missing values, and issues pertaining to univariate and multivariate normality. Alpha levels of .05 were used to test statistical significance, however, exact *p*-values are provided for statistical tests of each hypothesis. To test associations and models, correlations, regression and mediation analyses were performed. Correlations were conducted between demographic variables and all study variables to detect possible confounds. Demographic variables were controlled for if they correlated with both the independent and dependent variable in regression analyses, and if they correlated with at least two variables in mediation analyses. Once the conditions for mediation were established, a multiple regression procedure, devised by Preacher and Hayes (2008), was used to evaluate the indirect effect of mediators on the relation between the independent and dependent variables of interest.

Preacher and Hayes (2008) developed a macro for SPSS that is useful for analyzing the path coefficients in mediator models. It utilizes a bootstrapping method, to produce

confidence intervals for the total and specific indirect effects of an IV on a DV via a mediator, and also adjusts the path estimates for any potential impact of covariates. Thus, the present study utilized the Preacher and Hayes bootstrapping method to assess proposed meditational models.

Missing data. Following the best practices guidelines for missing data management (Schlomer, Bauman, & Card, 2010), missing values were dealt with using the multiple imputation (MI) procedure provided by SPSS Statistics 20.0, using the Linear Regression method. MI was used to impute missing data because it allows for item-level imputation, which ensures that scale scores can be calculated following imputation (Schafer & Graham, 2002). In this study, all items in the model variables were used to calculate scale scores. With MI, missing values are predicted from the observed values using a series of multiple regression equations. This means that missing values for each participant are predicted from his or her own observed values and that the amount of variability is preserved in the imputed data (Schafer & Graham, 2002).

In this study, there was a total of 0.47% item-level missing data. Little's MCAR Chi-Square statistic was found to be non-significant, $\chi^2(3044) = 25.01, p = 1.0$, indicating that values were missing in a random fashion, and no values were missing across all variables. Approximately 31% of the variables had at least one missing value, and in terms of individual subjects, 38.67% were missing at least one data point. All variables were missing less than 4% of cases. The following variables had missing listwise data points: BDI-II (three missing), CTQ-SF (four missing), ERPS (three missing), PCL (three missing), RFQ (three missing), BarOn (one missing), TSCC (two missing), CBCL (ten missing), and SSRS (15 missing). One participant was missing half of the items on the

CBCL (more than 50 items), and thus, this participant's CBCL score was removed from all analyses. In datasets such as this one, where there are less than 10% of missing cases, the multiple imputation method is recommended (Peyre, Leplège, & Coste, 2011; Shrive, Stuart, Quan, & Ghali, 2006). In conducting MI for this study, the Markov Chain Monte Carlo imputation method was used and a fixed number of iterations of 10,000 to impute the dataset, with a pooled estimate of the missing values.

Multivariate normality. Prior to conducting the imputation for missing data, descriptive statistics were used to identify outliers, establish normality, and assess linearity, multicollinearity, and homoscedasticity (Osborne, 2013; Tabachnick & Fidell, 2007). Normality was assumed to be violated at a level of $p < .001$ if the Shapiro-Wilks statistic was significant, and if the skewness and kurtosis statistic, assessed by the skewness and kurtosis value divided by their standard error, was equal to or greater than 3.29 (Field, 2005; Tabachnick & Fidell, 2001). Exploring the distributions of the main variables revealed that eight variables displayed significant skewness and/or kurtosis, including measures of symptomatology (i.e., BDI-II, PCL, CBCL-Internalizing, CBCL-Externalizing) and history of abuse (i.e., Emotional Abuse, Physical Abuse, Physical Neglect, Sexual Abuse). All distributions were positively skewed. Histograms and boxplots were assessed to determine whether identified outliers were influential (i.e., differed by more than five points from the next non-outlying data point) (Tabachnick & Fidell, 2001). One influential outlier was discovered on the CBCL Internalizing scale. This outlier was winsorized from 41 to the next non-outlying value (29). To address the violation of the assumption of normality, and to test data for mediation, the nonparametric bootstrapping procedure (as recommended by Hayes, Preacher, & Myers, 2010) was utilized.

The nonparametric bootstrap method is a resampling approach that overcomes the problem of a nonnormal distribution, yielding more accurate parameter estimates, which reduces possible Type I errors (Preacher & Hayes, 2008). This analytical strategy is, therefore, highly useful for small to moderate samples (Preacher & Hayes, 2008). The nonparametric bootstrap method makes fewer assumptions about the data than do traditional mediation methods (e.g., Baron & Kenny, 1986; Hayes, 2009; Zhao, Lynch, & Chen, 2010). It tests whether an indirect effect exists or whether the indirect path between the independent and dependent variable (via the mediator) is significant (Hayes et al., 2010). Furthermore, it tests whether this indirect path explains the direct path in which the mediators are absent. Because this procedure uses fewer parameter estimates, power remains high, reducing possible Type II errors (Preacher & Hayes, 2004). For indirect effects, percentile-based bootstrap confidence intervals (CI) and bootstrap estimates of standard errors were generated (number of bootstrap samples=1,000). When zero is not between the upper and lower bounds of the confidence interval, it can be claimed with 95% confidence that the assumed indirect effect is not zero, indicating a significant indirect effect (Preacher & Hayes, 2008).

Preliminary analyses

Means, standard deviations, and ranges for each study variable are presented in Table 6. Bivariate correlations and *t*-tests were conducted to examine relations between demographic variables and study outcome variables to determine if any confounding variables needed to be controlled for prior to proceeding to test the hypothesized associations. A summary of the bivariate correlations appears in Table 7. *T*-tests were

performed to examine difference in maternal history of psychotherapy, and child gender difference for the study variables (Tables 8 and 9).

Table 4.

Descriptive Statistics for Study Variables

Measures	Possible Range	Min	Max	Mean	SD
RF ^M	14-84	38.00	55.00	46.64	3.71
BDI ^M	0-63	.00	30.00	6.73	7.02
PCL ^M	17-85	17.00	60.00	26.01	9.76
EmNg ^M	5-25	5.00	23.00	11.27	5.08
EmAb ^M	5-25	5.00	25.00	8.97	4.72
PhyNg ^M	5-25	5.00	17.00	7.19	2.88
PhyAb ^M	5-25	5.00	23.00	7.38	3.82
SeAb ^M	5-25	5.00	25.00	7.07	4.83
PR ^M	1-5	1.40	4.20	2.45	.67
PA ^M	1-5	1.40	5.00	3.45	.74
UI ^M	1-5	1.00	4.20	2.31	.75
EC ^M	1-5	3.25	5.00	4.58	.46
TSCC ^C	0-132	5.00	89.00	38.12	18.72
SSRS ^C	0-110	16.00	69.00	50.23	10.57
BarOn ^C	30-120	42.00	96.00	62.49	10.41
MENT ^C	1-9	2.00	7.13	4.43	1.07
CBCL-I ^C	0-64	.00	41.00	7.10	7.48
CBCL-E ^C	0-66	.00	36.00	9.44	8.50

Note. ^C=child variables; ^M=mother variables; RF = Maternal Reflective Functioning; BDI = Beck Depression Inventory–II; PCL = Post-Traumatic Stress Disorder Checklist; EmNg = Child Emotional Neglect; EmAb = Child Emotional Abuse; PhyNg = Child Physical Neglect; PhyAb = Child Physical Abuse; SeAb = Child Sexual Abuse; PR = Parental Rejection of Negative Emotion; PA = Parental Acceptance of Negative Emotion; UI = Uncertainty/Ineffectiveness in Emotion Socialization; EC = Emotion-Coaching Parenting; TSCC = Trauma Symptom Checklist for Children ; SSRS = Social Skills Rating Scale; BarOn = Bar-On Emotional Quotient Inventory, Youth Version; MENT = Child Mentalization Scale; CBCL-I = Child Behaviour Checklist, Internalizing; CBCL-E = Child Behaviour Checklist, Externalizing

As shown in Table 7, maternal education was negatively associated with maternal history of physical abuse and neglect, and maternal rejection of negative emotion. Family income was significantly negatively associated with mother-reported child internalizing and externalizing symptoms. That is, children from families with higher income exhibited fewer internalizing and externalizing behavior problems. Children from families with higher incomes exhibited more parent-reported social skills. Mothers from families with higher incomes reported lower levels of parental rejection of negative emotions, and reported fewer depressive symptoms.

Children with higher vocabulary scores endorsed significantly fewer symptoms of trauma. Children with higher vocabulary scores also had mothers who reported lower levels of rejection of negative emotions, had higher levels of mentalization ability, and reported lower levels of depression. In terms of family composition, *t*-tests revealed there was a significant difference in scores between two-parent families ($M = 8.03, SD = 6.96$) and single-parent families ($M = 14.64, SD = 11.52$) for children with externalizing behaviour problems; $t(73) = 2.19, p = .04$. That is, single-parent families were more likely than two-parent families to have children with more externalizing behaviour problems.

Table 5.

Correlations between demographic variables and study variables (N=75)

Measure	Child Age	Maternal Age	Maternal Education	Family Structure	Income	Num. of Siblings	Child Vocab.
MENT ^C	.06	-.15	-.05	-.03	-.08	.02	.16
TSCC ^C	-.10	.02	-.13	-.11	-.18	.17	-.28*
CBCL-I ^C	.12	-.02	-.06	-.08	-.30*	-.09	-.19
CBCL-E ^C	-.07	.02	-.14	-.35**	-.37**	-.16	-.19
BarOn ^C	.18	.17	.07	.15	.18	.10	-.07
SSRS ^C	.22	.13	.22	.27*	.29*	.09	.14
RF ^M	.13	-.02	-.01	.05	.21	-.10	.28*
BDI ^M	.20	-.01	-.16	-.08	-.23*	-.10	-.26*
PCL ^M	.02	-.13	-.22	-.09	-.15	-.20	-.11
EmNg ^M	.04	-.06	-.14	.19	-.01	-.07	-.02
EmAb ^M	.11	-.03	-.12	.05	-.13	-.11	-.06
PhyNg ^M	.22	-.08	-.27*	-.14	-.19	.15	-.20
PhyAb ^M	.17	.09	-.27*	.04	-.04	-.03	-.16
SeAb ^M	.19	.03	-.13	-.09	-.20	-.14	.04
EC ^M	-.08	-.10	.16	.07	.15	-.11	.23
PR ^M	-.05	.20	-.35**	-.22	-.25*	.22	-.35**
PA ^M	.00	-.02	.15	.26*	.13	-.21	.05
UI ^M	.04	-.05	-.04	-.01	-.10	-.05	.02

Note. ^C=child variables; ^M=mother variables; MENT = Child Mentalization Scale; TSCC = Trauma Symptom Checklist for Children; CBCL-I = Child Behaviour Checklist, Internalizing; CBCL-E = Child Behaviour Checklist, Externalizing; BarOn = Bar-On Emotional Quotient Inventory, Youth Version; SSRS = Social Skills Rating Scale; RF = Maternal Reflective Functioning; BDI = Beck Depression Inventory–II; PCL = Post-Traumatic Stress Disorder Checklist; EmNg = Child Emotional Neglect; EmAb = Child Emotional Abuse; PhyNg = Child Physical Neglect; PhyAb = Child Physical Abuse; SeAb = Child Sexual Abuse; EC = Emotion-Coaching Parenting; PR = Parental Rejection of Negative Emotion; PA = Parental Acceptance of Negative Emotion; UI = Uncertainty/Ineffectiveness in Emotion Socialization. Note: *p < .05, **p < .01.

In terms of gender differences, *t*-tests did not reveal any significant differences between male and female children on any of the child or parent-reported child variables (see Table 8). *T*-tests revealed that mothers with a history of psychotherapy reported significantly higher levels of depression and PTSD symptoms, and were more likely to have a history of emotional abuse than mothers without a history of psychotherapy. Mothers with a history of psychotherapy also reported significantly lower levels of rejecting negative emotions in their children, and significantly higher levels of accepting negative emotions in their children compared to mothers without a history of psychotherapy. Mothers with a history of psychotherapy also had children with significantly higher levels of internalizing and externalizing behaviour problems (see Table 9).

Table 6.

Comparison of Variable Scores for Male and Female Children

Measures	Males	Females	<i>t</i> (2, 73)	<i>p</i>
	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)		
	<i>n</i> = 43	<i>n</i> = 32		
MENT ^C	4.52(.99)	4.30(1.18)	-.90	.37
BarOn ^C	61.02(10.77)	64.58(9.66)	1.47	.15
CBCL-I ^C	7.15(7.97)	7.03(6.85)	-.07	.95
CBCL-E ^C	10.64(8.19)	7.75(8.78)	-1.46	.15
SSRS ^C	48.91(11.17)	52.10(9.51)	1.29	.20
TSCC ^C	39.62(20.78)	35.99(15.40)	-.87	.39
EC ^M	4.58(.49)	4.59(.42)	.08	.93
PR ^M	2.50(.70)	2.39(.62)	-.65	.52
PA ^M	3.43(.78)	3.47(.69)	.21	.84
UI ^M	2.27(.79)	2.36(.71)	.50	.62

Note. ^C=child variables; ^M=mother variables; MENT = Child Mentalization Scale; BarOn = Bar-On Emotional Quotient Inventory; CBCL-I = Child Behaviour Checklist, Internalizing; CBCL-E = Child Behaviour Checklist, Externalizing; SSRS = Social Skills Rating Scale; TSCC = Trauma Symptom Checklist for Children; EC = Emotion-Coaching Parenting; PR = Parental Rejection of Negative Emotion; PA = Parental Acceptance of Negative Emotion; UI = Uncertainty/Ineffectiveness in Emotion Socialization.

Table 7.

Comparison of Variable Scores for Mothers with and without a History of Psychotherapy

Measure	<u>Maternal Hx of</u>	<u>No Maternal Hx of</u>	<i>t</i> (3,72)	<i>p</i>
	<u>Psychotherapy</u>	<u>Psychotherapy</u>		
	<i>M</i> (<i>SD</i>) <i>n</i> = 34	<i>M</i> (<i>SD</i>) <i>n</i> = 40		
MENT ^C	4.35 (1.10)	4.50(1.07)	-.61	.55
TSCC ^C	40.16(20.76)	36.79(16.96)	.77	.45
CBCL-I ^C	9.13(9.48)	5.44(4.86)	2.05*	.04
CBCL-E ^C	11.91(10.23)	7.48(6.20)	2.21*	.03
BarOn ^C	62.21(11.51)	62.70(9.66)	-.20	.84
SSRS ^C	49.26(10.35)	50.63(10.64)	-.56	.58
RF ^M	46.32(3.60)	46.78(3.78)	-.52	.60
BDI ^M	8.95(8.81)	4.59(4.04)	2.66*	.01
PCL ^M	30.24(12.69)	22.33(3.84)	3.50**	.00
EmNg ^M	12.35(5.18)	10.30(4.92)	1.75	.09
EmAb ^M	10.11(5.22)	7.92(4.08)	2.02*	.04
PhyNg ^M	7.47(2.96)	6.88(2.83)	.88	.38
PhyAb ^M	7.76(4.06)	7.06(3.67)	.78	.44
SeAb ^M	7.91(5.58)	6.31(4.07)	1.39	.17
EC ^M	4.56(.43)	4.59(.50)	-.32	.75
PR ^M	2.27(.61)	2.64(.67)	-2.47*	.02
PA ^M	3.74(.67)	3.20(.73)	3.34**	.00
UI ^M	2.40(.77)	2.24(.75)	.91	.37

Note. ^C=child variables; ^M=mother variables; MENT = Child Mentalization Scale; TSCC = Trauma Symptom Checklist for Children; CBCL-I = Child Behaviour Checklist, Internalizing; CBCL-E = Child Behaviour Checklist, Externalizing; BarOn = Bar-On Emotional Quotient Inventory, Youth Version; SSRS = Social Skills Rating Scale; RF = Maternal Reflective Functioning; BDI = Beck Depression Inventory-II; PCL = Post-Traumatic Stress Disorder Checklist; EmNg = Child Emotional Neglect; EmAb = Child Emotional Abuse; PhyNg = Child Physical Neglect; PhyAb = Child Physical Abuse; SeAb = Child Sexual Abuse; EC = Emotion-Coaching Parenting; PR = Parental Rejection of Negative Emotion; PA = Parental Acceptance of Negative Emotion; UI = Uncertainty/Ineffectiveness in Emotion Socialization; **p* < .05, ***p* < .01.

Main Analyses: Examination of the Direct Effects

Pearson correlational analyses were performed to explore the associations between maternal variables and child variables (see Table 10). Higher levels of maternal mentalization (RF) was significantly associated with fewer maternal depression symptoms (BDI), $r(75) = -.28, p = .02$, fewer PTSD symptoms (PCL), $r(75) = -.32, p = .01$, and lower levels of maternal rejection of negative emotions (PR), $r(75) = -.33, p = .00$. Higher levels of maternal mentalization (RF) was also significantly associated with more mother-reported child social skills (SSRS), $r(75) = .31, p = .01$, and fewer mother-reported child internalizing, $r(74) = -.35, p = .00$, and externalizing, $r(74) = -.23, p = .05$, problems.

Higher levels of maternal rejection of negative emotion (PR) was significantly associated with more maternal uncertainty and ineffectiveness in emotion socialization (UI), $r(75) = .28, p = .02$. Higher levels of maternal uncertainty and ineffectiveness in emotion socialization (UI) was significantly associated with more maternal PTSD symptoms (PCL), $r(75) = .27, p = .02$, as well as more child internalizing problems, $r(74) = .24, p = .04$, and more child externalizing problems, $r(74) = .26, p = .02$. Maternal acceptance of negative emotion (PA) was found to be significantly associated with more emotion-coaching parenting (EC), $r(75) = .30, p = .01$, and more instances of emotional neglect (EmN) in the mothers' childhood, $r(75) = .31, p = .01$.

As is shown in Table 10, mother's who experienced emotional abuse during childhood were also more likely to experience emotional neglect, $r(75) = .77, p = .00$, physical abuse, $r(75) = .63, p = .00$, physical neglect, $r(75) = .76, p = .00$, and sexual abuse, $r(75) = .60, p = .00$. Mothers with a history of emotional abuse, physical abuse, physical neglect, and sexual abuse were more likely to report PTSD symptoms, while mothers with

a history of emotional abuse, physical neglect, and sexual abuse were more likely to report symptoms of depression. Maternal depression symptoms and PTSD symptoms were significantly correlated, $r(75) = .78, p = .00$. Maternal symptoms of depression were also significantly associated with more child-reported trauma symptoms, $r(75) = .30, p = .01$, fewer mother-reported child social skills, $r(75) = -.31, p = .01$, and more mother-reported child internalizing, $r(75) = .49, p = .00$, and externalizing behaviour problems, $r(75) = .54, p = .00$. Higher levels of maternal PTSD symptoms were significantly associated with more child-reported trauma symptoms, $r(75) = .26, p = .03$, fewer mother-reported child social skills, $r(75) = -.27, p = .02$, and more mother-reported child internalizing, $r(74) = .47, p = .00$, and externalizing behaviour problems, $r(74) = .48, p = .00$.

Mothers' history of emotional abuse was significantly positively associated with mother-report of child internalizing, $r(74) = .28, p = .01$ and externalizing behaviour problems, $r(74) = .32, p = .01$. Mothers' history of sexual abuse was significantly associated with child-reported emotional intelligence, $r(75) = .26, p = .03$. Higher levels of child-reported emotional intelligence was significantly associated with higher levels of child-reported trauma symptoms, $r(75) = .30, p = .01$. Higher child-reported trauma symptoms was associated with fewer mother-reported child social skills, $r(75) = -.29, p = .01$, and more mother-reported child externalizing behaviour problems, $r(74) = .28, p = .02$. Mother-report measures of child internalizing and externalizing behaviour problems were significantly positively correlated with one another, $r(74) = .69, p = .00$, and negatively correlated with mother-reported child social skills.

Table 8.

Inter-correlations between Mother and Child Study Variables

	RF ^M	PR ^M	PA ^M	UI ^M	EC ^M	EmAb ^M	EmNg ^M	PhyAb ^M	PhyNg ^M	SeAb ^M	BDI ^M	PCL ^M	MENT ^C	BarOn ^C	TSCC ^C	SSRS ^C	CBCL-I ^C	CBCL-E ^C
RF ^M		-.33**	-.18	.02	.06	-.16	-.08	-.07	-.15	-.18	-.28*	-.32**	.21	.01	-.22	.31**	-.35**	-.23*
PR ^M			-.10	.28*	-.16	.08	.04	.16	.16	.03	.15	.12	-.01	-.02	.06	-.12	.13	.22
PA ^M				-.15	.30*	.22	.31**	.07	.09	.20	.09	.12	-.12	-.00	.07	.06	.12	-.02
UI ^M					-.12	.02	-.07	-.03	.11	.10	.22	.27*	.13	.15	-.02	-.19	.24*	.26*
EC ^M						-.10	-.06	-.06	-.12	.04	-.21	-.19	.12	.14	.00	.12	-.10	-.10
EmAb ^M							.77**	.63**	.76**	.60**	.41**	.39**	-.21	.14	.08	.00	.28*	.32**
EmNg ^M								.54**	.61**	.38**	.21	.20	-.07	.11	-.03	.14	.06	.06
PhyAb ^M									.59**	.52**	.20	.26*	-.13	.11	-.01	.06	.01	.06
PhyNg ^M										.59**	.28*	.31**	-.20	.17	.05	.02	.12	.19
SeAb ^M											.31**	.44**	-.09	.26*	.10	-.02	.15	.23
BDI ^M												.78**	-.15	.11	.30**	-.31**	.49**	.54**
PCL ^M													-.13	.13	.26*	-.27*	.47**	.48**
MENT ^C														-.07	-.16	.10	-.20	-.08
BarOn ^C															.30**	.10	.09	.09
TSCC ^C																-.29*	.21	.28*
SSRS ^C																	-.54**	-.58**
CBCL-I ^C																		.69**

Note. RF = Maternal Reflective Functioning; PR = Parental Rejection of Negative Emotion; PA = Parental Acceptance of Negative Emotion; UI = Uncertainty/Ineffectiveness in Emotion Socialization; EC = Emotion-Coaching Parenting; EmAb = Child Emotional Abuse; EmNg = Child Emotional Neglect; PhyAb = Child Physical Abuse; PhyNg = Child Physical Neglect; SeAb = Child Sexual Abuse; BDI = Beck Depression Inventory–II; PCL = Post-Traumatic Stress Disorder Checklist; MENT = Child Mentalization Scale; BarOn = Bar-On Emotional Quotient Inventory, Youth Version; TSCC = Trauma Symptom Checklist for Children ; SSRS = Social Skills Rating Scale; CBCL-I = Child Behaviour Checklist, Internalizing; CBCL-E = Child Behaviour Checklist, Externalizing; *p < .05, **p < .01,

Examination of the Study Research Question and Hypotheses

Research Question 1. Does maternal mentalization mediate the links between maternal trauma and children's social and emotional functioning, and adjustment?

Hypothesis 1a. Mothers who have experienced childhood trauma will report lower levels of mentalization ability and higher levels of depression and PTSD.

As shown in Table 10, no significant associations were found between maternal childhood trauma (emotional, physical, and sexual abuse, and emotional and physical neglect) and maternal mentalization. Correlations revealed that maternal childhood trauma (emotional abuse, physical neglect, and sexual abuse) was significantly positively associated with maternal depression. To determine the extent to which maternal trauma predicted maternal depression, standard multiple regression analysis was performed (Table 11). The overall regression model was significant, $F(3, 71) = 5.12, p < .01$. Child emotional abuse predicted maternal depression significantly in the positive direction, $\beta = .42, t(71) = 2.42, p < .05$ and accounted for 6.8% of the variance.

Maternal childhood trauma (emotional abuse, physical abuse, physical neglect, and sexual abuse) was significantly positively associated with maternal PTSD symptoms. To determine the extent to which maternal childhood trauma predicted PTSD symptoms, standard multiple regression was performed (Table 12). The overall regression model was significant, $F(4, 70) = 4.98, p < .01$. Child sexual abuse predicted maternal PTSD significantly in the positive direction, $\beta = .35, t(70) = 2.53, p < .05$ and accounted for 7% of the variance.

Table 9.

Regression Model for Maternal Trauma predicting Maternal Depression

IV	DV	<i>R</i>	R^2	Adj. R^2	<i>F</i>	<i>B</i>	<i>SE B</i>	Beta	<i>T</i>	<i>p</i>
Maternal Trauma – Depression		.42	.18	.14	5.12					.00
Emotional Abuse						.63	.30	.42	2.42	.04
Physical Neglect						-.26	.41	-.11	-.61	.53
Sexual Abuse						.17	.26	.11	.81	.47

Table 10.

Regression Model for Maternal Trauma predicting Maternal PTSD

IV	DV	<i>R</i>	<i>R</i> ²	Adj. <i>R</i> ²	<i>F</i>	<i>B</i>	<i>SE B</i>	Beta	<i>T</i>	<i>p</i>
Maternal Trauma – PTSD		.47	.22	.18	4.98					.00
Emotional Abuse						.50	.34	.24	1.36	.15
Physical Abuse						-.13	.43	-.05	-.37	.77
Physical Neglect						-.15	.54	-.05	-.27	.78
Sexual Abuse						.71	.40	.35	2.53	.05*

Note: * indicates raw value is below .05

Hypothesis 1b. Mothers who have experienced trauma, and who have more symptoms of depression and PTSD, will have children with lower mentalization ability, fewer social skills, and more behaviour problems.

No significant correlations were found between maternal history of childhood trauma (emotional abuse, emotional neglect, physical abuse, physical neglect, sexual abuse) and child mentalization, or between maternal depression and PTSD symptoms and child mentalization (see Table 10).

Maternal-reported symptoms of depression and PTSD symptoms were both significantly correlated with mother-reported child social skills in the negative direction. That is, mothers with more symptoms of depression and PTSD had children with poorer social skills. Household income was found to significantly correlate with symptoms of depression and child social skills (Table 7). To determine the extent to which maternal depression predicted child social skills, a multiple regression was performed.

After controlling for the effects of household income (income was entered into the first regression block as a control variable, and BDI was entered into the second block as the independent variable), maternal depression predicted child social skills significantly in the negative direction, $\beta = -.30$, $t(72) = -2.70$, $p < .01$. The overall regression model was significant, $F(2, 72) = 7.33$, $p < .01$. Initially, 9% of the variance in child social skills was predicted by the control variable, income. However, when maternal depression was entered into the equation, the effects of income on child social skills became nonsignificant, and 17% of the variance in child social skills was predicted by maternal depression (see Table 13).

Table 11.

Regression Model for Maternal Depression predicting Child Social Skills

IV	DV	<i>R</i>	<i>R</i> ²	Adj. <i>R</i> ²	<i>F</i>	<i>B</i>	<i>SE B</i>	Beta	<i>T</i>	<i>p</i>
Income	SSRS	.29	.09	.07	6.77	2.01	.76	.29	2.60	.01
Income						1.54	.81	.22	2.02	.06
BDI		.41	.17	.15	7.33	-.45	.16	-.30	-2.70	.01*

Note: SSRS = Social Skills Rating Scale; BDI = Beck Depression Inventory – Second Edition; * indicates raw value is below .01

As shown in Table 10, maternal history of emotional abuse, maternal depression, and maternal PTSD symptoms were all significantly correlated with mother-reported child internalizing and externalizing problems in the positive direction.

To examine whether maternal history of emotional abuse and maternal depression predicted child internalizing problems, a hierarchical regression was performed. Household income and maternal history of psychotherapy were included as control variables because they were correlated with the model variables of interest (i.e., maternal depression, maternal history of emotional abuse, and child internalizing problems) (Table 14).

The overall regression model was significant, $F(4, 70) = 7.75, p < .01$, and, in general, 31% of the variance in child internalizing problems was predicted by this model. Maternal depression predicted child internalizing problems significantly in the positive direction, $\beta = .40, t(70) = 3.44, p < .05$, above and beyond the effects of income and maternal history of psychotherapy, accounting for 11.6% of the variance.

To test whether maternal history of emotional abuse and maternal depression predicted child externalizing problems, a hierarchical regression was performed. Income and maternal history of psychotherapy were included as control variables in this model. The overall regression model was significant, $F(4, 70) = 11.40, p < .01$. Maternal depression predicted child externalizing problems significantly in the positive direction, $\beta = .43, t(70) = 3.98, p < .01$, even after accounting for the effect of income and maternal history of psychotherapy. Furthermore, family income remained a significant predictor in the overall model, $\beta = -.26, t(70) = -2.70, p < .05$, even with the inclusion of the other predictor variables. That is, maternal depression and family income significantly predicted child externalizing problems. Maternal depression accounted for 13.7% of the variance in child externalizing problems, and household income

accounted for 6.3% of the variance in child externalizing problems. The results are summarized in Table 14.

Table 12.

*Regression Models for Maternal History of Emotional Abuse and Depression, predicting Child**Internalizing and Externalizing, controlling for Income and Maternal History of Psychotherapy*

IV	DV	<i>R</i>	<i>R</i> ²	Adj. <i>R</i> ²	<i>F</i>	<i>B</i>	<i>SE B</i>	Beta	<i>t</i>	<i>p</i>	<i>Sr</i>
Psy Hx	CBCL-I	.39	.15	.13	6.46	-3.89	1.67	-.26	-2.37	.03	-.26
Income						-1.51	.43	-.31	-2.80	.00	-.31
Psy Hx		.56	.31	.27	7.75	-1.69	1.43	-.11	-1.05	.25	-.11
Income						-.98	.49	-.20	-1.92	.05	-.19
Emo Ab.						.12	.18	.07	.67	.50	.07
BDI						.43	.19	.40	3.44	.02	.34
Psy Hx	CBCL-E	.46	.21	.19	9.53	-4.72	1.93	-.28	-2.63	.03	-.28
Income						-2.12	.66	-.38	-3.60	.00	-.38
Psy Hx		.63	.40	.36	11.40	-1.98	1.97	-.12	-1.17	.31	-.11
Income						-1.46	.59	-.26	-2.70	.01	-.25
Emo Ab.						.16	.20	.09	.87	.41	.08
BDI						.53	.15	.43	3.98	.00	.37

Note. Psy Hx=Maternal history of psychotherapy; CBCL-I=Child Behaviour Checklist-Internalizing; CBCL-E=Child Behaviour Checklist-Externalizing; BDI=Beck Depression Inventory-Second Edition; Emo Ab.=Maternal History of Emotional Abuse

To test whether maternal history of emotional abuse and maternal PTSD predicted child internalizing problems, hierarchical regression was performed. Maternal history of psychotherapy was included as a control variable in this model. The overall regression model was significant, $F(3, 71) = 7.33, p < .01$. Maternal PTSD predicted child internalizing problems significantly in the positive direction, $\beta = .41, t(71) = 3.36, p < .05$, even after controlling for the effect of maternal history of psychotherapy, and accounted for 12% of the variance (Table 15).

A hierarchical regression was conducted to determine whether maternal history of emotional abuse and maternal PTSD predicted child externalizing problems. Maternal history of psychotherapy was included as a control variable in this model. The overall regression model was significant, $F(3, 71) = 8.09, p < .01$. Maternal PTSD predicted child externalizing problems significantly in the positive direction, $\beta = .39, t(71) = 3.30, p < .05$, even after controlling for the effect of maternal history of psychotherapy, and accounted for 11.6% of the variance. The results are summarized in Table 15.

Table 15.

Regression Models for Maternal History of Emotional Abuse and PTSD predicting Child

Internalizing and Externalizing, controlling for Maternal History of Psychotherapy

IV	DV	R	R ²	Adj. R ²	F	B	SE B	Beta	t	p	Sr
Psy Hx	CBCL-I	.25	.06	.05	4.62	-3.68	1.80	-.25	-2.15	.05	-.25
Psy Hx		.49	.24	.21	7.33	-.82	1.35	-.05	-.48	.54	-.05
Emo Ab.						.19	.21	.12	1.05	.35	.11
PTSD						.31	.15	.41	3.36	.04	.35
Psy Hx	CBCL-E	.26	.07	.06	5.24	-4.43	1.99	-.26	-2.29	.04	-.26
Psy Hx		.51	.26	.23	8.09	-1.10	1.76	-.07	-.57	.53	-.06
Emo Ab.						.29	.24	.16	1.41	.22	.15
PTSD						.34	.15	.39	3.30	.02	.34

Note. Psy Hx=Maternal history of psychotherapy; CBCL-I=Child Behaviour Checklist-Internalizing; CBCL-E=Child Behaviour Checklist-Externalizing; BDI=Beck Depression Inventory-Second Edition; Emo Ab.=Maternal History of Emotional Abuse

Hypothesis 1c. Mothers with lower levels of mentalization capacity will have children with lower levels of mentalization ability, fewer social skills and more behaviour problems.

No significant association was found between maternal mentalization and child mentalization (Table 10).

Maternal mentalization was significantly positively associated with child social skills ($r = .31, p = .01$). That is, higher levels of maternal mentalization was significantly associated with higher levels of mother-reported child social skills.

Maternal mentalization was significantly negatively associated with child internalizing problems ($r = -.35, p = .00$). That is, higher levels of maternal mentalization was significantly associated with lower levels of mother-reported child internalizing problems.

Maternal mentalization was significantly negatively associated with child externalizing problems ($r = -.23, p = .047$); higher levels of maternal mentalization was significantly associated with lower levels of mother-reported child externalizing problems.

Maternal Mentalization Mediation

Hypothesis 1d. More maternal trauma will be linked to poorer child social skills and more behaviour problems through lower levels of maternal mentalization.

The bootstrapping method described by Preacher and Hayes (2008) was used to test the mediating effect of the proposed variables on the relations between the independent and dependent variable. To test this mediational model, the results of significant correlational analyses and regression models were utilized to determine which variables to pursue. Out of all the maternal history of trauma variables (i.e., Emotional Abuse, Emotional Neglect, Physical Abuse, Physical Neglect, Sexual Abuse), emotional abuse significantly predicted maternal depression and child internalizing and externalizing problems, and sexual abuse significantly

predicted maternal PTSD symptoms. However, maternal history of trauma variables were not related to maternal mentalization, and thus, they were not pursued in mediational analyses.

Maternal depression and PTSD were both significantly related to mother-reported child social skills (SSRS), and mother-reported child internalizing and externalizing behavior problems (CBCL-I, CBCL-E). Maternal mentalization was significantly associated with child internalizing and externalizing behavior problems, and child social skills. Maternal depression and PTSD symptoms were also both significantly related to maternal mentalization in the negative direction (Table 10). Based on these results, several mediational models were conducted.

Maternal PTSD – Maternal Mentalization – Child Adjustment. Three mediation models were tested. Maternal PTSD (PCL) was entered as the independent variable, maternal mentalization (RF) as the mediator, and 1) child externalizing problems, 2) child internalizing problems, and 3) child social skills as the dependent variables. Maternal history of psychotherapy was controlled for in the first two models (child externalizing and internalizing problems). Results for child externalizing problems were not significant (see Table 16). However, the overall mediation model for child internalizing was significant, $F(2, 72) = 12.86, p < .01$, and supported partial mediation after controlling for the effects of maternal history of psychotherapy (see Table 17 and Figure 3 for results). That is, even after accounting for the effects of maternal history of psychotherapy, maternal mentalization partially mediated the link between maternal PTSD symptoms and child internalizing problems. Results for child social skills was also significant, $F(2, 72) = 12.86, p < .01$, and supported full mediation (see Table 18 and Figure 4 for results). That is, maternal mentalization fully mediated the link between maternal PTSD symptoms and child social skills.

Table 16.

Mediator Model for Mentalization, PTSD, and Child Externalizing, controlling for Maternal

History of Psychotherapy

Paths	Coeff	Se	T	p	Adj. R ²	F	95CIL	95CIU
PCL – RF (a paths)	-.14	.05	-3.03	.00	.21	7.42	-.02	.11
RF – CBCL-E (b paths)	-.18	.26	-.68	.50				
PCL – CBCL-E (c path)	.39	.10	3.96	.00				
PCL – RF – CBCL-E (c' path)	.37	.11	3.48	.00				

Table 17.

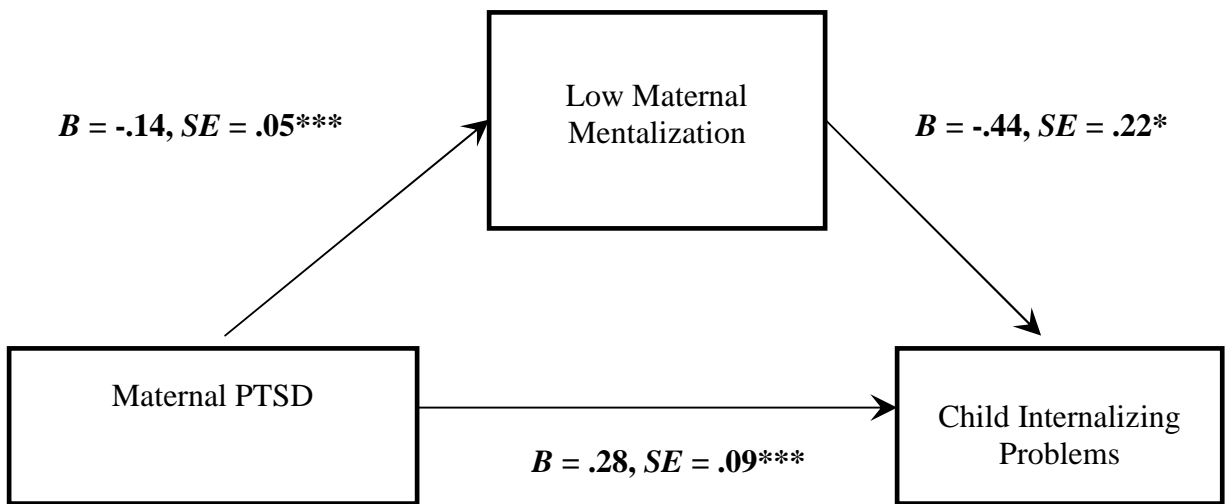
Mediator Model for Mentalization, PTSD, and Child Internalizing, controlling for Maternal

History of Psychotherapy

Paths	Coeff	Se	T	p	Adj. R ²	F	95CIL	95CIU
PCL – RF (a paths)	-.14	.05	-3.03	.00	.24	8.55	.00	.21
RF – CBCL-I (b paths)	-.44	.22	-1.98	.05*				
PCL – CBCL-I (c path)	.34	.09	3.91	.00				
PCL – RF – CBCL-I (c' path)	.28	.09	3.09	.00				

Note: * indicates a raw value below .05

Figure 3. Mediation model with maternal PTSD (X), maternal mentalization (M), and child internalizing (Y), controlling for maternal history of psychotherapy (CONT)



Note. $*p < .05$, $**p < .01$, $***p < .001$.

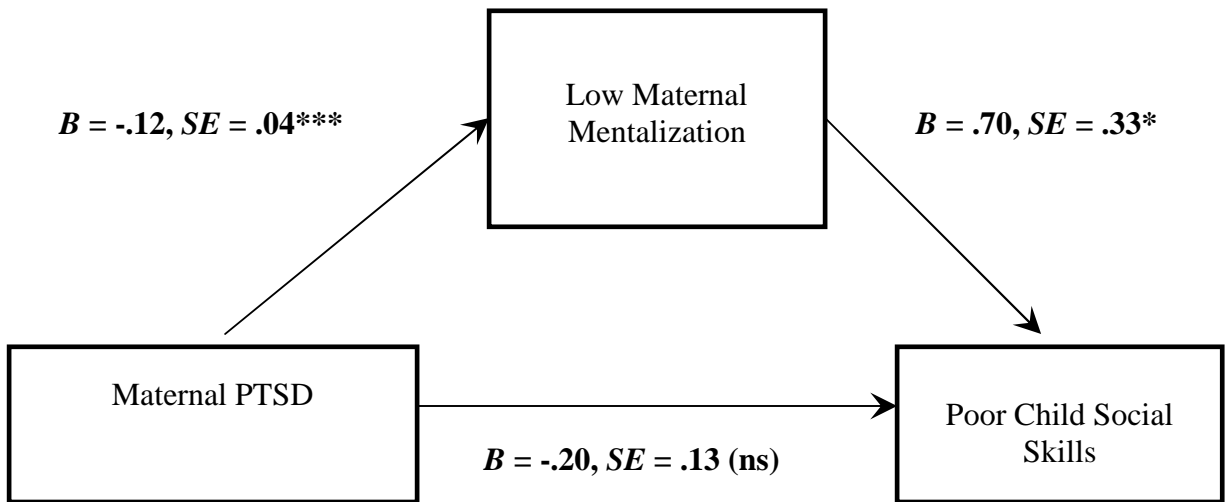
The unstandardized coefficients and standard error shown reflect the inclusion of the mediator in the equation.

Table 18.

Mediator Model for Mentalization, PTSD, and Child Social Skills

Paths	Coeff	Se	T	p	Adj. R^2	F	95CIL	95CIU
PCL – RF (a paths)	-.12	.04	-2.91	.00	.10	5.12	-.27	-.01
RF – SSRS (b paths)	.70	.33	2.12	.04				
PCL – SSRS (c path)	-.28	.12	-2.34	.02				
PCL – RF – SSRS (c' path)	-.20	.13	-1.59	.11				

Figure 4. Mediation model with maternal PTSD (X), maternal mentalization (M), and child social skills (Y)



Note. $*p < .05$, $**p < .01$, $***p < .001$.

The unstandardized coefficients and standard error shown reflect the inclusion of the mediator in the equation.

Maternal depression – Maternal Mentalization – Child Adjustment. Three mediation models were explored. Maternal depression (BDI) was entered as the independent variable, maternal mentalization (RF) as the mediator, and 1) child internalizing problems, 2) child externalizing problems, and 3) child social skills as the dependent variables. Maternal history of psychotherapy and household income were controlled for in the first two models (child internalizing and externalizing problems), and only income was controlled for in the third model (child social skills). Results for all three mediations were not significant, as the mediator (maternal mentalization) was not significantly related to the outcome variables; 1) child internalizing, $R=.30$, $F(4, 69) = 8.66$, $p = .09$; 2) child externalizing, $R=.36$, $F(4, 69) = 11.10$, $p = .90$; and, 3) child social skills, $R=.16$, $F(3, 70) = 5.61$, $p = .16$ (See Table 19).

Table 19.

Mediator Model for Mentalization, Maternal Depression, and Child Adjustment and Social Skills, controlling for Maternal History of Psychotherapy and Income

Paths	Coeff	Se	T	p
BDI – RF (a path)	-.16	.06	-2.41	.02
RF – CBCL-I (b path)	-.37	.21	-1.72	.09
BDI – CBCL-I (c path)	.46	.12	3.91	.00
BDI – RF – CBCL-I (c' path)	.40	.12	3.33	.00
BDI – RF (a path)	-.16	.06	-2.41	.02
RF – CBCL-E (b path)	-.03	.23	-.13	.90
BDI – CBCL-E (c path)	.57	.12	4.55	.00
BDI – RF – CBCL-E (c' path)	.56	.13	4.30	.00
BDI – RF (a path)	-.16	.06	-2.41	.02
RF – SSRS (b path)	.46	.33	1.41	.16
BDI – SSRS (c path)	-.45	.17	-2.70	.01
BDI – RF – SSRS (c' path)	-.38	.17	-2.21	.03

To follow-up on this finding, three multiple regressions were conducted to determine the amount of variance accounted for by maternal depression and maternal mentalization in relation to child internalizing and externalizing problems, and child social skills. As above, household income was included as a control variable in all three regression models, while maternal history

of psychotherapy was included as an additional control variable in the models predicting child internalizing and externalizing problems only.

For the model predicting child internalizing problems, the overall regression model was significant, $F(4, 70) = 8.66, p < .01$. Maternal depression predicted child internalizing problems significantly in the positive direction, $\beta = .37, t(70) = 3.33, p < .05$, even after controlling for the effect of income and maternal history of psychotherapy, and accounted for 10.7% of the variance (see Table 20).

For the model predicting child externalizing problems, the overall regression model was significant, $F(4, 70) = 11.10, p < .01$. Maternal depression and household income both significantly predicted child externalizing problems. Maternal depression predicted child externalizing problems in the positive direction, $\beta = .46, t(70) = 4.30, p < .01$, and accounted for 16.3% of the variance. Income also predicted child externalizing problems in the negative direction, $\beta = -.27, t(70) = -2.70, p < .05$, and accounted for 6.5% of the variance (see Table 21).

For the model predicting child social skills, the overall regression model was significant, $F(3, 71) = 5.61, p < .01$. Maternal depression significantly predicted child social skills in the negative direction, $\beta = -.25, t(71) = -2.21, p < .05$, and accounted for 5.6% of the variance (see Table 22). In all three regression models, maternal mentalization did not significantly account for any of the variance in child internalizing or externalizing problems, or social skills.

Table 20.

Regression Model for Maternal Depression and Mentalization predicting Child Internalizing problems

IV	DV	<i>R</i>	<i>R</i> ²	Adj. <i>R</i> ²	<i>F</i>	<i>B</i>	<i>SE B</i>	Beta	<i>t</i>	<i>p</i>
Income	CBCL-I	.39	.15	.13	6.46	-1.51	.43	-.31	-2.80	.00
	Psy Hx					-3.89	1.70	-.26	-2.37	.05
Income		.58	.33	.30	8.66	-.88	.50	-.18	-1.73	.09
	Psy Hx					-1.89	1.49	-.13	-1.21	.24
	BDI					.40	.15	.37	3.33	.01
	RF					-.37	.26	-.18	-1.73	.18

Note: CBCL-I = Child Behaviour Checklist-Internalizing; Psy Hx=Maternal History of Psychotherapy; BDI=Beck Depression Inventory; RF=Maternal Reflective Functioning

Table 21.

Regression Model for Maternal Depression and Mentalization predicting Child Externalizing problems

IV	DV	<i>R</i>	<i>R</i> ²	Adj. <i>R</i> ²	<i>F</i>	<i>B</i>	<i>SE B</i>	Beta	<i>t</i>	<i>p</i>
Income	CBCL-E	.46	.21	.19	9.53	-2.12	.67	-.38	-3.60	.00
	Psy Hx					-4.72	1.94	-.28	-2.63	.02
	Income	.63	.39	.36	11.10	-1.48	.59	-.27	-2.70	.02
	Psy Hx					-2.17	1.91	-.13	-1.28	.27
	BDI					.56	.14	.46	4.30	.00
	RF					-.03	.20	-.01	-.13	.86

Note: CBCL-E = Child Behaviour Checklist-Externalizing; Psy Hx=Maternal History of Psychotherapy; BDI=Beck Depression Inventory; RF=Maternal Reflective Functioning

Table 22.

Regression Model for Maternal Depression and Mentalization predicting Child Social Skills

IV	DV	<i>R</i>	<i>R</i> ²	Adj. <i>R</i> ²	<i>F</i>	<i>B</i>	<i>SE B</i>	Beta	<i>t</i>	<i>p</i>
Income	SSRS	.29	.09	.07	6.77	2.01	.76	.29	2.60	.01
Income		.44	.19	.16	5.61	1.38	.80	.20	1.81	.09
BDI						-.38	.15	-.25	-2.21	.01
RF						.46	.33	.16	1.41	.17

Note: SSRS = Social Skills Rating Scale; BDI=Beck Depression Inventory; RF=Maternal Reflective Functioning

Research Question 2: Does emotion-coaching parenting mediate the links between maternal trauma and child social and emotional functioning, and adjustment?

Hypothesis 2a. Higher levels of maternal mentalization will be related to more emotion-coaching parenting.

To assess parenting style, the significant correlations from Table 10 were examined. Maternal mentalization was not significantly correlated with emotion-coaching parenting style, thus this hypothesis was not supported. In terms of other emotion-related parenting styles however, maternal mentalization was significantly correlated with parental rejection of negative emotion (PR) in the negative direction ($r = -.33, p = .01$). That is, more maternal mentalization was related to lower levels of rejecting negative emotions in children.

Hypothesis 2b. More maternal childhood trauma will be associated with less emotion-coaching parenting.

As shown in Table 10, maternal history of childhood trauma (emotional abuse, emotional neglect, physical abuse, physical neglect, sexual abuse) was not significantly associated with emotion-coaching parenting style. No significant associations were found between maternal depression, PTSD symptoms and emotion-coaching parenting style. In terms of other emotion-related parenting styles, however, maternal history of emotional neglect was significantly correlated with parental acceptance of negative emotion (PA) in the positive direction ($r = .31, p = .01$). That is, greater frequency of emotional neglect in maternal childhood was related to more instances of parental acceptance of negative emotions. Furthermore, maternal PTSD symptoms was significantly correlated with uncertainty and ineffectiveness in emotion socialization (UI) in the positive direction ($r = .27, p = .02$), indicating that more symptoms of PTSD were associated with more instances of uncertainty and ineffectiveness in emotion socialization.

Hypothesis 2c. Less emotion-coaching parenting will be associated with lower levels of child mentalization, fewer child social skills, and more child behaviour problems.

As shown in Table 10, no significant associations were found between emotion-coaching parenting style, children's mentalization ability, social skills, or internalizing and externalizing problems. Thus, hypothesis 2c was not supported.

In terms of other associations, however, uncertainty and ineffectiveness in emotion-socialization (UI) was significantly correlated with mother-reported children's internalizing problems (CBCL-I) in the positive direction ($r = .24, p = .04$). Also, uncertainty and ineffectiveness in emotion-socialization (UI) was significantly correlated with mother-reported children's externalizing problems (CBCL-E) in the positive direction ($r = -.26, p = .02$). That is, more maternal uncertainty and ineffectiveness in emotion-socialization was related to more child internalizing and externalizing problems.

Emotion-Related Parenting Style Mediations

Hypothesis 2d. More maternal trauma will be related to lower levels of child mentalization ability, fewer child social skills and more child adjustment problems through lower levels of emotion-coaching parenting.

To test the following mediational model, the results of correlational and regression analyses were utilized in order to determine which variables to further analyze. Out of all the maternal trauma variables related to emotion-related parenting styles, maternal history of emotional neglect was significantly related to parental acceptance of negative emotion in children, and maternal PTSD symptoms was significantly related to maternal uncertainty and ineffectiveness in emotion socialization. In terms of parenting variables related to child outcome,

only maternal uncertainty and ineffectiveness in emotion socialization (UI) was significantly linked with children's internalizing and externalizing behavior problems.

Based on these results, two mediational models were conducted to follow-up on hypothesis 2d. Maternal PTSD (PCL) was entered as the independent variable, maternal uncertainty and ineffectiveness in emotion socialization (UI) as the mediator, and 1) child externalizing problems, and 2) child internalizing problems as the dependent variables. Maternal history of psychotherapy was entered as a control variable. Results for both of these models were not significant due to the path b (nonsignificant path between uncertainty and ineffectiveness in emotion socialization (UI) and children's internalizing (CBCL-I) and externalizing (CBCL-E) behaviour problems (see Table 23 and 24).

Multiple regression analyses were conducted to assess the amount of variance accounted for in child internalizing and externalizing problems, by parental uncertainty and ineffectiveness in emotion socialization and PTSD symptoms (while controlling for history of psychotherapy). For child internalizing problems, the overall regression model was significant, $F(3, 71) = 7.34$, $p < .01$ and maternal PTSD symptoms significantly predicted child internalizing problems in the positive direction, $\beta = .42$, $t(71) = 3.52$, $p < .01$. Also, for the model predicting child externalizing problems, the overall regression model was significant, $F(3, 71) = 7.98$, $p < .01$ and maternal PTSD symptoms significantly predicted child externalizing problems in the positive direction, $\beta = .41$, $t(71) = 3.51$, $p < .01$. Uncertainty and effectiveness in emotion socialization did not significantly account for any of the variance in child internalizing and externalizing problems (see Table 25).

A summary of all study results can be found in Table 26, and a summary of additional findings can be found in Table 27.

Table 23.

Mediator Model for Uncertainty/Ineffectiveness in Emotion Socialization, PTSD, and Child

Internalizing, controlling for Maternal History of Psychotherapy

Paths	Coeff	se	T	p	Adj.	F	95CIL	95CIU
					R ²			
PCL – UI (a paths)	.02	.01	2.42	.03	.21	7.33	-.02	.09
UI – CBCL-I (b paths)	1.13	1.08	1.05	.30				
PCL – CBCL-I (c path)	.34	.09	3.91	.00				
PCL – UI – CBCL-I (c' path)	.32	.09	3.52	.00				

Table 24.

Uncertainty and Ineffectiveness in Emotion Socialization mediating the relation between Maternal PTSD and Child Externalizing, controlling for Maternal History of Psychotherapy

Paths	Coeff	Se	T	p	Adj. R^2	F	95CIL	95CIU
PCL – UI (a paths)	.02	.01	2.22	.03	.22	7.98	-.01	.13
UI – CBCL-E (b paths)	1.59	1.21	1.31	.19				
PCL – CBCL-E (c path)	.39	.10	3.96	.00				
PCL – UI – CBCL-E (c' path)	.36	.10	3.51	.00				

Table 25.

Regression Model for Uncertainty and Ineffectiveness in Emotion Socialization and Maternal PTSD Symptoms predicting Child Internalizing and Externalizing Problems

IV	DV	R	R ²	Adj. R ²	F	B	SE B	Beta	t	p
Psy Hx	CBCL-I	.49	.24	.21	7.34	-99	1.71	-.07	-.58	.57
	UI					1.13	1.08	.11	1.05	.30
	PCL					.32	.09	.42	3.52	.00
Psy Hx	CBCL-E	.51	.26	.22	7.98	-1.36	1.92	-.08	-.71	.48
	UI					1.59	1.21	.14	1.31	.19
	PCL					.36	.10	.41	3.51	.00

Note: Psy Hx = history of psychotherapy; UI=uncertainty and ineffectiveness in emotion socialization; PCL=PTSD checklist

Table 26.

Summary of Study Results

Study Hypotheses	Result	<i>p</i>
<i>Hypothesis 1a.</i>		
• Mothers who have experienced childhood trauma will report lower levels of mentalization ability	Not Supported	
• Mothers who have experienced childhood trauma will report higher levels of depression	Supported	.04
• Mothers who have experienced childhood trauma will report higher levels of PTSD	Supported	.05
<i>Hypothesis 1b.</i>		
• Mothers who have experienced childhood trauma will have children with lower mentalization ability, fewer social skills, and more behaviour problems	Not Supported	
• Mothers who have more symptoms of depression and PTSD will have children with fewer social skills and more behaviour problems	Supported	.00-.04
<i>Hypothesis 1c.</i>		
• Mothers with lower levels of mentalization ability will have children with lower levels of mentalization ability	Not Supported	
• Mothers with lower levels of mentalization ability will have children with fewer social skills	Supported	.01
• Mothers with lower levels of mentalization ability will have children with more behaviour problems	Supported	.00-.04
<i>Hypothesis 1d.</i> More maternal trauma will be linked to fewer child social skills and more behaviour problems through lower levels of maternal mentalization.	Supported	Partial and Full mediation
<i>Hypothesis 2a.</i> Higher levels of maternal mentalization will be related to more emotion-coaching parenting	Not Supported	
<i>Hypothesis 2b.</i> More maternal trauma will be associated with less emotion-coaching parenting	Not Supported	
<i>Hypothesis 2c.</i> Less emotion-coaching parenting will be associated with lower levels child mentalization ability, fewer child social skills, and more child behaviour problems	Not Supported	
<i>Hypothesis 2d.</i> More maternal trauma will be linked to lower levels child mentalization ability, fewer child social skills and more child adjustment problems through lower levels of emotion-coaching parenting.	Not Supported	

Table 27.

Additional Analyses

Additional Findings	<i>p</i>
More maternal mentalization was related to lower levels of rejecting negative emotions in children	.01
More emotional neglect in maternal childhood was related to more instances of parental acceptance of negative emotions	.01
More symptoms of PTSD were associated with more instances of uncertainty and ineffectiveness in emotion socialization	.02
More maternal uncertainty and ineffectiveness in emotion-socialization was related to more child internalizing problems	.04
More maternal uncertainty and ineffectiveness in emotion-socialization was related to more child externalizing problems	.02

DISCUSSION

The purpose of the present study was to examine the influence of maternal mentalization on the links between maternal trauma, parenting style, and child psychological adjustment and socio-emotional functioning. To this end, research on mentalization, response to trauma, parenting style, and child adjustment (Fonagy, 2002; 2006; Gottman, 1996; Sharp, 2006; Slade et al., 2005) were extended and integrated to arrive at a preliminary model of the intergenerational transmission of trauma. The present study found that mothers with more symptoms of depression and PTSD had lower levels of mentalization. Furthermore, maternal mentalization emerged as the mechanism responsible for the link between maternal PTSD symptoms and children's adjustment, impacting both children's internalizing problems and social skills. That is, mothers with PTSD symptoms tended to have children with fewer social skills and more internalizing problems, and this relationship was explained by lower levels of mentalization ability in mothers.

Other research supports this relationship, showing that mothers with more PTSD symptoms tended to have an inability to reflect on their own thoughts, feelings, and intentions, and a distancing and avoidance of emotional information (Schechter et al., 2008; Schechter & Willheim, 2009). As discussed by Fonagy and colleagues (2002; 2006), breakdowns in mentalization that may occur in the context of PTSD can cause an individual to regress to less developed forms of relating to oneself and others. For example, there may be a lack of separation between internal and external reality (e.g., what exists in the mind must be taking place in reality). This can be seen in the symptoms of PTSD, namely, flashbacks (i.e., the reliving the trauma over and over). During flashbacks/episodes of reliving, the individual experiences a breakdown in mentalization and thus is subject to traumatic reenactments (Robinaugh & McNally, 2011). This means that the pattern of early trauma is repeated in the present moment

using different people, places, and things, to play the same old roles, usually with the same endings (Baranowsky et al., 1998).

Mothers in a parenting role who experience the symptoms of PTSD and the resulting breakdown in mentalization, may unknowingly enlist their children to participate in the traumatic reenactment. This means that during this breakdown in mentalization, the child does not appear to the mother as a separate individual with separate mind states, but as an extension of the mother's internal world. Whereas, mothers with a higher capacity for mentalization can continue to think without decompensating or becoming disorganized when triggered by trauma-linked memories and negative affects (e.g., anxiety, depression, disgust, anger, resentment, guilt) (de Tychey et al., 2012). They also tended to exhibit resilience through the development of an "intrapsychic filtering system," meaning they are able to understand painful experiences without taking a disproportionately large toll on their self-concept or expectations of others (Allen & Fonagy, 2006). Thus, caregivers suffering from unresolved trauma may unintentionally act out this distress with their children, increasing child vulnerability to problem behavior and symptoms and risk for exposure to trauma.

Interestingly, although this study found that maternal mentalization mediated the relationship between maternal PTSD and children's social skills and internalizing problems, this model was not significant for children's externalizing problems. That is, mothers with higher levels of PTSD and lower levels of mentalization tended to report that their children were experiencing the inner-directed negative emotions (e.g., sadness, fear, shame) and over-controlled behaviours associated with internalizing problems, rather than the undercontrolled behaviours and problems modulating impulses associated with externalizing problems. It may be that mentalization is more closely connected with a process of focusing on the cognitions and affect

of the self, and also using this understanding to effectively manage social situations involving multiple mental states (Banerjee, 2008; Sharp et al., 2011).

To be clear, the purpose of this study is not to blame mothers for their children's difficulties by pointing to lower levels of maternal mentalization. Rather, the hope is that the results of this study will be used to, 1) understand the vulnerable populations of women that have been historically under-supported in a parenting role, and 2) to design specific interventions to assist these women in their role as mothers. Interventions aimed at improving outcomes for children and families will be discussed later.

It is important to note that not all mothers with a history of trauma necessarily experience depression and PTSD, deficits in mentalization, or uncertainty and ineffectiveness in parenting. Many individuals who experience trauma develop resiliency, which is the ability to adapt and 'bounce back' from an experience of adversity and trauma (Husain, 2012). Factors contributing to resiliency in children include, positive temperament, secure attachment during childhood, a supportive family, and a special and positive relationship with an adult. Furthermore, the entire range of cultural experiences (within the family, school setting, friendship network, and larger society as a whole) work to shape unique children into unique adults (Husain, 2012). There are multiple causal pathways in which genetics, biology, and environmental factors interact and evolve to create the varied outcomes of adulthood (Lemery-Chalfant, Kao, Swann, & Goldsmith, 2013). On the opposite end of the continuum from resiliency is vulnerability. Vulnerability involves a wide range of factors that increase the risk of a child developing behavioural or emotional problems. The failure to achieve the developmental task of mentalizing early in life increases vulnerability for mental health problems, such as depression and PTSD, in adulthood (Southam-Gerow & Kendall, 2002; Gottman, Katz, & Hooven, 1996; Sharp et al., 2006).

Results from this study revealed that a history of emotional abuse was uniquely predictive of maternal depression in adulthood, and a history of sexual abuse was uniquely predictive of maternal PTSD symptoms in adulthood. Consistent with this finding, studies have generally supported the relationship between a history of childhood sexual abuse and diagnoses of anxiety disorders, particularly posttraumatic stress disorder (PTSD), in adulthood (Paolucci et al., 2001; Putnam, 2003). In contrast, neither childhood physical nor sexual abuse was significantly related to depressive disorders (Gibb, Chelminski, & Zimmerman, 2007). Other studies have supported the link between a history of childhood emotional abuse and diagnoses of depression in adulthood (Bifulco et al., 2002; Gibb et al., 2001, 2003). Childhood emotional abuse has been found to be more likely to contribute to the development of a cognitive vulnerability to depression than either childhood physical or sexual abuse, due to evidence suggesting that with emotional abuse the depressive cognitions are directly supplied to the child and contribute specific vulnerability to depression as opposed to other disorders (Bifulco et al., 2002).

This study also found direct links between maternal PTSD and depression, and child adjustment. That is, more maternal depression and PTSD was associated with lower levels of children's social skills, and more internalizing and externalizing problems, even after controlling for the effects of income and maternal history of psychotherapy. This finding was supported by the meta-analysis by Goodman and colleagues (2010), which found that maternal depression was significantly related to higher levels of children's internalizing and externalizing problems, more general psychopathology and negative affect/behavior in children, and significantly related to lower levels of positive affect/behavior in children. These findings are also consistent with theory and research highlighting the importance of emotions and emotion regulation in the developmental trajectory of depression (Cicchetti et al. 1995; Garber et al. 1991). Maternal

expressions of negative affect or lack of contingency between maternal and child affect could impair emotional development by failing to support the regulation of emotional arousal, and negatively impacting the child's ability to perceive and label his/her own emotional state (Burns et al., 2010).

The present study found that emotion-coaching parenting was not associated with any of the study variables, and the hypotheses examining the associations between emotion-coaching parenting and maternal mentalization, maternal trauma, and child adjustment and social skills were not supported. This finding was surprising, as it was hypothesized that emotion-coaching parenting style and mentalization would be conceptually linked due to their focus on emotional awareness and reflection. The link revealed in this study between higher levels of mentalization and lower levels of rejection of negative emotions suggests that mentalizing mothers may be more likely to accept their children's expressions of negative emotions, but may not take active steps to use the opportunity as a time for emotion teaching and problem-focused coping.

In this study, maternal PTSD symptoms were uniquely associated with parenting style: Uncertainty and Ineffectiveness in Emotion Socialization. That is, mothers in a parenting role with more symptoms of PTSD were more likely to exhibit parental doubt and feelings of ineffectiveness when dealing with children's negative emotional expression, and a desire for the emotions to stop without parental intervention. This parenting style was also positively associated with children's internalizing and externalizing problems. Although uncertainty and ineffectiveness in emotion socialization was found to significantly correlate in the positive direction with both maternal PTSD symptoms, and child internalizing and externalizing problems, this relationship did not hold up during mediational modeling. Similarly, regression analyses revealed that maternal PTSD symptoms significantly predicted both child internalizing

and externalizing problems in the positive direction, while uncertainty and ineffectiveness in emotion socialization did not. This may be due to measurement error, as the Uncertainty and Ineffectiveness subscale only consists of 5 items, and it may lack content or construct validity, or test-retest reliability. Nevertheless, the relation between maternal PTSD, uncertainty and ineffectiveness in emotion socialization, and child adjustment is an interesting one. Parents suffering from PTSD may avoid their child's emotions so as not to re-evoked their own traumatic responses or negative emotions (Lieberman, 2004). Thus, the child's negative emotion display may bring about physiological arousal and traumatic memories for the PTSD-suffering parent, which stimulates the need for avoidance and leads to feelings of ineffectiveness and frustration/confusion in parenting.

If parents are amenable to intervention, it may be essential to address the parents' own trauma history, as well as the bidirectional nature of self-regulatory development. That is, parents need to work on becoming aware of their triggers elicited by their child. Continued passive rejection of children's negative emotions due to frustration and feelings of ineffectiveness, perpetuates a vicious cycle whereby more avoidance leads to greater feelings of ineffectiveness, which leads to greater avoidance (George & Solomon, 2008). Working through the traumatic triggers occurring in the context of a parenting role will reduce avoidance, allowing the mother the freedom to reflect on her emotion state and decide voluntarily how to respond to it. Thus, there is a need for intervention and support for individuals with PTSD in a parenting role, in order to improve their feelings of confidence and effectiveness in this role. Parent education programs that promote developmentally appropriate expectations of children, to reduce the tendency to be harsh with children and to interpret child misbehaviour as intentional, may be particularly helpful in introducing mothers to new ways of responding to child affect (Jones,

2010). This may include intervening and scaffolding child affective states through appropriate verbal coaching, or ceding control of regulation when developmentally appropriate (Gottman, et al., 1997).

Limitations of the Present Study and Future Directions

Several limitations of this research need to be acknowledged. First, the use of correlations and cross-sectional methodological design preclude conclusions about the causal relationship between variables. While the present study assumed that maternal childhood trauma was a preceding factor to childhood outcome variables based upon results from previous research, it is not possible to draw causal connections between maternal childhood trauma and children's adjustment outcomes. Specifically, the association between maternal PTSD and children's social skills likely works in a bi-directional feedback loop, in which children's social deficits and lower self-control re-trigger their mothers' PTSD symptomatology, increasing maternal stress levels and further preventing the appropriate maternal scaffolding and modeling needed to facilitate social skills in children. Longitudinal designs are better able to delineate these developmental and bi-directional pathways. More research will, therefore, be needed to establish whether maternal mentalization plays a buffering role for children of mothers who have experienced trauma.

This study utilized self-report and retrospective assessment of mothers' history of childhood abuse (CTQ). Previous research has demonstrated the lack of validity in self-report due to the effects of social desirability bias potentially resulting in underreporting (Widom & Shepard, 1996). If critical information in this study was underreported, the predictions can still be conservatively estimated as the bias is in the opposite direction to the findings. Furthermore, a strength of this study was the use of a multi-method design, involving not only quantitative self-report measures, but also qualitative child interview data on mentalization.

In the present study, maternal history of psychotherapy was rated on a binary scale (i.e., yes/no) and controlling for this variable did not significantly change any of the results. Thus, future research should aim to extend study findings to include variables associated with psychotherapy outcome, such as, length of psychotherapy, therapeutic model or technique, and strength of the therapeutic alliance. It may also be interesting to test interactional effects between participants' self-report of mentalization ability and ratings of mentalization by therapists, as related to outcome.

Although the sample size was adequate for basic mediation analyses, it was too small for larger scale path or structural equation modeling. Given a larger sample size, these statistical methods would have allowed for the investigation of larger scale models that might better control for Type I error, while assessing the relations between the sets of variables (i.e., trauma, mentalization, parenting, children's adjustment) in question. Future studies that combine path modeling with longitudinal designs may be particularly useful in clarifying the interactions between maternal trauma, mentalization, and child socio-emotional functioning.

The use of parent-report questionnaires as measures of children's social and emotional functioning (SSRS, CBCL) raises possible statistical confounds. Specifically, mothers' ratings of children's behaviour problems may be related to their own mentalization capacity; parents with less well-developed mentalization capacities may rate their children more negatively. Using a parent-rated measure of child social-emotional functioning may be confounded by the mother's mentalization capacity. Statistically speaking, the use of one measurement method for two sets of study variables introduces the possibility of common method variance, which might artificially inflate correlations. Specifically, in the mediational model including maternal PTSD, maternal mentalization, and mother-report child social skills, all variables were mother-reported.

Therefore, maternal awareness of her mentalization abilities may impact her self-ratings on mentalization and her perception of her child's social skills. Mothers' interpretations of their children's behaviour may be more affected by their own internal experiences, rather than their children's actual behaviour. As a result, children's social skills may be more impacted by maternal perceptions rather than objective data. On the other hand, deficits in children's social skills is often identified by the school system, thus, creating more opportunity for objective data on children's behaviours to be brought to the attention of mothers. Future research should consider administering other-reports for social skills (teacher-version) for corroborating evidence. It would also be interesting to see how teacher-reports of children's social skills correlate with mother-reports of children's social skills, and whether any differences exist that may be mediated by maternal mentalization.

The sample collected for the present study does not entirely reflect the diversity seen in communities. There was a dearth of participants from ethnic minorities in the sample, with most mother-child pairs identifying themselves as Caucasian. This has important implications for the generalization of the findings to culturally diverse samples (Rodriguez, Donovanick, & Crowley, 2009). Future studies that incorporate the investigation of trauma, parenting, mentalization, and children's psychological adjustment will need to explore the influence of cultural factors and how they influence the specific practices parents employ to promote their children's mentalization and adjustment.

Although efforts were made to collect participants from a vulnerable sample, there were a limited number of mothers and children who might be considered as having more severe trauma histories and experiences. For example, none of the mothers in the present sample scored in the severe or extreme range for clinical depression. This may partially explain why the mediation

model including maternal depression did not yield significant results. In particular, the model testing maternal mentalization as a mediator in the relationship between maternal depression and child internalizing problems was approaching significance ($p = .09$). Perhaps if there was a greater range of maternal depression in the sample, this relationship may have shown significance. Other measures in this study also had relatively low base rates. For example, rates for all types of maternal childhood trauma as measured by the CTQ were under 10%. These low base rates of maternal childhood trauma (physical, emotional, sexual abuse, and physical and emotional neglect) may partially explain why the hypothesis testing the relationship between maternal childhood trauma and maternal mentalization was not supported. Only 8 mothers (10.7%) met diagnostic criteria for PTSD.

Also of importance, the present study did not assess for IPV. Although this study did assess adult trauma by measuring maternal PTSD symptoms, the etiology of these symptoms was not assessed (e.g., PTSD symptoms stemming from chronic childhood trauma, IPV, or both). As such, it was not possible to analyze in the current study differences among women based on whether they experienced trauma only in childhood, only in adulthood, or both child and adulthood, and the subsequent effect on parenting and mentalization. Other research has found that recent intimate partner violence independently impacted four different parenting variables (parental stress, nonviolent discipline, psychological aggression, and corporal punishment) and mediated the relationship between childhood sexual abuse and psychological aggression (Barrett, 2010). Moving forward from this study, future research would benefit from the assessment of IPV, as the assessment of exposure to other forms of risk in childhood and adulthood would highlight the complexities of women's experiences of trauma and its impact on mentalization and parenting.

The present study focused solely on the mentalization of mothers, without consideration or the role played by fathers in their children's socio-emotional development. The influence of paternal mentalization on children's socio-emotional functioning represents an intriguing avenue for future research, as are any studies into the possible differences between mothers and fathers when it comes to mentalization. The few studies that have examined RF in both men and women have yielded mixed findings with one study indicating that men and women score similarly on RF (Steele & Steele, 2008) and another indicating that women score higher than men (Bouchard et al., 2008). In future research, it will be important to consider how other caregivers and family members (e.g., fathers, siblings) socialize emotion and engage in mentalization, and their influence on children's social and emotional development. Although mothers have traditionally been children's primary caregivers (Nelson et al., 2009), fathers are playing a more active role in their children's lives, and thus, future research should consider their role in shaping children's development.

Many difficulties were encountered in the use of the Reflective Functioning Questionnaire as a self-report measure of maternal mentalization. This measure did not have published reliability and validity data at the time of the present study. As a result, it was discovered in the present study that the 46-item version had poor reliability not suitable for empirical study. Perkins (2009) conducted a factor analysis of the 46-item measure, and thus, an item-analysis was also conducted in the present study to improve reliability of this measure to acceptable levels. Although this study served to highlight the limitations of the 46-item version of the RFQ, the large reduction in items necessary to bring the measure to appropriate reliability levels resulted in a 14-item questionnaire of mentalization that was similar to Perkins (2009).

In terms of future research with the ERPS, it would be beneficial to pursue further validation of the measure on a clinical sample. This study uncovered a link between higher levels of maternal PTSD symptoms and higher levels of uncertainty and ineffectiveness in emotion socialization. Other research has also highlighted the importance of parental stress in mediating the relationship between maternal personality factors and supportive reactions to children's negative emotions (Scammel, 2011). Thus, future research on the development of the ERPS parenting subscales with a more vulnerable sample will likely yield valuable results.

Finally, the Child Mentalization Scale (CMS) was not significantly associated with any of the study variables. This is a surprising finding, as the present study hypothesized that maternal trauma and maternal mentalization ability would be associated with child mentalization ability, representing one aspect of child well-being and resiliency. Ostler and colleagues found that children higher in mentalization ability on the CMS had lower scores for both internalizing and externalizing on the CBCL. This result was not replicated in the present study perhaps due to the differing populations; in Ostler's study, foster parents reported on children's behaviour problems (children's mean time in foster care was 18.5 months), while the present study included biological parents' assessment of their children. It is possible that unknown third variables unique to foster parenting may have contributed to the relationship between child mentalization ability and mother-reported child behaviour problems, which do not extend to the present study. Furthermore, the lack of significant results may be due to the fact that the measure is new and the first of its kind; prior to the CMS, there were no measures of mentalization for school-aged children (Ostler et al., 2010). In order to improve validity and reliability, this measure may require further development and validation testing on a healthy sample of school-aged children.

Implications for Future Theory and Research

It was surprising that the present study did not find associations between the Child Mentalization Scale (CMS) and other study measures. This may partly be due to the low inter-rater reliability of the “Fun” story. The capacity for mentalization largely depends on present-moment emotional state and is context-specific, as people can generally maintain good mentalizing ability if they are in a non-stressful interpersonal context. Therefore, testing the resilience and depth of mentalization capacity requires the child to be put under stress. Asking a child to talk about a time in their family that was “fun” may be less stressful than being asked to describe experiences that elicit emotional arousal. Thus, in future use and validation of this scale, one should consider weighting more heavily the ratings of the Sad and Scary stories as measures of children’s depth and resilience in mentalization capacity.

Another potential issue with the CMS is that it may be too abstract with not enough objective markers of mentalization (e.g., specific emotion words). The CMS depended highly on ratings of ‘metaawareness’ (e.g., high mentalization should include 2nd order reflections, empathy). Perhaps in future development and validation of the CMS, the inclusion of more concrete markers of emotional awareness and understanding (e.g., internal state language) would aid in the ease and accuracy of rating.

Applied Implications

In a framework for the prevention of the intergenerational transmission of trauma aimed at improving outcomes for children and families, strategies should be applied at the primary, secondary, and tertiary levels of prevention. In primary prevention, activities are directed at the general population and attempt to stop the intergenerational transmission of trauma before it occurs (Braquehais, Picouto, & Matali, 2011). This may include education on the effect of trauma

on intimate relationships, including the parent-child relationship; educational programs that assist school-aged children (age 6-12 years) in the development of mentalization capacity; programs aimed at reducing childhood trauma experienced by girls and women; programs aimed at empowering women and providing support for women in a parenting role; and family-strengthening programs that encourage the role of fathers, to reduce the burden on women as sole primary caregivers, and to promote gender equality in parenting. This study further revealed the importance of household income in the relationship between maternal trauma and child adjustment, thus, programs aimed at assisting low income families are important in the prevention of the cycle of intergenerational trauma.

In secondary prevention programs, there is a focus on increasing support for high-risk populations (Braquehais et al., 2011). According to the results of this study, this includes women in a parenting role with a history of child trauma (particularly emotional and sexual abuse), current PTSD symptomatology or depression, and low mentalization ability. Furthermore, since maternal mentalization was revealed as a mechanism in the relation between maternal trauma and some aspects of child adjustment, interventions which specifically target mentalization ability in mothers will be helpful in producing positive outcomes for families and reducing the intergenerational transmission of trauma. This study found that higher levels of maternal mentalization was significantly associated with higher levels of mother-reported child social skills, lower levels of mother reported child internalizing and externalizing problems, and fewer instances of rejecting negative emotion in children. Children are often referred for treatment based on their most obvious problems, with little consideration for underlying causal or contributory factors (Cohen et al., 1993; Menna & Cohen, 1997). Interventions aimed at improving mother's mentalization (i.e., their ability to identify and contain their own emotions,

separate their internal experience from that of their child, and mindfully respond to their child's behaviour) may have important implications for improving child social skills and family functioning in general (e.g., Mentalization-Based Therapy (MBT), Intergenerational Trauma Treatment Model (ITTM). A meta-analysis of the impact of parent participation on intervention outcome found that combined parent-child/family therapy treatment, or a parent-only treatment groups showed greater impact on children than child treatment alone (Dowell, 2005).

Mentalization based therapy (MBT; Fonagy & Bateman, 2004) is a time-limited treatment which structures interventions that promote the further development of mentalizing (Bateman & Fonagy, 2010). The overall aim of treating traumatized clients is to help them to establish a more consistent mentalizing self so that they become able to mentalize trauma and conflict, and thus develop more secure attachments. Therapeutic work with traumatized patients includes fostering interpersonal security and containment, and supporting the development of a mentalizing stance in relation to the meaning and effect of the trauma. This includes gradually unpacking the conscious and unconscious meanings and affects that are attached to the traumatic experience, and reconstructing and integrating a new narrative about the trauma (Bateman & Fonagy, 2012).

The Intergenerational Trauma Treatment Model (ITTM; Scott & Copping, 2008) focuses on the importance of involving parents in the treatment for their children. As part of treatment for their child, parents must receive intervention to reduce their own trauma-related symptoms of depression, anxiety, hyper-arousal, and traumatic-re-experiencing. Therapies that involve promoting improvements in the emotional functioning of the parent in order to lead to greater emotional attunement to the child and higher levels of empathy, are likely to lead to further improvements in children's functioning. The American Psychiatric Association has also supported that family-based therapy be included as part of children's treatment (American

Psychiatric Association, 1998). While the implications from the present study suggest the importance of promoting mentalization in mothers, secondary interventions for children who are emotionally insecure and who are raised by a mother suffering from PTSD can include individual play therapy or cognitive-behavioural therapy (for children in the upper age range).

In conclusion, this study found that mothers with PTSD symptoms tended to have children with fewer social skills and more internalizing problems, and this relationship was explained by lower levels of mentalization ability in mothers. Furthermore, maternal PTSD symptoms impacted parenting, as it was associated with greater feelings of uncertainty and ineffectiveness in emotion socialization of children. This study has introduced a preliminary model for the role of mentalization for mothers in a parenting role dealing with trauma symptoms, and the impact this has for their children's development. This model may contribute to shaping interventions that uniquely address distress in the mother-child relationship; as mothers improve their capacity for mentalization they not only heal from their own trauma, but they also learn to mentalize their children differently. As a result, both mother and child experience more positive and fulfilling relations with each other, and develop healthier foundations upon which to build/re-build their sense of self and mode of relating to others.

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CONSENT TO PARTICIPATE IN RESEARCH FOR PARENTS AND GAURDIANS

Title of Study: Children's socio-emotional development: Role of maternal childhood experiences, parenting style, and self-reflection

You and your child are asked to participate in a research study conducted by Andrea Kapeleris (Doctoral student) and Dr. Rosanne Menna (Faculty Supervisor), from the Department of Psychology at the University of Windsor. The results of this study will contribute to the completion of Andrea Kapeleris' Dissertation.

If you have any questions or concerns about the research, please feel to contact Andrea Kapeleris (519) 253-3000 ext. 2219 or Dr. Rosanne Menna at (519) 253-3000 ext. 2230

PURPOSE OF THE STUDY

The purpose of this study is to gain a greater understanding of how parents interpret feelings and thoughts in themselves and their children who are between the ages of six to 12 years old. Results of this study will help researchers gain a better understanding of the factors that affect children's social and emotional development.

PROCEDURES

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

- You would be asked to complete questionnaires which ask for the following: basic demographic information, information regarding childhood experiences, capacity for self-reflection, parenting style, and information regarding the presence or absence of any symptoms of post-traumatic stress disorder or depression. We will also ask you to fill out questionnaires which ask for information on your child's behaviour and social skills.
- While you are completing the questionnaires, we would ask that you 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 be accompanied to a nearby room where they will be asked to remember and discuss three past events occurring in their family. This discussion will be audiotaped. As well, two short measures will be taken: one of your child's language ability and one that asks your child information about how he or she understands emotions. The study will take place in a laboratory (Room #262) at the University of Windsor. This entire appointment should take between one and one-and-a-half hours to complete. One or two researchers will be working with you and your child during this appointment.

POTENTIAL RISKS AND DISCOMFORTS

While at the university, your child will be asked to engage in an interview and complete two short measures, 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 some of your own symptoms that you may be having. 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 CC 519-257-5215

Children's Healthcare Network 519-257-5288

Help-Link: Children, Youth & Families 519-257-5288

Family Service Windsor-Essex County 519-256-1831

POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

Your child is expected to enjoy the tasks as they are designed to be developmentally appropriate and feature story-telling and pictures. 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 \$25 when you complete the study tasks. In addition, children participating in the study will be given an age-appropriate gift such as, stickers, pencils, and erasers as rewards.

CONFIDENTIALITY

The paperwork and audiotaped responses for this project will be kept confidential and will be identified by an assigned numeric code. All materials will be stored in locked cabinets when not in use. Your names will never appear in any reports of this study. Audiotape material will not be used for any purposes other than research, and only the primary researcher (A. Kapeleris), research supervisor (R.Menna), and two trained research assistants will have access to the audiotapes. Audiotape data will be destroyed after five years. Group results may be published in a professional journal and/or at professional conferences, but no identifiable information will be included. By law, an exception to such confidentiality is that researchers must report to authorities any suspected cases of child abuse and neglect. You may ask questions about the procedure of the study at any time and your questions will be answered.

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.

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If you wish to obtain more information about the study, please contact the principal researcher, A. Kapeleris at (519) 253-3000 ext. 2219, or her supervisor, Dr. R. Menna at (519) 253-3000 ext. 2230

Results will be available by September 2013.

SUBSEQUENT USE OF DATA

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

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SIGNATURE OF RESEARCH SUBJECT/LEGAL REPRESENTATIVE

I understand the information provided for the study "Children's socio-emotional development: Role of maternal childhood experiences, parenting style, and self-reflection" as described herein. My questions have been answered to my satisfaction, and I agree to participate in this study. I also agree for my child 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

CONSENT TO PARTICIPATE IN RESEARCH FOR PARTICIPANT POOL

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LETTER OF INFORMATION FOR PARENTS AND GAURDIANS

Title of Study: Children's socio-emotional development: Role of maternal childhood experiences, parenting style, and self-reflection

You are asked to participate in a research study conducted by Andrea Kapeleris (Doctoral student) and Dr. Rosanne Menna (Faculty Supervisor), from the Department of Psychology at the University of Windsor. The results of this study will contribute to the completion of Andrea Kapeleris' Dissertation.

If you have any questions or concerns about the research, please feel to contact Andrea Kapeleris at (519) 253-3000 ext. 2219 or Dr. Rosanne Menna at (519) 253-3000 ext. 2230

PURPOSE OF THE STUDY

The purpose of this study is to gain a greater understanding of how parents interpret feelings and thoughts in themselves and their children who are between the ages of six to 12 years old. Results of this study will help researchers gain a better understanding of the factors that affect children's social and emotional development.

PROCEDURES

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

- You would be asked to complete questionnaires which ask for the following: basic demographic information, information regarding childhood experiences, capacity for self-reflection, parenting style, and information regarding the presence or absence of any symptoms of post-traumatic stress disorder or depression. We will also ask you to fill out questionnaires which ask for information on your child's behaviour and social skills.
- While you are completing the questionnaires, we would ask that you 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 your child will be accompanied to a nearby room where they will be asked to remember and discuss three past events occurring in their family. This discussion will be audiotaped. As well, two short measures will be taken: one of your child's language ability and one that asks your child information about how he or she understands emotions. The study will take place at a laboratory (Room #262) in the Department of Psychology at the University of Windsor. This entire appointment should take between one and one-and-a-half hours to complete. One or two researchers will be working with you and your child during this appointment.

POTENTIAL RISKS AND DISCOMFORTS

While at the university, your child will be asked to engage in an interview and complete two short measures, 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 come of your own symptoms that you may be having. 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's Healthcare Network	519-257-5288
Children First	519-250-1850	Help-Link: Children, Youth & Families	519-257-5288
Windsor Regional CC	519-257-5215	Family Service Windsor-Essex County	519-256-1831

POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

Your child is expected to enjoy the tasks as they are designed to be developmentally appropriate and feature story-telling and pictures. 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 \$25 when you complete the study tasks. In addition, children participating in the study will be given an age-appropriate gift such as, stickers, pencils, and erasers as rewards.

CONFIDENTIALITY

The paperwork and audiotaped responses for this project will be kept confidential and will be identified by an assigned numeric code. All materials will be stored in locked cabinets when not in use. Your names will never appear in any reports of this study. Audiotape material will not be used for any purposes other than research, and only the primary researcher (A. Kapeleris), research supervisor (R.Menna), and two trained research assistants will have access to the audiotapes. Audiotape data will be destroyed after five years. Group results may be published in a professional journal and/or at professional conferences, but no identifiable information will be included. By law, an exception to such confidentiality is that researchers must report to authorities any suspected cases of child abuse and neglect. You may ask questions about the procedure of the study at any time and your questions will be answered.

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 SUBJECTS

A research summary of the initial findings of the study will be hosted on the REB study Results webpage and be available to participants here:

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

If you wish to obtain more information about the study, please contact the principal researcher, A. Kapeleris at (519) 253-3000 ext. 2219, or her supervisor, Dr. R. Menna at (519) 253-3000 ext. 2230

Results will be available by September 2013.

RIGHTS OF RESEARCH SUBJECTS

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

SIGNATURE OF INVESTIGATOR

These are the terms under which I will conduct research.

A. Kapeleris
Signature of Investigator

February 1, 2012
Date



LETTER OF INFORMATION FOR PARTICIPANT POOL

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PAYMENT FOR PARTICIPATION

As a token of our appreciation for your help with this study, you will receive two bonus points if you are registered in the pool and you are registered in one or more eligible psychology courses. In addition, children participating in the study will be given an age-appropriate gift such as, stickers, pencils, and erasers as rewards.

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SIGNATURE OF INVESTIGATOR

These are the terms under which I will conduct research.

A. Kapeleris
Signature of Investigator

February 1, 2012
Date



ASSENT FOR CHILD PARTICIPATION IN RESEARCH

I am a student researcher, and I am doing a study on how people think about their feelings. I would like to ask you to tell me some stories about you and your family. Then, I would like you to answer some questions about feelings.

When I am finished talking with all the kids who agree to be in my study, I will write a report on what I have learned. My teachers will read it, and it might be put in a book, but no one will know who the kids are that answered my questions.

I want you to know that I will not be telling your parents or any other kids what you answer. The only exception is if you tell me that someone has been hurting you, or if you tell me that you are hurting yourself. If you tell me that someone has been hurting you or that you are hurting yourself I will need to tell your parents or someone else who can help you, because it is my job to keep you safe. Otherwise, I promise to keep everything that you tell me private.

Your mom has said it is okay for you to answer my questions on feelings. Do you think that you would like to answer them? You won't get into any trouble if you say no. If you decide to answer the questions you can stop answering them at any time, and you don't have to answer any question you do not want to answer. It's entirely up to you. Whether you decide to answer any questions or not, I will give your family a small prize when you leave. Would you like to try answering the questions?

I understand what I am being asked to do to be in this study, and I agree to be in this study.

Signature

Date

Witness



CONSENT FOR AUDIO TAPING

Child's Name:

Title of the Project: Children's socio-emotional development: Role of maternal childhood experiences, parenting style, and self-reflection

I consent to the audio taping of interviews, procedures, or treatment (of my child).

I understand these are voluntary procedures and that I am free to withdraw at any time by requesting that the taping be stopped. I also understand that my name or (my child's name) will not be revealed to anyone and that taping will be kept confidential. Tapes are filed by number only and stored in a locked cabinet.

I understand that confidentiality will be respected and that the audiotape will be for professional use only.

(Signature of Parent or Guardian)

(Date)

Have you ever received personal counseling or psychotherapy from a professional for personal problems or distress?

a) yes _____ b) no _____

Do you currently have any serious medical conditions or illnesses (e.g. diabetes, heart disease, kidney disease, cancer, etc.)?

a) yes _____ b) no _____

Which category best describes your total combined household income last year (from all adult sources living in your household)?

- a) Less than \$20,000 _____
- b) \$20,000 to 39,999 _____
- c) \$40,000 to 59,999 _____
- d) \$60,000 to 99,999 _____
- e) \$100,000 or more _____
- f) prefer not to answer _____

How many children do you have? _____

For each child, please list their age and sex. Also, please list your own age at the child's birth, and whether the child has any medical or psychiatric disorder(s) or delay(s) in development (e.g., speech or language, physical, intellectual, behavioral, etc.):

<u>Child</u>	<u>Age of child</u>	<u>Sex</u>	<u>Your age at child's birth</u>	<u>Disorders/Delays</u>
1				
2				
3				
4				

Have you attended any parenting classes?

_____ yes _____ no

Have you read any parenting books?

_____ yes _____ no

Have you visited any parenting websites?

_____ yes _____ no

My Family Stories Interview

(a) “I wonder if you could start by telling me a little bit about your family and yourself.”

Follow up questions/probes:

“Who is in the family?”

“What are they like?”

“Where do you live?”

“What do you do together?”

(b) “Could you tell me about a time when you were away from your parents for a longer period of time (over night, a few days).”

Follow up questions/probes:

“How did you feel when you were away?”

“What did you think about in that time?”

“What did you do?”

“What did you feel when you came home?”

“How did your parents feel?”

(c) “Can you tell me about a time that was happy?”

“Can you tell me about a time that was sad?”

“Can you tell me about a time that was scary?”

“Can you tell me about a time that was fun?”

Follow up questions/probes after each story:

“How did you feel about (the time that was happy)?”

“What did you think?”

“What did others feel?”

“What did they think?”

*As a rule, it may be helpful to repeat a child's spontaneous statement if the child is struggling and then to repeat the feeling question once.

Appendix C

The Child Mentalization Scale with examples from the present study

Level and Description

9: Child shows a strong and sophisticated ability to tolerate and make sense of the powerful internal feeling states evoked by the questions and maintains a reflective stance with a strong sense of self, individuality, curiosity, and/or spontaneity

“In grade three my aunt passed away and I was really close with her ... she always made dinner for Christmas...made sure everybody was alright and she always let me help out with her. When she died it was really hard for me...it wasn't the same because we didn't have her food, and she wasn't there giving everybody warm hugs and kisses and helping everybody out...it was the hardest the next Christmas...and...or even like...the journey to getting to where she was dead. She got a blood transplant and it was the wrong blood type so she had liver cancer...and it stunk because they couldn't cure it. It was kinda hard and my cousins, it was their grandma...they had to like go to London with her and miss a lot of school and it was really hard for them, they were so sad because they were really close with her...I was kinda frustrated at school and I was really sad most of the time...my friends tried to cheer me up but I would still think about her and feel sad again. One of my friend's she gave me a card to make me feel better. It was so nice of her and that really brightened my day up and that made me think that people actually do care if, like, my aunt died and I'm really sad. But, I didn't want people to be sad for me so I would just kinda save it for home...[if it were now] I would not be as passive with my feelings... like, when I was younger I kinda let my feelings show more and I don't want people to think I'm like ...weak and I always cry even though I get really sad...It's kinda hard to control your emotions when you're eight cuz you don't know what everybody's gonna think of you in 20 years or in like two years.” (age 11)

8: Some of the elements noted above are present. Account is not as full or it lacks the scope that is found in children scoring higher. Child is, however, receptive to new understandings or explorations of feelings, thoughts and memories.

“I don't really wanna answer the question but I will...this was a couple of years ago when my mom had cancer. My mom and aunt started fighting, and um it got to the point where we were upstairs with my brother...he decided to get a hammer and went downstairs and yelled 'who should I start whacking?' so my mom ended up having to call the cops because she had cancer and she was going into surgery in a couple months and she couldn't take it <deep breath> it was kind of relieving, cause to be honest, I don't really like my aunt that much... I think he was trying to protect my mom from...serious harm. <I: What were you thinking during that time?> um 'oh my god I think gunfire some guns shots are gonna be fired' <I: What did you do?> I was just balling my eyes out. I got out of the house and went to the park, and the cops came when we were at school the next day. She didn't want the...you know she didn't want us to see her getting taken away <I: How are you feeling telling this story right now?> right now I'm kind of feeling a little bit happy that I'm kind of letting all this out and telling someone. (age 12)

7: Child shows moderate ability to contain and actively make sense of feelings and associated memories and thoughts. Child may elaborate or explore feelings and memories

in some depth by connecting, modifying, or rendering feeling states meaningful but her ability to make sense and to connect experiences with feelings is less sophisticated

“Umm, well my dogs lived with my grandma and grandpa over at the farm, and one day when I was playing games on the computer I got a phone call and my mom started crying. And I am like, ‘why are you crying?’ and she told me our dog died. <I: Oh, what was that like for you?> Very, very sad, also my brother as well. All I could think about was my dog. <I: Yeah, what about him?> Umm, how he was always excited because whenever we came from he would jump up and down, and then we would open the door... <I: Yeah, and how did you know that your brother was also sad?> Because he was crying too... I huddled up in a corner, I have a secret corner and then I started crying. <I: Oh, why do you think you went in your secret corner?> because I felt very sad and I didn’t want <pause> I felt really sad and I didn’t want nobody else to see me. <I: Ok, and how are you feeling now about it?> Whenever I see a Husky or a picture of a Husky, it made me feel really sad...because it always-always helps me remember...and then I get really sad.” (age 9)

6: Some ability to contain and make sense, but contains a little more complexity or subtlety than children scoring lower. Children at this level show some toleration, exploration and somewhat differentiated consideration of feeling states. The child processes a bit—some ground is gained.

“One day I had a math test that I was kind of not sure...I wasn’t that good in that type of math. I went to my teacher’s desk and I felt that sensation in my stomach like ‘ohhohh’ and just I don’t know what you call it, like, I don’t know what’s gonna happen, I’m so anxious... Some kids in my class that get bad marks are proud of their bad marks. If I got a bad mark I would feel like it’s a pathetic mark, like, ‘aw this is terrible, my parents are just gonna be so mad at me.’ I think the good students would be like ‘oh I’m used to getting this mark cuz I usually always get like around A+’ so it really isn’t anything new for them. The bad students, they were they probably don’t really care because they just don’t really care about school.” (age 8)

5: Child shows a limited ability to contain and make sense and can make sense of some feelings, thoughts, and memories but these are lacking in terms of their complexity and subtlety.

<*using puppets> “I sleep in the living room, and when I go to bed in the living room...well I get scared because there is like sirens everywhere. Because we live on -----, so it is loud and I got scared when it is dark and when there is a lot of sirens. <I: Mm and what sorts of things do you think about when you get scared?> Mm that I am going to get eaten by the TV. <I: And what sorts of things do you do to calm down?> Umm read a book... I haven’t told anyone else. <How come?> Because then I will get embarrassed...because nobody knows that I am afraid of the dark. (age 10)

4: Child shows elements of mentalization/containment, but they are rudimentary at best and may be combined with defensive states or non-understanding. Child begins to express, acknowledge or make sense of, but is also defensive or less articulate than a child who scores higher. Child acknowledges a feeling honestly, then backs down or brushes it off. If

child makes a connection, it is concrete (e.g. related to body), superficial, or not that relevant. A child may respond within the confines of task, but receives a 4 if he/she endorses the statement or expands it. Child may include stories with real and fantasized components or undigested comments about them.

“um I felt sad when like somebody’s hurt like... somebody’s hurt once and I start crying and I start feeling bad for myself and then I go up to the person and say “what’s wrong?” and they don’t like, don’t talk to me, they don’t want to talk right now so I feel sad for them.” (age 6)

3: Childs responds only within the confines of the task or makes a connection that is concrete, superficial, simplistic, or not that relevant. For answers that qualify for a score of three, it is often unclear whether the child is mentalizing or not. The child may struggle to contain or choose not to elaborate.

<I: “Tell me a story in your family that was sad.> Nothing. <I: Can you try and think of one time when you felt sad?> Almost every...all the time. <I: Almost all the time. Why do you feel sad almost all the time?> Sometimes...because I just do. <I: Oh, what makes you sad?> I don’t know, I don’t know. <I: What do you do when you are sad?> Try to get better. <I: How do you try to feel better?> Just try...I don’t know I just try to feel better...sometimes I just wait for a long time and not say anything about it, like crying, and then I forget it, then I feel better.” (age 7)

2: Child responds, but has marked difficulty in containing/sharing/expressing or understanding. The child is defensive, but less so than a child scoring 1.

<I: Can you tell me a sad story?> No no I got a better idea... how about if you, uh, tell me how many hands you’re holding up I got to say them? <I: we can do that after, but first how about you tell me about a time that was sad?> I never get sad; I can’t sad <I: you never get sad?> I never get sad so...let’s, let’s do another question <I: okay> uhhhh <I: So you never feel sad at all?> Ya, can I have another candy please? (age 6)

1: Child cannot contain or tolerate the intense feelings triggered by the questions. Child rejects, turns away, denies, withdraws, flees, or disguises when asked about them. She may be impenetrable or appear to be invulnerable or paranoid. No evidence of mentalizing activity and therefore no containment; in fact child’s responses may be highly defensive.

<I: Can you tell me a sad story?> um (long pause) <I: any idea come...> never. <I: never felt sad?> ya <Never in your whole life?> ya <I: are you sure?> mm hm <I: okay. Do you want, maybe Mr. Panda can help you tell a sad story. Sometimes puppets help. Do you want to try?> No (age 9).

VITA AUCTORIS

NAME: Andrea Kapeleris

PLACE OF BIRTH: Mississauga, Ontario

YEAR OF BIRTH: 1985

EDUCATION:

York University, Toronto, ON
2007 B.A. Honours Psychology

University of Windsor, Windsor, Ontario
2009 M.A. Adult Clinical Psychology

University of Windsor, Windsor, Ontario
2014 Ph.D. Adult Clinical Psychology