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Unresolved States of Mind with Respect to Attachment:
Developmental Significance, Subtypes, and Relations to Disrupted Caregiving

par
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Thèse présentée à la Faculté des études supérieures
en vue de l'obtention du grade de Ph.D.
en Psychologie Clinique - Recherche/Intervention

August, 2008

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Université de Montréal
Faculté des études supérieures

Cette thèse intitulée

Unresolved States of Mind with Respect to Attachment:
Developmental Significance, Subtypes, and Relations to Disrupted Caregiving

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General Abstract

A central tenet of attachment theory is that caregiver behaviour toward the child is one of the primary determinants of individual differences in attachment relationships. A characteristic shown to be strongly linked to quality of caregiving and children's socio-emotional development is maternal state of mind with regard to attachment, as assessed using the Adult Attachment Interview. An unresolved state of mind, in particular, has been found to pose a significant risk for poor parenting behaviours, and to disorganized infant attachment. However, only a modest empirical link has been found between an unresolved state of mind and atypical parenting behaviour. Further, insecure states of mind in general have also been found to be associated with disorganized attachments. In addition to attachment state of mind, the research literature has demonstrated that parenting outcomes are also linked to attachment-related early experiences. For example, caregivers with specific traumatic experiences, such as loss, physical abuse, or sexual abuse, have been shown to exhibit differential forms of anomalous parenting. A related issue concerns whether a lack of resolution of traumatic experiences is a necessary condition for non-optimal caregiving. The implication of these issues is that broader aspects of maternal states of mind and attachment-related experiences, and not just unresolved attachment, may be implicated in the manifestation of atypical parenting behaviours. The purpose of the dissertation was to review the empirical and theoretical attachment literature on the parenting outcomes associated with an unresolved attachment state of mind, as well as empirically examine the relation between caregiver attachment states of mind and atypical parenting behaviour in a sample of foster caregivers. The findings revealed that an insecure, or non-autonomous, state of mind and not an

unresolved attachment, was associated with atypical parenting behaviours, and in particular fearful/disoriented and intrusive/negative behaviour. Furthermore, a history of trauma, regardless of the level of (un) resolution, was related to caregiver fearful/disoriented behaviour. The results suggest that an insecure state of mind in general and a history of abuse are significantly associated with non-optimal caregiving. The implications of these findings on parent and child outcomes, and interventions aimed at targeted populations, are discussed.

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Dedication

“There is an enduring tenderness in the love of a mother
to a son that transcends all other affections of the heart”

Washington Irving

I dedicate this work to my son Isaac. Every day, as you grow and learn, I feel an enormous sense of love and pride. I hope that your first attachment relationships with your father and I has helped contribute to your happiness and security.

To my husband Jon, thank-you for the myriad ways in which you have supported me in my determination to realize my dreams and potential. I owe you a debt of gratitude for your unwavering commitment and the sacrifices you have made. You are a remarkable partner and father.

Acknowledgements

There are many people whose assistance and support I would like to acknowledge.

To my supervisor, Dr. Annie Bernier, you have been an enduring source of encouragement and inspiration. A very special thank-you for supporting me and nurturing me throughout my studies.

To my family and friends, I thank-you for your kindness and understanding.

I would especially like to acknowledge the efforts of the research assistants, students, and professional colleagues, without which I would not have been able to complete this work. Your contributions are greatly appreciated.

I thank the Social Sciences and Humanities Research Council of Canada for awarding me a doctoral fellowship, which helped support this work.

Finally, I would like to extend my sincere gratitude and appreciation to the foster caregivers and infants who contributed their time to participate in this study.

General Introduction

The nature of the parent-child relationship during infancy and toddlerhood is an important factor in establishing the developmental foundation of a child's behavioural and cognitive strategies for dealing with stress and negative emotions (Madigan, Moran & Pederson, 2006). Attachment theory proposes that the quality of such attachment relationships varies on a security-insecurity dimension depending on the quality of care the child has received (Bowlby, 1973; Sroufe, 1988). According to Bowlby (1969/1982), attachment is an enduring emotional bond uniting one person with another, and is manifested in efforts to seek proximity and contact to the attachment figure, especially in times of stress. The attachment figure ideally functions as a protector and provider of security, or as Mary Ainsworth described, a secure base from which the infant can explore the world (Ainsworth, Blehar, Waters, & Wall, 1978; Goldberg, 1991). Infants develop secure relationships with their caregivers based on their prior experiences of sensitive, helpful, and responsive care. The secure attachment relationship that develops is considered adaptive because it derives from the infant's confidence that his or her help-seeking signals will receive a prompt and appropriate response by the caregiver. However, if infants experience this quality of care inconsistently or sporadically, or if their care is regularly insensitive, they develop insecure attachments (Thompson, 1999).

Empirical research on individual differences in the security of infant-parent attachment was made possible by the work of Mary Ainsworth. Ainsworth's major contribution to attachment research was the creation of the Strange Situation procedure (Ainsworth et al., 1978), a 21-minute laboratory assessment that involves observing the infant, caregiver (usually the mother), and an unfamiliar adult in a series of eight semi-

structured episodes. The crux of the procedure is a standard sequence of separations and reunions between the infant and mother. The Strange Situation is designed to create conditions in which the child experiences increasing distress and a heightened need for support and proximity. The extent to which the child copes with these needs and the strategies used to do so are considered to be indicative of the quality of the attachment relationship (Goldberg, 1991).

Patterns of attachment are identified by ratings of infant behaviour directed at the caregiver: seeking contact, maintaining contact, distance interaction, avoidance, and resistance to contact. The infant-caregiver dyad is classified into one of the three main categories: a “secure” (B) group and two “insecure” groups, “avoidant” (A) and “ambivalent/resistant” (C) (Ainsworth et al., 1978). These patterns reflect organized strategies used by the infant to manage affective arousal during interactions with, separations from, and reunions with the caregiver (Goldberg, 1991). Infants who are deemed securely attached use the mother as a secure base for exploration. They show signs of missing the parent during separation, but greet the parent’s return with pleasure, conveyed through smiling or contact-seeking behaviours. Insecure-avoidant infants readily explore the environment, but display little affect or secure-base behaviour. They show minimal distress during separations, and avoid the parent during reunions. Insecure-resistant infants fail to engage in exploration and combine proximity-seeking behaviours with angry, rejecting reunion behaviour. They fail to find comfort in the parent (Solomon & George, 1999).

A fourth category, termed “disorganized/disoriented” (D) was developed by Main and Solomon (1990) to account for the infants who were difficult to classify using

Ainsworth's original A-B-C criteria. Insecure infants classified into the disorganized/disoriented group do not show a coherent strategy for coping with the separations and reunions during the Strange Situation. Rather, they demonstrate unusual and inexplicable behaviours that are characterized by a lack of observable goal, purpose, or explanation, such as incomplete or interrupted movements, freezing/stilling, or confusion and disorientation (Solomon & George, 1999).

One of the earliest measurable risk factors for a maladaptive developmental outcome is a disorganized attachment relationship between the infant and his or her primary caregiver (van IJzendoorn, Schuengel, & Bakermans-Kranenburg, 1999). Disorganized behaviour has been found to be associated with neurological impairment, pharmacological intervention, extended experiences of isolation, as well as major separations (Hesse & Main, 2000). Longitudinal studies of outcomes and correlates of infant disorganization have found that disorganized children are less confident with their mothers, demonstrate dissociation and internalizing behaviours at age 6 (Carlson, 1998), and have greater overall behavioural problems, such as: externalizing behaviour and lower academic self-esteem (Moss, Rousseau, Parent, St-Laurent & Saintong, 1998), controlling behaviours toward mothers (Main & Cassidy, 1988), hostile/aggressive behaviour toward peers (Lyons-Ruth, Alpern, & Repacholi, 1993), and social incompetence in play groups (Wartner, Grossman, Fremmer-Bombik, & Suess, 1994). Further, young adults who were classified as disorganized in infancy and who faced trauma later on in life show more dissociative symptoms (Ogawa, Sroufe, Weinfeld, Carlson, & Egeland, 1997). Researchers have also found that overall psychopathology at age 17 was predictable from the early disorganized classification (Carlson, 1998), and

that disorganized versus organized status with mother in infancy predicts security versus insecurity on the AAI at age 19 (Weinfield, Whaley, & Egeland, 2004). Thus, as the attachment literature demonstrates, infant disorganization is a major risk factor for psychological, social, and emotional maladjustment up into adolescence and even adulthood. Despite empirical support for the link between disorganization and pathological outcomes, much less is understood about the *mechanisms* that underlie the development of disorganization.

A key maternal characteristic that has been linked to infant attachment is maternal state of mind with regard to attachment (Bosquet & Egeland, 2001), as assessed using the Adult Attachment Interview (AAI; George, Kaplan, & Main, 1996). The AAI is an hour-long semi-structured interview that focuses on childhood and current relationships with attachment figures. Based on qualitative characteristics and coherence of their narrative, individuals are assigned to one of four attachment classifications: autonomous, dismissing, preoccupied, and unresolved. Adults with secure attachment representations (autonomous state of mind) hold a balanced, objective, and coherent view of their experiences, while adults with insecure, or non-autonomous, attachment states of mind (dismissing, preoccupied, and unresolved) have incoherent mental representations of their attachment-related experiences. The four patterns assigned to adult speakers on the AAI correspond theoretically to the infant-parent attachment categories assessed using the Strange Situation. The relation between parental state of mind and infant attachment has come to be known as the intergenerational transmission of attachment (van IJzendoorn, 1995). Meta-analytic data suggest that one of the most robust predictors of infant attachment disorganization is an unresolved state of mind in the parent (van IJzendoorn,

1995). The unresolved classification is assigned to adults who, during discussions of potentially traumatic events (e.g., death, physical or sexual abuse), show signs of disorientation or disorganization, indicated by lapses in the monitoring of discourse or reasoning.

Although a number of investigations have found associations between an unresolved state of mind and disorganized attachment relationships (see the meta-analytic review by Madigan, Bakermans-Kranenburg, et al., 2006), an important question concerns the interactive processes between the parent and child that account for this link. The prevailing attachment model holds that parents who show an unresolved state of mind display frightened, frightening or disrupted behaviour in interaction with the infant (Hesse & Main, 2000; Lyons-Ruth, Yellin, Melnick, & Atwood, 2005). It has been posited that caregivers who are classified as unresolved have failed to psychologically integrate or resolve their experiences of loss and/or trauma. Consequently, emotions and cognitions associated with the traumatic events may arouse fear in the parent, which gives rise to frightened/frightening or anomalous behaviour. Such fearful arousal is thought to occur either by spontaneous intrusions from unprocessed memories or by events that occur in interactions with the infant (Madigan, Moran et al., 2006; Main & Hesse, 1990).

On the basis of this theory, Main and Hesse (1990) and Lyons-Ruth and colleagues (1999) developed coding schemes to describe patterns of anomalous caregiving behaviour; the FR behaviour system and the Atypical Maternal Behavior Instrument for Assessment and Classification (AMBIANCE), respectively. Links between frightening/frightening and disrupted parental behaviour and unresolved states

of mind have been established in several studies (see Madigan, Bakermans-Kranenburg, et al., 2006 for a review). However, despite the theoretical association between an unresolved state of mind and anomalous forms of parenting behaviour, only a modest empirical association has been found between these variables. Thus, it appears that the assumption that an unresolved state of mind is responsible for the manifestation of disrupted parental behaviours may need to be elaborated.

Additional mechanisms accounting for the display of atypical caregiving may lie in the role of insecure (or non-autonomous) states of mind. According to attachment theory, the memories of attachment interactions are the basis for the construction of internal working models (IWM) of self, attachment figures, and their accessibility or inaccessibility. IWM's of secure attachments convey expectations that the attachment figure will be available, while IWM's of insecure attachments convey expectations that the attachment figure will respond negatively to requests for help or comfort (Liotti, 2004). It is further postulated that how caregivers interpret and respond to the needs of children depends on early experiences with their own parents and their related IWM's (George et al., 1996). The assumption is that parenthood may activate an IWM of insecure attachment, thereby restricting the parent's ability to respond appropriately to the needs of the child. Thus, insecure attachment representations in general, and not just specifically an unresolved state of mind, may give rise to anomalous forms of parenting. This is supported by the figures that show a reliable but modest correlation between an unresolved state of mind and disrupted parenting (e.g., Madigan, Bakermans-Kranenburg, et al.'s 2006 meta-analysis), strongly suggesting that such behaviours are likely to be

manifested by parents who do not present an unresolved state of mind. However, this has not been thoroughly investigated in the attachment literature.

Furthermore, there is some evidence that different forms of parental trauma (e.g., loss, physical versus sexual abuse) are associated with different parenting profiles. For example, Lyons-Ruth and Block (1996) found that mothers who had a history of physical abuse or witnessed violence were more likely to display hostile behaviour with their infants, whereas mothers with a history of sexual abuse or parental loss were more likely to withdraw from interaction with their infants. However, this study did not assess whether caregivers were unresolved with respect to their traumatic experiences, and little is known in the literature about the relation between caregiving and subtypes of unresolved attachment. Consequently, examining the different types of traumatic history may help shed light on the parenting correlates of different types of unresolved attachment states of mind.

A fundamental role of caregivers is to help children cope with the stresses and strains of new situations and challenges, and maintain organized behaviour (Stams, Juffer, & van IJzendoorn, 2002). The ability to provide optimal and nurturing care to children depends on a number of factors, including the caregiver's own attachment experiences in both childhood and as an adult (Caltabiano & Thorpe, 2007). A more thorough examination of the risk factors that give rise to anomalous forms of parenting behaviours is vital for enhancing our understanding of the interactive processes between parent and child.

The first article in the dissertation presents a theoretical review of the current state of knowledge on the different subtypes of an unresolved state of mind (e.g., with respect

to loss, physical abuse, or sexual abuse) and parenting outcomes. This paper appeared in the *Journal of Trauma Practice* in 2006. The second paper is an empirical study examining the role of insecure and unresolved attachment states of mind in disrupted forms of caregiving behaviour in a high-risk foster-care sample, which will be submitted at a later date.


Running head: ATTACHMENT, TRAUMA AND LOSS

A Differential Analysis of the Subtypes of Unresolved States of Mind
in the Adult Attachment Interview

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We gratefully acknowledge the assistance of John Wright, who provided feedback
on an earlier version.

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Abstract

Disorganized attachment is most prevalent among high-risk populations, such as maltreated children. Recent attachment literature has demonstrated that one of the best predictors of attachment disorganization is an “Unresolved” parental state of mind regarding a loss or an abuse in the parent’s own attachment history. However, although classification in the Unresolved (U) category is always accompanied by specification of the type of trauma that is unresolved (loss, physical abuse, or sexual abuse), much of attachment research has focused on unresolved attachment as one category. The current paper reviews the empirical literature on the parenting outcomes associated with different subtypes of U. The literature demonstrates that parents who have experienced loss or abuse in childhood, which remains unresolved, exhibit atypical caregiving behaviours. Specifically, a history of loss or childhood sexual abuse is found to be associated with more passively withdrawn parental interactions, whereas a history of physical abuse is related to increased negative and hostile interactions. In addition, there appears to be differences in caregiving behaviours between parents whose underlying attachment state of mind is secure versus insecure.

Keywords: attachment, unresolved states of mind, loss, abuse, adult attachment interview.

A Differential Analysis of the Subtypes of Unresolved States of Mind
in the Adult Attachment Interview

Recent attachment literature has begun to identify that a large proportion of infants from families with psychosocial risk factors display disorganized forms of attachment strategies (Lyons-Ruth, Bronfman, & Parsons, 1999). Researchers have found associations between abuse, neglect, and disruptions in caretaking on the one hand, and disorganized attachment on the other hand. A well-replicated finding in the attachment literature is that interactive processes between the caregiver and the infant account for a large portion of the infant's attachment behaviours. Hence, appropriate parental responsiveness is linked to secure infant attachment strategies (Ainsworth, Blehar, Waters, & Wall, 1978; van IJzendoorn, 1995), whereas less optimal patterns of interaction characterize dyads that include a disorganized infant (Lyons-Ruth, Bronfman, & Parsons, 1999). However, less well understood is the extent to which parental behaviours have deeper historical roots in the parent's own attachment history (Lyons-Ruth, Bronfman, & Parsons, 1999). The purpose of this review is to present the current state of knowledge on infant and adult disorganized attachment patterns, and to examine the differential role of parental histories of loss or abuse on the development of parent-infant attachment relationships. After introducing the concept of disorganized attachment, the paper will address three research questions. The first question will look at the relationship between the failure to resolve traumatic experiences and adults' caregiving behaviours. The second question will examine how different types of trauma histories affect caregiving behaviour. Lastly, the paper will explore the different types of adult

attachment classifications, particularly the subtypes of an unresolved attachment state of mind, and their influence on parenting behaviour.

Disorganized Infant Attachment

Disorganized attachment was first identified by researchers working with maltreated infants who could not be clearly classified in one of the three Strange Situation (SS) categories (secure, avoidant, and resistant) that were available in the early 1980's (Hesse & Main, 2000). The Strange Situation (Ainsworth et al., 1978) is a procedure developed to assess an infant's ability to use the parent as a safe haven when distressed. The standardized procedure is approximately 24 minutes long and consists of two brief separations and reunions between the parent and child. Ratings of attachment quality are based primarily on the infant's response to the parent during the reunion episodes and allow for classification into one of four principal groups: secure, avoidant, ambivalent, and disorganized. Infants classified as secure use the mother as a secure base for exploration and if upset, seek contact and comfort from the parent. Infants classified as avoidant or ambivalent may actively avoid the parent and focus instead on the toys or alternate bids for contact with the mother with signs of angry rejection (Solomon & George, 1999). Infants with a disorganized attachment strategy often exhibit "conflict" behaviours in the Strange Situation, including a variety of inexplicable, odd, and contradictory behaviours in the parent's presence (Main & Solomon, 1990). The term disoriented was added to describe behaviours that suggested a lack of orientation to the present environment. Infants with disorganized and/or disoriented attachment patterns exhibit inconsistent, overtly conflicted, or fearful behaviours in the SS. For example, they may freeze with a trance-like expression, hands in air, rise at the parent's entrance then

fall prone and huddled on the floor, or cling while crying hard and leaning away with an averted gaze. Infants classified as disorganized are also given a best-fitting alternative classification (e.g., secure, avoidant, or ambivalent) (Hesse, 1999; Main & Solomon, 1990). Avoidant, ambivalent and disorganized categories are considered insecure.

Longitudinal studies of outcomes and correlates of infant disorganization have found that disorganized children demonstrate dissociation and internalizing behaviours at age 6 (Carlson, 1998), and have greater overall behavioural problems. Examples include (1) externalizing behaviour and lower academic self-esteem (Moss, Rousseau, Parent, St-Laurent & Saintong, 1998), (2) controlling (role-reversing) behaviours toward mothers (Main & Cassidy, 1988), (3) hostile/aggressive behaviour toward peers (Lyons-Ruth, Alpern, & Repacholi, 1993), and (4) social incompetence in play groups (Wartner, Grossman, Fremmer-Bombik, & Suess, 1994). Further, young adults who were classified as disorganized as infants and who faced trauma later on in life show significantly more dissociative symptoms (Ogawa, Sroufe, Weinfeld, Carlson, & Egeland, 1997). This finding is consistent with Liotti's (1999) proposition that disorganization and disorientation in infancy increases a child's vulnerability to altered states of dissociative disorders (e.g., fugue or trance states, dissociative identity disorder, and experiences of depersonalization and derealization) and thus predisposes infants to experience dissociation in the face of later traumatic events. In fact, Ogawa and colleagues (1997) found that infant disorganized attachment is a more powerful predictor of adult dissociation than any other single risk factor, including temperament, stressful life events, family violence, and physical or sexual abuse toward the child.

Infant disorganized attachment thus constitutes a most alarming condition, which some researchers consider as the first observable manifestation of child psychopathology (Sroufe, Carlson, Levy, & Egeland, 1999), or as the earliest measurable indicator of a risk trajectory that may lead to adult psychopathology (van IJzendoorn, Schuengel, & Bakermans-Kranenburg, 1999). Although research has been consistent in linking disorganized attachment to pathological outcomes, much less is currently known about the mechanisms that underlie the development of disorganization. However, among the best predictors of infant attachment disorganization identified thus far are the parent's own internal working models of attachment.

Working Models of Attachment in Adulthood

According to attachment theory, as patterns of interactions and affective responses are repeated in close relationships, children build expectations about future interactions with parents and others that guide their interpretations and behaviours in new situations (Lyons-Ruth & Jacobvitz, 1999). Depending on the responses they receive from their parents, children may develop a model of self as being a person who deserves attention, care and love, and a model of others as being willing and able to serve this role. As these expectations become elaborated and organized they are termed "internal working models of attachment relationships". These working models of self and others become incorporated as stable interpersonal tendencies, which endure over time and guide later relationship patterns and parental behaviour (Bowlby, 1973).

Main, Kaplan, and Cassidy (1985) have demonstrated that when parents' working models of their childhood attachment relationships are explored in the Adult Attachment Interview (AAI), four broad classifications of the adult's state of mind regarding

attachment can be derived. These four classifications, labelled (1) autonomous, (2) dismissing, (3) preoccupied, and (4) unresolved, predict the four Strange Situation infant attachment classifications (1) secure, (2) avoidant, (3) ambivalent, and (4) disorganized. The AAI is a semi-structured, hour-long, interview designed to assess an adult's current state of mind with regard to attachment relationships. The interview asks parents to talk about their feelings regarding attachment relationships, to describe specific childhood memories of attachment-related events, and to conceptualize how they were affected by these early relationships with their caregivers (George, Kaplan, & Main, 1985). The unresolved classification (U) is assigned to adults who, during discussions of potentially traumatic events (e.g., loss by death, physical abuse, or sexual abuse), show signs of disorientation and disorganization. Specifically, classification of an unresolved state of mind refers to a lack of full integration into consciousness of the occurrence and immediate implications of a traumatic event (Lyons-Ruth, Yellin, Melnick, & Atwood, 2005). Although possible reactions to traumatic events can include resolution, dismissal, and disorganization, only a mentally disorganized response on the AAI is considered unresolved (Main & Goldwyn, 1998). Evidence for such a disorganized response includes lapses in the monitoring of discourse, whereby the speaker enters a state of mind in which he or she no longer appears appropriately conscious of the interview context (e.g., becoming silent for almost a minute at mid-sentence, failing to finish the sentence, and making no reference to the silence when resuming to speak). Other indices of unresolved status involve lapses in the monitoring of reasoning, which can take several forms, including indications of a belief that a dead person is simultaneously dead and alive (Main & Goldwyn, 1998). For instance, a participant may describe a dead parent as

playing an active role in his or her current life, such as “last week my dad told me to...”, while the father has been deceased for several years. Like the infant disorganized attachment classification, adults classified as unresolved are also given a best-fitting alternative classification (e.g., autonomous, dismissing, or preoccupied) (Main & Hesse, 1990). Meta-analytic data (van IJzendoorn & Bakermans-Kranenburg, 1996) indicate that approximately 19% of “normative” mothers are classified as unresolved on the AAI, and that this rate increases to approximately 28 to 40% in high-risk populations (e.g., mothers from low socio-economic backgrounds, and clinical samples).

A clear link has been established between parental responses that are unresolved on the AAI and infant disorganized attachment patterns, such that parents who are classified as unresolved are significantly more likely to develop a disorganized attachment relationship with their infant (van IJzendoorn, 1995). One of the prevailing questions regarding this association is the role played by loss or trauma in the parent’s history (Hesse, 1996). Evidence has emerged that unresolved adults behave in ways that may be frightening to the infant during everyday parent-child interactions, and that disorganized infant attachment behaviour is a “second-generation” effect linked to parental maltreatment and unresolved loss or trauma (Main & Hesse, 1990). Hesse and Main (1999, 2000) suggest that discourse/reasoning lapses that occur during discussion of traumatic events, which mark unresolved attachment, may be due to alterations in normal consciousness by intrusions of partially dissociated, frightening ideas or memories. Such intrusions of dissociated material are thought to also occur during interactions with the infant (Hesse, 1999; Main & Hesse, 1990) and can create caregiving conditions that result in inadequate responses to the infant’s attachment initiatives. A slightly different

perspective is proposed by Lyons-Ruth, Bronfman and Atwood (1999), who suggest that if a caregiver has not experienced comfort and soothing in relation to her own past loss or trauma experiences, the infant's pain and fear may evoke the caregiver's unresolved fearful affects. Consequently, she may feel helpless to know how to comfort and resolve her infant's distress. Affects or behaviours related to earlier trauma might thus be reactivated unpredictably in parent-child interactions (Lyons-Ruth & Jacobvitz, 1999). Behaviour of this kind is expected to place the infant in a paradox, in which it can neither flee from nor approach the attachment figure, and therefore engages in disorganized behaviour (Hesse & Main, 1999; Main & Hesse, 1990).

Although an individual's classification as unresolved on the AAI is always accompanied by specification of the type of trauma that is unresolved (loss, physical abuse, or sexual abuse), much of attachment research has focused on unresolved attachment as one category, and few studies have examined the subtypes of U separately. This is largely attributable to sample size and statistical power issues, which limit researchers' ability to fully benefit from the rich empirical information provided by the AAI's coding system. This paper proposes to take a theoretical approach to the topic, by using the scientific literature on loss and abuse to bear on the understanding of the potentially differential parenting outcomes of the different subtypes of unresolved states of mind.

Emerging evidence suggests that a history of loss or abuse, as well as a history of physical versus sexual abuse, may be qualitatively different from one another and predict differential parenting outcomes (Lyons-Ruth, 2003; Lyons-Ruth & Block, 1996). Lyons-Ruth and colleagues (1989) found that early experiences of separation and loss might

affect parent-infant interactions in the next generation differently than experiences of conflict and abuse. Most of the empirical work demonstrating a relationship between the U classification of the parent and the D classification of the infant has involved parents who were classified U with respect to loss. Fewer studies have looked specifically at parents with unresolved trauma. However, given that loss and trauma are distinct psychological events and constructs, examining the trauma literature may be helpful in shedding some light on how unresolved trauma may have ongoing emotional and cognitive consequences for a parent's attachment state of mind (Lyons-Ruth et al., 2005). Further, examining the extent to which loss or abuse experiences have been resolved may shed some light on the developmental pathways of traumatic experiences. Therefore, the remainder of the paper addresses three issues: 1) The caregiving outcomes associated with a maternal history of loss; 2) The caregiving outcomes associated with a maternal history of abuse (physical and sexual); and 3) Why some trauma experiences remain unresolved, and what differentiates individuals with an unresolved attachment status who have a secure secondary classification from those individuals whose secondary classification is insecure.

Maternal History of Loss

The experience of long-term or repeated separations or loss between a child and his or her primary attachment figure can have traumatic repercussions and may have detrimental effects on personality functioning, including the ability to form and sustain other close relationships (Bowlby, 1980; Eisenstadt, 1994; Lieberman, 1988). Attachment theory postulates that the intense bond between a child and its mother is mediated by behaviours that promote the child's proximity and contact with her, which include

seeking, approaching, grasping, and clinging. This attachment behavioural system is most readily activated in situations that arouse weariness and fear, wherein attachment behaviours (e.g., proximity seeking) provide the child with protection and a felt sense of security. In evolutionary terms, separation from the attachment figure represented an increased physical risk, since her absence signalled her unavailability as a protector (Bowlby, 1980). When a mother is unable to provide reliable protection from danger through contingent responsiveness to the child's signals of fear or distress, or when she has become temporarily (separation) or permanently (death) unavailable, the child cannot attain a consistent state of felt security and fails to internalize such a state into an internal working model of the attachment relationship (Lieberman, 1988).

Mourning is a complex process that involves various ego functions, including a concept of reality, an ability to take cognitive distance, a capacity to tolerate pain, and an inner representation of the lost attachment figure (Lerner, 1994). When a child loses a significant caregiver, it is thought that the child may not only feel they have lost that person, but may also feel they have lost a part of the self that had been complementary to the caregiver. For the child, that state of self relates to feelings of well-being, safety, and security. Thus, when a child loses its parent, he or she would lose not only the parent but also the sense of well-being that occurred as a result of that relationship (Lerner, 1994). Denial, fantasies and expectations of a return of the lost caregiver are defenses that can presumably arise from such a trauma. When such defenses persist, individuals may remain doubtful about the actual reality of the loss, distort it, or even deny the events altogether (Jacobson, 1994), which can interfere with successful resolution of the loss. In the Adult Attachment Interview, this can be observed when the participant oscillates

between indications of belief and disbelief that the dead person is permanently lost. This kind of oscillation is among the most frequently observed markers of an unresolved state of mind in the AAI. In contrast, dismissal of the import of a loss, often referred to as “failed mourning”, is not considered unresolved/disorganized in the context of the AAI. The AAI unresolved scale is rather based on the notion of disorganization and/or disorientation in reasoning and discourse as signs of a particular kind of unresolved experience (Main & Goldwyn, 1998; Main & Hesse, 1990).

The literature on loss and separation suggests that bereavement may instigate or exacerbate a wide range of emotional problems during childhood or adolescence and may leave youthful survivors with enduring psychological vulnerabilities (Krupnick & Solomon, 1988). Children with an experience of multiple early separations from the mother often evidence emotional and behavioural disturbances, which may persist into adult life, bringing a variety of personal difficulties (Hall, Pawlby, & Wolkind, 1979). Many researchers have linked loss of a parent through death or divorce during childhood with symptoms of depression and anxiety (Bowlby, 1980; Brown, 1961), lower educational attainment (Greenberg & Wolf, 1982), parasuicidal behaviour (Naidoo & Pillay, 1993), increased sense of vulnerability (Mireault & Bond, 1992), and marital distress (Greenberg & Wolf, 1982) in adulthood. Women who have suffered a separation of upwards one month while under five, or three months between 5 and 16, have been found to be more likely than other women to experience psychological and physical problems (Hall et al., 1979). Further, depressed women have been found to be more likely than non-depressed women to have lost their mother by death or by separation before the age of eleven (Brown, Harris, & Copeland, 1977).

Attachment research has revealed that these difficulties may extend to parenting, and that women with a history of early separation or loss might be especially vulnerable to difficulties in mothering. For example, Hall et al. (1979) found that an experience of parental death or separation was significantly associated with a reduction in the amount of interaction a mother directed toward her infant. Parental death in the mother's childhood has been found to correlate with decreased involvement with the infant at home at 12 to 18 months (Lyons-Ruth, Zoll, Connell, & Grunebaum, 1989). Bowlby (1980) suggested that the closer the relationship to the person lost, the more difficult the resolution process, particularly if the death occurred in childhood. Although Ainsworth and Eichberg (1991) did not find any associations between either a mother's age when the loss occurred or her relationship to the deceased and unresolved states of mind on the AAI, Jacobvitz (1998; see Lyons-Ruth & Jacobvitz, 1999) found that mothers who were unresolved on the AAI were more likely to have lost a parent than to have lost a less important figure. Furthermore, the mother's age when the loss occurred and her relationship to the deceased were found to discriminate between unresolved mothers who engaged in frightened/frightening (FR) behaviour toward their infants and those who did not. Ninety-one percent of unresolved mothers who either lost an attachment figure or were younger than 17 when the loss occurred engaged in FR behaviours toward their children. Schuengel and colleagues (1999) reported that women who lost a father, sibling or infant to death did not show an elevated incidence of FR behaviour compared to mothers with less significant losses, although unresolved loss was associated with increased dissociative experiences. Because of the demonstrated association between maternal frightened/frightening behaviour and infant disorganized attachment (Lyons-

Ruth & Jacobvitz, 1999), the above results suggest the possibility that a maternal history of loss is also a risk factor for attachment disorganization in the infant.

In line with this hypothesis, infant disorganized attachment has been found to be associated with a maternal history of loss of an attachment figure in childhood (Main et al., 1985), and more specifically to unresolved mourning for any prior loss (Main & Hesse, 1990). Main and Hesse (1990) reported that 39% of parents of disorganized infants had experienced loss of a parent through death before having completed high school. Lyons-Ruth and colleagues (2003) found that both unresolved mothers and mothers who had experienced parental death were more likely to have disorganized infants at 12 months of age.

Researchers have also found that infants of mothers who lost a parent by death before age 16 were more likely than other infants to be classified as disorganized (Lyons-Ruth, Repacholi, McLeod, & Silva, 1991). However, this relationship between death of the mother's parent and infant disorganized attachment status was only true for the disorganized/secure subgroup of disorganized infants. In contrast, when parental loss was more broadly defined to include divorce and separation, 7 out of 8 disorganized infants in the study whose mothers had experienced separation were in the disorganized/insecure subgroup (Lyons-Ruth et al., 1991).

These findings suggest not only that a woman's experience before the age of 16 or 17 may affect her mothering behaviour, but that indirectly via the experience she provides for her child, her early experience may also affect the quality of her infant's attachment relationship with her (Hall et al., 1979). However, it appears that early loss in itself may not inevitably lead to infant disorganization. Rather, the lack of resolution of

the trauma (being classified as unresolved on the AAI) is what is considered to predict attachment disorganization in infants (Lyons-Ruth & Jacobvitz, 1999).

Maternal History of Abuse

According to Bowlby (1984), violence or neglect in the family can be viewed as a disorder of the caregiving system, since such behaviour constantly threatens and reverses the secure proximity and comfort that are at the core of an adequate parent-child relationship. In fact, security with an attachment figure is more difficult to maintain in an environment that poses challenges to optimal functioning of the attachment system, such as maltreatment, because an individual in such a relationship will usually not have access to adequate comfort and protection from an attachment figure. Main and Hesse (1990) have pointed out that abuse creates a unique attachment-related trauma in which the attachment figure becomes a source of alarm, so that the child's haven of safety also becomes a source of danger. Abuse creates a further problem for the child in that it is frequently a chronic aspect of the parent-infant relationship, thus the child is faced with an ongoing source of trauma (Kobak, Cassidy & Zir, 2004). Compounding this difficulty is that maltreatment is also related to exposure to domestic and community violence so that the probability of a maltreated child experiencing other traumatic events is increased.

The literature on child abuse has established that many negative developmental outcomes are associated with maltreatment. Children of abuse and maltreatment display more aggression toward their peers (George & Main, 1979), have more depressive symptoms (Kolko, Kazdin, Thomas, & Day, 1993), and have more negative representational models of self and other (Lynch & Cicchetti, 1998). Further, maltreated children experience distortions in parent-child interactions, and a large percentage of

them display disorganized patterns of attachment to their caregivers (Lyons-Ruth, Connell, Grunebaum, & Botein, 1990). Maltreatment has been found to relate to short-term changes in attachment, such that infants who were secure but maltreated tend to move away from security and toward insecurity or disorganization (Weinfield, Whaley, & Egeland, 2004). Childhood abuse also appears to have far-reaching consequences, as parents who abuse or neglect their children are more likely to have experienced trauma themselves, both in childhood and as adults (Larrieu & Bellow, 2004).

Although research has established that childhood abuse is associated with many negative outcomes, the type of abuse (e.g., sexual or physical) has also been shown to affect the way behaviour and symptomatology are organized later in childhood and adulthood (Lyons-Ruth & Jacobvitz, 1999). For example, sexually abused girls have been found to be more likely to present dissociative and posttraumatic symptoms, such as reexperiencing phenomena (Deblinger, McLeer, Atkins, Ralphe, & Foa, 1989), whereas physically abused adolescents were more likely to present with depressive symptoms and conduct disorder problems (Pelcovitz et al., 1994). Different forms of maternal trauma have also been associated with distinct parenting profiles. In adulthood, mothers with a history of physical abuse or witnessed violence were more likely to display a hostile profile of behaviour at home (e.g., role-confusion, intrusiveness, negativity), and were more covertly hostile and intrusive in interactions with their infants, while mothers who had been sexually abused but not physically abused were more likely to be emotionally and physically withdrawn and uninvolved with their infants (Lyons-Ruth, 2003; Lyons-Ruth & Block, 1996; Lyons-Ruth & Jacobvitz, 1999), and demonstrated inadequate maternal sensitivity and support (Alexander, Teti, & Anderson, 2000). Sexual abuse

victims have also been found to be significantly more likely to engage in self-focused rather than child-focused communication and relied more heavily than nonabused women upon their children for emotional support (Burkett, 1991). Sexually abused women also report feeling less confident, more anxious, and less in control as parents (Douglas, 2000). It is hypothesized that sexually abused mothers may try to manage their negative affects by passively withdrawing from interactions with their infants, while mothers who have been physically abused may identify with the aggressor as a means to manage their underlying fear and anger (Lyons-Ruth & Block, 1996; Lyons-Ruth & Spielman, 2004).

Anecdotal reports suggest that parents with abusive histories who continue the intergenerational cycle of abuse rely more heavily upon dissociation in adulthood than do parents who break the cycle (Egeland, Jacobvitz, & Sroufe, 1988). Clinically, such parents may be fearful and easily overwhelmed by the demands of others and thus cope by dissociating from their own affective life and withdrawing from closer emotional contacts with others (Lyons-Ruth & Spielman, 2004). Abusiveness among parents with histories of child abuse is often accompanied by parental memories of their own childhood abuse that lack detail and corresponding affect (Egeland et al., 1988). Given that recovery from abuse necessitates repeated contact with the traumatic memory, dissociation or the loss of vividness and accessibility to the traumatic memory is likely to impede the recovery process (Foa & Hearst-Ikeda, 1996).

From an attachment perspective, the question is how a parental history of abuse impacts the parent-child caregiving system. Parents bring to caregiving the relationship strategies developed through their own experiences of being parented (Kretchmar & Jacobvitz, 2002). Attachment theory suggests that on becoming a parent, childhood

representations of “other” (e.g., parent) guide the parent’s interaction with their own child (Bowlby, 1969). As mothers with a history of abuse, they have few if any internal working models of appropriate, loving parent/child physical intimacy (Douglas, 2000). Individuals who have been maltreated in childhood may have distorted perceptions of their childhood experiences, as evidenced by minimizing, forgetting, or identifying with parental punitiveness. These distorted perceptions frequently manifest themselves in problematic parenting behaviours, including harsh discipline; failure to respond appropriately to their child’s needs, especially signs of distress; and difficulty having enjoyable interactions with their children (Larrieu & Bellow, 2004). Liotti (1992) noted that mothers with a history of unresolved trauma (including sexual or physical abuse) are likely to turn to their children for comfort when certain stimuli, including their children’s presence, trigger their own attachment-related anxieties. Thus, the parent’s affective distress stemming from her own history of abuse could explain some of the role reversal observed in abuse survivors’ interactions with their children.

Thus, as the literature on loss and abuse illustrates, maternal histories of disrupted childhood relationships can have a powerful influence on caregiving behaviours. A history of trauma can interfere with the mother’s ability to manage her own emotional responses toward her child (Alexander et al., 2000), and has been associated with increased risk for anxiety and depression (Bowlby, 1980), dissociation (Liotti, 1992), and parenting stress (Fearon & Mansell, 2001). A history of sexual abuse in particular has been linked with increased maternal withdrawal and insensitivity, while a history of physical abuse has been associated with caregiving interactions that are characterized by intrusiveness and hostility (Lyons-Ruth & Jacobvitz, 1999). Parental death in the

mother's family is related to decreased involvement with her own infant in the home (Lyons-Ruth et al., 2003). A common denominator amongst these traumatic early experiences seems to be unresolved conflict on the part of the mother regarding her history of loss or abuse. This is illustrated by the attachment literature that has examined the role of unresolved attachment states of mind in caregiving behaviours.

Maternal Unresolved States of Mind

Failure to cope with trauma can have severe and long-lasting consequences (Kobak et al., 2004). Attachment research has repeatedly found that unresolved states of mind with respect to loss or trauma are associated with impaired parenting behaviours and with disorganized infant attachment (e.g., van IJzendoorn, 1995). However, the attachment literature has recently begun to recognize the need to explain the links between parental behaviours (e.g., speech and caregiving behaviour) and loss or trauma (Fearon & Mansell, 2001).

Unresolved State of Mind

According to Fearon and Mansell (2001), people who live through emotionally powerful and threatening events can experience unwanted and distressing symptoms, and for some, these symptoms may persist and interfere with day-to-day functioning for months or even years. In such cases, a person may experience chronic intrusive memories and cognitions related to the traumatic event and engage in avoidance processes associated with it. Some individuals exposed to interpersonal trauma at an early age may be unable to regulate their affective states and behavioural responses, thereby resulting in problems regulating affective arousal, dissociation, and changes in perception of self and other (van der Kolk & Fisler, 1994). Bowlby (1982) suggested that in severe infantile

suffering, painful emotions could come out which cannot be integrated in the individual's representation of experience, and consequently memories and feelings are segregated and kept in a separate representational system. Such phenomena are found to occur in the stress-response syndromes, such as Post-Traumatic Stress Disorder (PTSD), but may also play a role in unresolved loss and trauma as captured by the AAI (Fearon & Mansell, 2001). The clinical literature on PTSD is thought to share an overlapping set of concerns with attachment research, and the two can inform each other about the processes involved in failing to resolve traumatic experiences. Whereas some individuals manage to successfully cope with traumatic experience in a manner that allows them to return to normal life, others remain vulnerable to re-experiencing the traumatic event in ways that disrupt normal functioning. Factors that may prevent a trauma from becoming resolved include: 1) failure to integrate memory of a traumatic experience into a coherent autobiographical narrative; 2) avoidance of the painful emotion associated with traumatic memories, perhaps through dissociation; and 3) increased stress reactivity or tendency to experience dysfunctional arousal when exposed to subsequent triggers or stressful events (Kobak et al., 2004).

Dissociative tendencies, which have been associated with both disorganization and unresolved status, may play an underlying role in the links between early infant disorganization, maltreatment, and subsequent unresolved trauma (Weinfield et al., 2004). Different studies have demonstrated the relationship between early sexual abuse (Sanders & Giolas, 1991), family-related loss (Irwin, 1994) and risks factors that include absence of the biological mother and witnessing sexual or physical abuse, and later dissociation (Ammaniti, Nicolais, & Speranza, 2004). Traumatized individuals may

dissociate, or mentally segregate affects that are too disorganizing of coping efforts to experience at the time of the trauma (Lyons-Ruth et al., 2005). Dissociation that occurs when recalling a traumatic event can impede the cognitive and emotional processing of the event and is likely to maintain a disorganized trauma memory. When memories of the event are less integrated they are under less cognitive control, which can result in unpredictable activation of trauma memories. Consequently, the individual may feel a loss of control and become more vulnerable to stress and disorganized coping strategies. At moments of stress, normal coping and monitoring strategies become vulnerable to breakdown that leads to disorganized behaviour or thinking (Kobak et al., 2004).

Unresolved attachment, or failed resolution of trauma (Kobak et al., 2004), is characterized by disorientation in discourse regarding early traumatic experiences (Main & Hesse, 1990). The symptoms are likely to follow such a profile (e.g., intrusions, reexperiencing, feelings of loss of control) when the trauma remains unintegrated with one's autobiographical memory base or with the individual's schematic representations of self and the world. The activation of unintegrated representations, leading to intrusions and avoidance processes, can lead to the reduction of attentional resources to one's environment. Such a reduction can lead to lapses in the monitoring of sensory-guided actions (e.g., a parent may aim to hold the child affectionately but overconstrict him or her) or lead to parental failure to recognize the effects of behaviour on the infant (e.g., signs of discomfort, fear) (Fearon & Mansell, 2001). Furthermore, as has been suggested, the parent-infant attachment system itself may act as a trigger for intrusive memories of a lost one or traumatizing attachment figure, leading to the activation of unintegrated emotional memories during caregiving behaviour. As a result, there is a disengagement

from the parent-infant attachment relationship because the parent is either unable to carry out parenting tasks or is disconnected emotionally from such a role (Fearon & Mansell, 2001). Lyons-Ruth and Block (1996) demonstrated that mothers with serious trauma histories were much less likely to engage in balanced and positive verbal and physical interactions with their infants, regardless of the type of trauma or abuse. Such parents may try to block awareness of their own early painful experiences and this defense may cause them to minimize or deny their child's pain and suffering as well (Larrieu & Bellow, 2004).

Lyons-Ruth, Bronfman and Parsons (1999) suggest that attachment disorganization or lack of resolution is a function of both the intensity of the fear-producing experience and of the adequacy of the attachment relationship to help resolve the fearful affect. Thus, the ability to resolve a loss or trauma should be a function of at least two factors: (1) the qualities of the loss or trauma itself, such as its suddenness, developmental timing, involvement of central attachment figures, and its horror-inducing aspects; and (2) the quality of ongoing comfort, communication, and protection regarding fear-evoking experiences available in important attachment relationships (Lyons-Ruth, Bronfman, & Atwood, 1999). Consequently, establishing secure, alternative, attachment relationships can play an integral role in helping trauma survivors manage the intense fear associated with trauma memories (Kobak et al., 2004). Further, learning to acknowledge and tolerate underlying unresolved fear and the stress of the traumatic experience can help make the memories of the event become less fear provoking (Kobak et al., 2004) and encourage the emergence of new and more responsive behaviour toward attachment-related needs (Lyons-Ruth, Bronfman, & Atwood, 1999). However,

individuals facing attachment-related traumas have usually experienced a major threat to their safety. Thus, such traumas may be more difficult to resolve because the level of fear or threat may be compounded and because the individual's ability to use an attachment figure as a source of safety and comfort may be drastically reduced or eliminated (Kobak et al., 2004).

If a caregiver has not received comfort and soothing in relation to her own early fear-inducing experiences, the infant's fear may evoke unresolved fearful affects in the caregiver. Consequently, the caregiver's responsiveness and attention to the infant's distress will be restricted and the interaction between the two will become unbalanced and less mutually regulated (Lyons-Ruth & Jacobvitz, 1999). The stress reactivity and angry outbursts of a parent with unresolved status could lead the child to experience the parent as frightening. A parent's dissociative lapses may result in helpless behaviour that leads the child to perceive the parent as frightened. Further, intrusive and poorly integrated memories of traumatic experience may lead to unpredictable shifts in parental behaviour and mood that could also frighten a child (Kobak et al., 2004). In fact, mothers in disorganized relationships with their infants have been shown to display atypical maternal behaviours during interactions with their infants, including role boundary violations, fearful behaviour, and intrusive/negative behaviour (Madigan, Pederson, & Moran, 2003).

Unresolved-secure versus Unresolved-insecure State of Mind

Working through a trauma is thought to be more complicated if the prior relationship with the person was highly conflicted (Lyons-Ruth & Jacobvitz, 1999). In cases in which a parent has become a source of threat or danger, successful resolution is

likely to be impeded because of the inability of that attachment figure to help manage the intense fear associated with trauma memories (Kobak et al., 2004). Further, anger toward the attachment figure may increase the likelihood of idealization of that person, a defense mechanism that precludes resolution of trauma (Krupnick & Solomon, 1988). With regards to the process of mourning, Bowlby (1980) stated that “adults whose mourning takes a pathological course are likely before their bereavement to have been prone to make affectional relationships of certain special, albeit contrasting, kinds”(p. 202). He described these types of relationships as those “suffused with overt or covert ambivalence”, those in which “there is a strong disposition to engage in compulsive caregiving”, and those in which “there are strenuous attempts to claim emotional self-sufficiency and independence of all affectional ties” (p. 202). Freud (1917/1957) described persons prone to pathological mourning as those who have experienced marked but consciously unacceptable ambivalence toward the lost person. Thus, the more insecure the underlying attachment, the more difficult the mental resolution of a loss or trauma becomes (Lyons-Ruth & Jacobvitz, 1999). One would thus expect adults classified as unresolved/dismissing or unresolved/preoccupied on the AAI to have worse parenting outcomes than those classified as unresolved with a secure secondary classification.

Recent empirical evidence tends to support these claims. For example, Schuengel and colleagues (1999) found that unresolved/insecure mothers exhibited frightened/frightening behaviour in the presence of their infant, whereas unresolved/secure mothers did not. Jacobvitz et al. (1997) found that mothers classified as unresolved prior to the birth of their infant displayed frightened/frightening and

dissociated behaviours, regardless of whether the unresolved mother's underlying AAI classification was secure or insecure. However, unresolved/secure mothers tended to be somewhat *less* frightening than unresolved/insecure mothers.

Recently, Goldberg and colleagues (2003) found no significant differences between unresolved/secure and unresolved /insecure mothers with regards to frequency of disrupted atypical maternal behaviours. However, unresolved/insecure mothers showed increased fearful and intrusive behaviours while unresolved/secure mothers demonstrated greater withdrawal in interactions with their infants. Interestingly, mothers of infants who were disorganized and otherwise insecure showed more atypical behaviours than mothers of infants who were disorganized/secure. In addition, Ainsworth and Eichberg (1991) found that mothers who were classified as unresolved on the AAI were more likely to receive a secondary classification of preoccupied or dismissing rather than autonomous attachment. At the present time, however, a distinction cannot be clearly made between how the prevalence and severity of childhood trauma and the degree of insecurity in early attachment relationships contribute to a parent carrying forward a disorganized but insecure secondary attachment pattern versus a secure pattern.

Conclusion

As the attachment literature describes, a mother's psychological organization expresses itself in her responses to her child, and it is through the mother's responsiveness that the child will experience what can be integrated into a relational experience (Lyons-Ruth, 2003). Further, a parental history of trauma can have a significant influence on the attachment-caregiving system, and if left unresolved, a maladaptive process can ensue. It appears that attachment research, and especially

research pertaining to unresolved parental states of mind, is both consistent with and complementary to trauma research. In fact, the concept of unresolved attachment states of mind with regards to trauma may help further the empirical investigation of the well-known but poorly understood phenomenon of intergenerational transmission of abuse and trauma. For such cross-fertilization to be optimal however, much remains to be clarified regarding unresolved states of mind. The current paper reviewed three main lines of questioning that have remained largely unaddressed in the attachment literature.

First, a clear link has been established between an unresolved attachment status on the AAI and disrupted caregiving behaviour, namely atypical behaviours directed toward the infant. Parents who have experienced a loss or abuse in childhood, which remains unresolved and unintegrated, have been found more likely to exhibit this pattern of behaviour. A maternal history of loss is associated with decreased interactions with the infant, as well as with increased risk for depression, whereas a maternal history of abuse (physical or sexual) is associated with an increased risk for dissociation. However, the differential developmental pathways between unresolved loss versus unresolved abuse have not been clearly established in the empirical literature. This is an area that requires further investigation since the subtypes of unresolved attachment may account for more differential outcomes than examining unresolved attachment as one category. Recently, Lyons-Ruth and colleagues (2005) differentiated mothers with unresolved loss and mothers with unresolved abuse and found that the incidence of disrupted maternal behaviour increased linearly with the progression from unresolved loss to unresolved abuse. This finding points to the potential importance of differentiating the sequelae of loss from the sequelae of abuse. As Lyons-Ruth and colleagues (2003) point out, further

study is also needed to determine whether particular types of losses (e.g., mother, father, sibling) and quality of care received both before and after the loss are related to unresolved states of mind. Further, additional research would be helpful in determining whether an unresolved state of mind is the only necessary determinant for the prediction of infant attachment disorganization. One methodological issue that may weaken the prediction from the unresolved category is that coding for U in the AAI depends on the occurrence of a specific loss or abuse experience. If the participant identifies no death or trauma, then the state of mind cannot be coded unresolved (Lyons-Ruth et al., 2005). Another limitation of the AAI is that there is no way to distinguish unresolved states of mind stemming from early disorganized relationships from unresolved states generated by later loss or trauma (Lyons-Ruth, Bronfman, & Atwood, 1999). Further, many individuals fail, during the AAI, to report incidents of sexual abuse that they do report in less intrusive evaluation formats, such as questionnaires (Bailey, Moran & Pederson, 2007). Trauma questionnaires may thus be a most helpful supplement to the AAI.

Secondly, although individuals with a history of sexual or physical abuse are prone to dissociative defenses, particularly if they continue the abuse cycle, a mother with a history of childhood sexual abuse tends to be more withdrawn, uninvolved, and less sensitive in her interactions with her infant, while a history of physical abuse is associated with increased hostility and intrusiveness. These findings suggest that the type of abuse in the mother's childhood is associated with two somewhat different patterns of maternal interaction with the infant at home (Lyons-Ruth, Bronfman, & Parsons, 1999). It remains unknown, however, whether unresolved states of mind regarding sexual versus

physical abuse, or regarding loss versus abuse, result in a greater risk factor for infant attachment disorganization.

Lastly, several attachment research studies have demonstrated that unresolved mothers show frightened/frightening behaviours toward their infant, however, mothers with a secure secondary AAI classification tend to be less frightening in their interactions. This suggests that an underlying secure attachment may act as a buffer between the mother's unresolved trauma and her interactions toward her infant. However, the mechanisms that differentiate an underlying secure versus insecure attachment remain to be investigated. For instance, is type of trauma (e.g., loss versus physical or sexual abuse) associated with the incidence of an underlying secure or insecure attachment state of mind? What kinds of frightened/frightening behaviours do secure versus insecure mothers display toward their infants?

Perhaps the clearest conclusion that can be drawn from the literature reviewed is that despite unanimous recognition of the critical importance of unresolved parental states of mind by attachment researchers, much remains ill-understood about those states of mind. Their origins are a first issue to be debated as it is unclear what type or severity of trauma is sufficient or necessary for the development of an unresolved state of mind, and whether there are underlying personality traits that make an individual more vulnerable to difficulties resolving a trauma. In fact, controversy around the developmental origins of unresolved states of mind have led experts in attachment disorganization to propose a new type of parental attachment organization, namely the hostile-helpless state of mind, which is independent of experiences of trauma and has been found to predict attachment disorganization (Lyons-Ruth et al., 2003). As Kobak et

al. (2004) point out, the range of events experienced as traumatic may need to be more clearly differentiated since the nature of attachment-related trauma is influenced by the developmental status of the child, by contextual factors, and by the attachment figure's availability to the child. Further, factors that may account for resolving or failing to resolve a traumatic experience, such as the developmental timing of the trauma, the availability of attachment figures, and dissociative processes, need to be further delineated and tested (Kobak et al., 2004).

Another intriguing issue pertains to the parental behaviours that may be responsible for the link between lack of resolution of trauma and infant attachment disorganization. Despite strong theoretical claims that atypical caregiving behaviours should account for the link between unresolved parental states of mind and infant disorganized attachment (Main & Hesse, 1990), empirical research has yet to support such a mediational model. To our knowledge, the only published study that has examined this question has failed to find evidence for the mediating role of atypical maternal behaviours (Goldberg et al., 2003).¹ This is strikingly consistent with a parallel line of research investigating the transmission of attachment *security*, which has also failed to find the explanatory mechanisms of transmission (van IJzendoorn, 1995). Further research using larger samples thus appears much needed to shed light on the significance, developmental origins, and parenting outcomes of unresolved parental states of mind.

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Footnote

¹ Although more empirical data on this topic are now available, they were not at the time the final version of this paper was accepted for publication.

Running Head: ATTACHMENT STATE OF MIND, DISRUPTED CAREGIVING

Insecure Attachment State of Mind and Disrupted
Caregiving Behaviour Among Foster Mothers

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Abstract

Attachment theory suggests that caregivers with an unresolved state of mind with respect to attachment display atypical patterns of caregiving behaviour, which in turn lead to the development of a disorganized attachment relationship with the infant. Empirical studies, however, have found only a moderate link between an unresolved state of mind and atypical parenting. Furthermore, foster care research has suggested that non-autonomous, and not just unresolved states of mind, were associated with infant disorganized attachment, suggesting that a non-autonomous state of mind may be a risk factor for atypical caregiving in certain samples. The current study examined the links between attachment state of mind and disrupted parenting behaviour among 39 foster mothers. Non-autonomous states of mind were associated with disrupted parenting, whereas an unresolved state of mind alone was not. Moreover, presence of abuse in the caregiver's history was found to relate to fearful/disoriented parenting. The results suggest that a foster parent does not need to have unresolved attachment representations to engage in atypical caregiving.

Key Words: Adult Attachment, Disrupted Parental Behaviour

Insecure Attachment State of Mind and Disrupted Caregiving Behaviour
Among Foster Mothers

In the last decade, the field of developmental psychopathology has devoted increasing interest to what appears to be one of the most meaningful risk factors for later maladjustment: infant disorganized attachment (van IJzendoorn, Schuengel, & Bakermans-Kranenburg, 1999). Indeed, a growing number of researchers have highlighted impressive long-term longitudinal relations between attachment disorganization and poor developmental outcome (e.g., Carlson, 1998; Lyons-Ruth, 2003; Ogawa, Sroufe, Weinfield, Carlson, & Egeland, 1997). This increasing recognition of disorganized attachment has led a number of researchers to examine the mechanisms responsible for its development, with a special interest in maternal and interactive factors that may be involved. A leading hypothesis regarding the mother-child interactive processes among infants with disorganized attachment strategies is Main and Hesse's (1990) formulation of frightened or frightening caregiving behaviour among adults with a history of loss or abuse. They propose that "the traumatized adult's continuing state of fear together with its interactional/behavioural concomitants (frightened or frightening behaviour) is the mechanism linking unresolved trauma to the infant's display of disorganized/disoriented behaviours" (Main & Hesse, 1990, p. 163). Indeed, an unresolved state of mind regarding attachment (van IJzendoorn, 1995) and frightened/frightening behaviours toward the infant (Lyons-Ruth & Jacobvitz, 1999) are related to each other, and are the two best parental predictors of infant disorganized attachment found thus far.

One of the populations that appears to be at highest risk for disorganized attachment and poor developmental outcomes is that of children placed in foster care at a very young age (Dozier et al., 2001; Juffer, Bakermans-Kranenburg, & van IJzendoorn, 2005). Insecure attachment actually appears to take the form of disorganization in foster care, as most foster children who are not classified as securely attached to their foster mother are specifically classified as disorganized (Dozier et al., 2001). Although part of this risk for disorganized attachment can probably be attributed to children's exposure to early adversity (e.g., biological risk related to maternal behaviours during pregnancy, maltreatment, and/or caregiving disruption), it is reasonable to propose that interactive processes between children and their foster caregivers may be implicated as well. Hence, the quality of caregiver-child interactions may be deficient in foster care dyads. Based on research on intact dyads that has documented a robust link between maternal attachment state of mind and maternal behaviour, and specifically between an unresolved state of mind and atypical caregiving behaviour, this report sets out to examine the links between foster mothers' attachment state of mind and their interactive behaviour with their foster child.

Parental state of mind with respect to attachment

Attachment theorists have proposed that parents' mental representations of their own childhood attachment experiences are an important determinant of the quality of the attachment relationship formed with their infant (Main, Kaplan & Cassidy, 1985). A robust empirical link has been found between maternal attachment representations, or states of mind, and the quality of the mother-infant attachment relationship (van IJzendoorn, 1995), using the Adult Attachment Interview (AAI; George, Kaplan, &

Main, 1996). The AAI is a semi-structured interview focusing on childhood and current relationships with attachment figures that provides a categorization of the individual's current state of mind regarding attachment. Adults are assigned to one of three primary categories (autonomous, dismissing, or preoccupied) on the basis of qualitative characteristics and the coherence of the narrative. Each of these three categories reflects a distinctive but organized state of mind. Individuals are assigned to a fourth category (unresolved/disoriented or U) if their narrative includes lapses in the monitoring of reasoning or discourse in response to queries regarding attachment-related loss or abuse experiences. Placement in the U category of the AAI is assigned to speakers who exhibit disorganization or disorientation while attempting to discuss potentially traumatic events¹ (Main & Goldwyn, 1998) (see Appendix A). Evidence for such a disorganized response includes lapses in the monitoring of discourse, whereby the speaker enters a state of mind in which he or she no longer appears appropriately conscious of the interview context, and lapses in the monitoring of reasoning, which can take several forms, including indications of a belief that a dead person is simultaneously dead and alive (Main & Goldwyn, 1998). A parent's unresolved classification on the AAI has repeatedly been found to be predictive of his/her infant's disorganized attachment status (for reviews and meta-analytic evidence, see Lyons-Ruth, Bronfman, & Parsons, 1999; van IJzendoorn, 1995). Given that interactive processes are a necessary pathway for parental state of mind to be transmitted to the infant, research has paid a great deal of attention to the caregiving behaviours displayed by adults with an unresolved state of mind.

Atypical Caregiving Behaviour

Hesse and Main (1999, 2000) suggested that discourse or reasoning lapses that occur during discussion of traumatic events may be due to dissociated or frightening memories intruding into normal conscious processes. It is postulated that the unresolved individual remains overwhelmed by unintegrated memories of maltreatment or loss. Such non-resolution refers to failure to integrate fully the reality of the loss or traumatic experience and to rework mental representations of attachment experiences (Lyons-Ruth & Jacobvitz, 1999). In line with this, Hesse and Main (2000) proposed that slips in reasoning or discourse occurring during the AAI may indicate a failure in the conscious mental processing of the traumatic event.

Such intrusions of unintegrated material are postulated to occur in parent–child interactions as well, leading to atypical caregiving behaviours (Hesse, 1999; Main & Hesse, 1990). Hence, it is proposed that unresolved parents sometimes become frightened in response to aspects of the environment that are unconsciously associated with a traumatic event. This would reactivate emotions or behaviours related to earlier trauma (Lyons-Ruth & Jacobvitz, 1999), which would consequently produce in the parent atypical forms of threatening, frightened, or overtly dissociated behavior.

Two coding schemes have been developed to assess such pathological parenting behaviours. Main and Hesse (1990) proposed to focus on anomalous forms of frightened, frightening, or dissociative parental behaviour, termed FR behaviour (Hesse & Main, 2000, 2006; Main & Hesse, 1990). Lyons-Ruth et al. (1999) further hypothesized that caregivers who repeatedly provoke fear in their infants because of their unresolved experiences of loss or trauma are also unlikely to be able to respond appropriately to their

infants' cues or affective state, thereby disrupting the caregiver's ability to engage in appropriate interactions with the infant. Lyons-Ruth and colleagues thus developed an instrument that expanded Main and Hesse's construct of FR behaviour to include a broader set of disrupted parental behaviours termed the Atypical Maternal Behavior Instrument for Assessment and Classification (AMBIANCE). Atypical (or disrupted) behaviours are coded for: affective communication errors, role confusion, negative/intrusive behaviours, disorientation, and withdrawal (see Appendix B).

Links between Atypical Parental Behaviour and Attachment State of Mind

A number of investigators, using the FR and AMBIANCE coding systems, have found links between atypical parenting behaviours and infant disorganization (see Madigan, Bakermans-Kranenburg, et al.'s 2006 meta-analysis for a review). While the evidence points to a robust link between atypical parenting and disorganized attachment relationships, the picture is not as clear with regards to associations between unresolved adult states of mind and caregiving behaviour. For instance, a study conducted at Leiden University (Schuengel, Bakermans-Kranenburg, & van IJzendoorn, 1999) using the FR coding system, found that maternal unresolved state of mind predicted FR behaviour, but only when the mother's alternative AAI classification was insecure (dismissing or preoccupied), suggesting a possible underlying protective factor operating to inhibit the expression of FR behaviours in unresolved mothers with an alternative autonomous classification.

Jacobvitz, Leon and Hazen (2006) examined 116 mothers and their first-born 8-month-old and videotaped them in the home in various contexts. Mothers classified as unresolved on the AAI administered prenatally were significantly more likely than not-

unresolved mothers to engage in FR behaviour with their infants. Consistent with Schuengel et al. (1999), Jacobvitz and colleagues found that unresolved mothers with a secondary insecure classification showed greater FR behaviours than unresolved mothers with a secure secondary classification. However, mothers classified as unresolved scored higher on FR behaviour than not-unresolved mothers, even when their secondary AAI classification was secure. Comparisons between secure versus insecure (dismissing, preoccupied) states of mind revealed no significant differences on FR behaviour.

Abrams, Rifkin and Hesse (2006), using Main and Hesse's FR scheme, examined a low-risk middle class sample of father- and mother-infant dyads during a laboratory play session. Parents classified as unresolved exhibited more FR behaviour in general, and specifically more dissociative behaviour. However, only a subsample of AAI's were available for analysis and no comparisons were made between autonomous versus non-autonomous states of mind, whether as primary or secondary classification.

Using Lyons-Ruth and colleagues (1999) expanded coding scheme with a low-risk community sample, Goldberg, Benoit, Blokland, and Madigan (2003) found that mothers classified as unresolved during a prenatal AAI had higher levels of disrupted communication, fearful/disoriented behaviours, and withdrawal behaviours than mothers who were not unresolved. No differences were found between U/secure and U/insecure mothers in relation to AMBIANCE. In a recent study using the AMBIANCE with an adolescent mother sample, Madigan, Moran, and Pederson (2006) found that overall disrupted behaviour was associated with an unresolved state of mind, but comparisons between secure versus insecure attachment classifications were not reported.

The current empirical literature thus reveals that an unresolved state of mind with respect to loss or trauma is reliably associated with frightening and/or atypical parenting behaviours. Further, comparisons between secure versus insecure secondary classifications show that even though an unresolved classification is an important factor, underlying (in)security appears to be potentially relevant in understanding atypical parenting as well. However, only one study (Jacobvitz et al., 2006) reported on the link between secure/insecure attachment representations and FR parenting behaviours. Thus, there is some suggestion that broader aspects of maternal states of mind, and not just unresolved attachment, may be implicated in the manifestation of atypical parenting behaviours. In fact, the moderate strength of the associations typically found between an unresolved state of mind and atypical parenting (see Madigan, Bakermans-Kranenburg, et al., 2006) does appear to suggest that atypical caregiving behaviours can be displayed by parents who do not present an unresolved state of mind.

A study that investigated maternal reflective functioning, maternal caregiving behaviours and infant attachment found that mothers with high AMBIANCE scores were more likely to have infants classified as disorganized or resistant (Grienenberger, Kelly, & Slade, 2005). Although this study did not assess parental attachment representations using the AAI, it is the first time that anomalous parenting behaviour, assessed using the AMBIANCE measure, has been found to be associated with insecure-resistant attachment. In line with some of the studies above, this suggests that atypical parenting may relate to broader aspects of attachment relationships than those pertaining specifically to unresolved and disorganized patterns.

Evidence from foster care research appears to suggest a similar phenomenon. Hence, Dozier et al. (2001) found that foster caregivers with non-autonomous states of mind, and not only unresolved states of mind specifically, were likely to have foster children with disorganized attachments. Dozier and colleagues suggested that children who have experienced relationship disruptions need the availability of an especially nurturing surrogate caregiver to develop an organized attachment. According to them, rejecting or less extreme caregiving behaviours (compared to frightening or atypical parenting), such as those presumed to be provided by non-autonomous parents, may give rise to disorganized attachment when children are already at risk because of their exposure to early adversity. However, Dozier et al. did not assess parenting, and hence could not demonstrate their hypothesis that non-autonomous foster mothers displayed parenting behaviours that were non-optimal but not atypical.

Thus, given Dozier et al.'s (2001) finding that insecure attachment states of mind are related to infant disorganization, and Grienberger et al.'s (2005) finding that anomalous parenting behaviour is associated not only with disorganized but also resistant attachment relationships, then it is likely that in certain samples, atypical parenting behaviour can be manifested by parents who present a non-autonomous state of mind. The implication is that insecure states of mind in general, and not just unresolved states of mind, are a risk factor for disrupted caregiving. However, this has never been investigated.

Consequently, the current study aimed to replicate and extend previous research in several ways. The main purpose of this report was to test the relation between caregiver attachment states of mind and atypical parenting behaviour in a sample at high-risk for

anomalous attachment: foster care dyads (Dozier et al., 2001). In keeping with findings from previous research, the study examined the link between caregiver unresolved states of mind and atypical caregiving, but also investigated links between non-autonomous states of mind and atypical parenting, in an attempt to shed further light on Dozier et al.'s findings pertaining to non-autonomous foster mothers. It was thus expected that unresolved and non-autonomous states of mind (dismissing, preoccupied and unresolved) in the foster mother would relate to a greater likelihood of being classified as disrupted/atypical and to higher degrees of atypical parenting in mother-child interactions. Using the AMBIANCE coding system in a foster-care sample, we were able to explore the validity of the instrument in non-biologically-related dyads. In keeping with researchers who suggested that future work should evaluate parental behaviour in settings other than the Strange Situation (Lyons-Ruth et al., 1999), and that a focus on naturalistic contexts is important to the advancement of our understanding of attachment processes (Bailey, Moran, Pederson & Bento, 2007), this study examined child-caregiver interactions in a free-play situation in the family's home.

Method

Participants

Thirty-nine foster infant-caregiver dyads participated in this study. All were part of a larger study (N = 54) of the effects of interventions for foster parents, but none of the participants had yet received intervention services. The foster caregivers were recruited through five *Centres Jeunesse* (Child Welfare agencies) in Montréal, Laval, Mauricie, Montérégie, and Québec. Children with serious medical complications (e.g., cerebral

palsy, Down Syndrome, autism) and those with severe developmental delays (e.g., 18-month-old who is unable to crawl) were excluded from the study.

At the time of recruitment, the mean age of the infants was 25 months ($SD = 8.6$; range 11 to 41 months), whose duration of placement in the foster home had been a maximum of six months. Twenty-two of the children were boys and 17 girls. Case records indicated that all of the children were placed in foster care due to neglect. The number of placements varied between 1 and 6, with a mean of 3 placements (including that with the current caregiver).

Foster mothers ranged in age from 27 to 60 with a mean of 39 years ($SD = 6.9$). Thirty-one percent of foster families earned between CDN\$ 50,000 and CDN\$ 75,000. Level of income ranged from CDN\$ 20,000-30,000 (5.3%) to CDN\$ 100,000 and above (15.8%). 92 percent of the foster caregivers were married or living with a partner. Their level of education ranged from high school diplomas to university degrees, with a median of 14 years of education.

Measures

Data was collected from caregivers, from agency files, and from observations of the dyads. The type of data collected included semi-structured interviews, standardized questionnaires, and home observations.

State of Mind With Regard to Attachment. Caregiver state of mind was assessed using the Adult Attachment Interview (AAI; George et al., 1996). The AAI is a semi-structured, hour-long, interview designed to assess an adult's current state of mind with regard to attachment relationships. The interview asks parents to talk about their feelings regarding attachment relationships, to describe specific childhood memories of

attachment-related events, and to conceptualize how they were affected by these early relationships. Using the Main, Goldwyn and Hesse (2002) classification system, transcribed interviews are coded by discourse analysis. The participant's childhood relationship with each parent is rated on a first set of five 9-point scales: Love, Rejection, Role-Reversal, Pressure to Achieve and Neglect. In a second step, the participant's state of mind with regard to these experiences is rated on twelve scales: Idealization (mother/father), Lack of Recall, Anger (mother/father), Derogation, Metacognitive Monitoring, Passivity, Unresolved Loss, Unresolved Trauma and Coherence of Transcript and of Mind. Finally, the score pattern of these scales is used to classify each caregiver into one of the following attachment categories: autonomous (F), preoccupied (E), dismissing (Ds) or unresolved (U). All foster parents who received a U classification also received a secondary F, Ds, or E classification¹.

Caregivers are classified as “autonomous” when their discourse about attachment experiences is coherent and consistent. They also produce a collaborative narrative, whether the experiences reported are favourable or unfavourable. Interviews are classified as “dismissing” when discourse appears aimed at minimizing the discussion of attachment-related experiences. Such transcripts are typically less coherent, internally inconsistent and terse (e.g., “I don’t remember”). Descriptions of parents are most often favourable to highly favourable, however, such speakers fail to provide supportive evidence for these representations or contradict them. Individuals classified as “preoccupied” are often unable to maintain a focus or to contain their responses to a given question. They may digress to remote topics, use vague language, engage in lengthy and angry discussions, and oscillate in their view of a parent. Autonomous,

dismissing and preoccupied transcripts have been termed the three central “organized” AAI categories. On the other hand, transcripts classified as “unresolved” are disorganized around discussions of potentially traumatic events. The defining feature of such speakers is a lapse in the monitoring of reasoning or discourse during discussion of significant loss experiences or abuse. Thus, in addition to providing states of mind classifications, the AAI provides a context for assessing whether the caregiver experienced physical or sexual abuse. Dismissing, preoccupied and unresolved classifications are all considered insecure, or non-autonomous.

The AAI has been validated by comparing maternal attachment state of mind with infant Strange Situation classifications, with 73% concordance ($\kappa = .49$) emerging between mother and infant secure/insecure attachment (van IJzendoorn, 1995). The test-retest reliability of the instrument is excellent, with stability of the general classification ranging from 77% (Steele & Steele, 1994) to 90% (Benoît & Parker, 1994; Sagi et al., 1994) over periods ranging from one month to one year. Social desirability, reasoning quality, verbal expression, cognitive style, cognitive complexity and ability to recall non-attachment experiences do not influence the AAI classification (Bakermans-Kranenburg & van IJzendoorn, 1993; Crowell et al., 1996; Sagi et al., 1994). The AAI has also been validated with high-risk and low-risk samples (van IJzendoorn, 1995).

The interviews were audiotaped, transcribed verbatim, and then coded by one of two experienced raters (trained by D. Pederson and D. Pederson) who were certified as reliable through the standard training procedures of M. Main and E. Hesse. Twelve randomly selected transcripts were double-coded for reliability purposes. The coders agreed on 11 of the 12 transcripts as to primary, 4-way classification, $\kappa = .88$.

Atypical Parental Behaviour. Disrupted maternal communication with the infant was assessed using the AMBIANCE coding system (Bronfman, Parsons, & Lyons-Ruth, 2006) over a 10-minute free-play session between the caregiver and infant. The AMBIANCE coding system assesses behaviours that characterize parental misattunement to specific content of an infant's attachment-related communications and the display of competing caregiving strategies that both elicit and reject infant attachment affects and behaviours. These sets of behaviours are termed "disrupted affective communication between mother and infant", and include codes for five dimensions: 1) affective communication errors, 2) role/boundary confusion, 3) fearful/disoriented behaviour, 4) intrusive/negativity, and 5) withdrawal (refer to Appendix B for definitions and examples of AMBIANCE behaviours). A descriptive narrative of each interactive caregiver-infant play session was composed using the guidelines outlined in the AMBIANCE coding manual. The AMBIANCE yielded the following measures for each caregiver: (a) a score on a qualitative 7-point scale of global level of disrupted communication and (b) a classification of disrupted (scores of 5-7 on the level of disrupted communication) or non-disrupted (scores of 1-4.5).

Inter-rater agreement has been found to be good, with intraclass correlation coefficients for the dimensions ranging from .73 to .84. The global level of disrupted affective communication has been found to be significantly associated with the level of infant disorganization ($r = .42$), as well as predictive of an infant's classification in the disorganized category (Lyons-Ruth et al., 1999).

In addition to the original coding system, a 7-point qualitative rating scale has been developed for each of the five dimensions by Madigan and colleagues (2007). The

subscales were derived from Bronfman et al.'s (2006) original 7-point scale for level of disrupted communication, emphasizing the intensity and frequency of behaviours associated with each dimension. Only one of the coders for this study was trained on rating these dimensions, therefore inter-rater agreement on the dimensions was not possible. For this reason, we did not conduct a thorough analysis of the subscales and only present preliminary data for the subscales.

A single coder (the author of this report) scored all play sessions. She was trained by the original developers of the AMBIANCE in April 2004 (K. Lyons-Ruth and E. Bronfman) and in August 2007 (K. Lyons-Ruth, E. Bronfman, and S. Madigan), and is currently completing the reliability test. Ten randomly selected tapes were double-coded for reliability purposes. The reliability coder had received training on AMBIANCE coding by the original developers of the instrument. Reliabilities were as follows: the intraclass correlation coefficient for overall level of disrupted communication was .87, and the kappa coefficient for disrupted classification agreement was $\kappa = .80$.

Control Variables. Given the documented links between psychosocial adjustment and parenting, the following were used as potential control variables: foster caregiver's psychiatric symptomatology (BSI; Derogatis & Spencer, 1982), depression (BDI; Beck & Steer, 1984), stressful life events (LES; Sarason, Johnson, & Spiegel, 1978), and parenting stress (PSI; Abidin, 1995).

Procedure

Recruitment

Child Welfare staff first contacted the caregivers (foster and biological), seeking permission for research staff to contact them. For caregivers indicating willingness to

participate in the study, interviews were set up to explain the various aspects of the study and obtain full written informed consent. Caregivers were assured that their participation in the research was voluntary and that they could withdraw from the study at any time without penalty. They were assured that no data would be shared with agency staff unless there was evidence of abuse or neglect.

Data Collection

Once informed consent had been obtained from the participants, socio-demographic and foster placement data was collected from the Child Welfare files. The first home visit assessed the caregiver's stress, life events, social support, psychiatric symptomatology and depression. In addition, the foster dyad was videotaped while engaged in a 10-minute free-play session, later coded for disrupted caregiver behaviour. A second home visit involved administration of the AAI to assess the caregiver's current state of mind with regard to attachment relationships. The research assistants who administered the AAI were not involved in coding either the interviews or the free-play sequences. The participants were then randomly assigned to one of the two groups, the intervention group or the control group (non-intervention). The current study, however, uses only the pre-intervention data.

Results

Preliminary Analyses

Adult attachment classifications were distributed as the following: 14 caregivers were classified as autonomous (35.9%), 7 as dismissing (17.9%), and 18 as unresolved (46.2%). In line with what Dozier et al. (2001) had found, no caregiver was primarily classified as preoccupied. Of the caregivers with unresolved states of mind, 39% had

secondary autonomous classifications and 61% had secondary non-autonomous (4 dismissing, 7 preoccupied) classifications, representing 18% and 28% of the sample, respectively.

All 39 caregivers reported an experience of loss; 16 (88 %) of these were classified as having an unresolved state of mind regarding loss. Seven caregivers reported an experience of abuse; two (11 %) were classified as having an unresolved state of mind regarding abuse. One caregiver was unresolved for both abuse and loss. Thus, the distribution of AAI classifications for this foster care sample revealed a substantially higher percentage of unresolved classifications than is reported by Dozier et al. (2001) in their foster care sample (24%).

Fifty-four percent of the foster caregivers were classified as disrupted on the AMBIANCE scale. The mean level of disrupted behaviour was 4.4 on a 7-point scale ($SD = 1.6$). In a sample of adolescent mothers, Madigan, Moran, et al. (2006) reported mean levels of disrupted behaviour of 3.45 and 4.41 in play sessions with toys and without toys, respectively. They did not, however, report the proportion of mothers who were classified as disrupted.

Next, analyses were conducted to examine whether demographic (age, gender, income, education, and marital status) or psychosocial adjustment variables were associated with atypical parental behaviour. Table 1 presents the descriptive statistics for the psychosocial adjustment measures. We used correlations for both the overall disrupted score and the disrupted classification, given that the latter is dichotomous, in which case a bi-serial correlation is automatically computed. Only one potential confound was found to relate to atypical caregiver behaviour: caregivers with younger children

were likely to display higher levels of disrupted caregiving behaviour ($r = -.41; p < .01$) and were more likely to be classified as disrupted on the AMBIANCE ($r = -.38; p < .05$). Age of the foster infant was consequently used as a covariate in all further analyses involving disrupted caregiving behaviour.

Finally, analyses were conducted to examine whether participants who completed all pre-test measures ($n = 39$, 72% of original sample) differed from the 15 others on any demographic or psychosocial control variables. Only one difference approached significance: caregivers who did not complete all pre-test measures were younger than caregivers included in the study, $t(48) = -1.83, p = .07$. Given that this was the only difference approaching significance, the weight of the evidence suggests that these two groups were comparable.

Main Analyses

Table 2 presents the breakdown of disrupted/non-disrupted classifications on AMBIANCE according to caregivers' states of mind: unresolved vs. not-unresolved and autonomous vs. non-autonomous. Analyses revealed that unresolved caregivers were no more likely to be classified as disrupted than those not presenting an unresolved state of mind, $\chi^2(1, N = 39) = 2.21, ns$. In contrast, a non-autonomous attachment was associated with a higher likelihood of being classified as disrupted, $\chi^2(1, N = 39) = 9.23, p < .002$. Hence, while 72% of non-autonomous caregivers were classified as disrupted in their interactions with the child, only 21% of their autonomous counterparts were classified as disrupted.

Table 3 presents means and standard deviations on the overall score for atypical parenting behaviour according to caregivers' unresolved vs. not-unresolved and

autonomous vs. non-autonomous states of mind (before adjusting for child age). A residual regression score was computed to partial out child age from the overall atypical behaviour score, and this residual score was then submitted to analyses. Consistent with the above findings, analyses showed that caregivers with unresolved states of mind did not exhibit higher levels of atypical behaviour than those not presenting an unresolved state of mind ($t(37) = .741, ns$), but non-autonomous caregivers were found to display higher levels of atypical parenting than their autonomous counterparts, $t(37) = -2.30, p < .01$. A comparison of unresolved caregivers with an autonomous secondary classification versus a non-autonomous secondary classification revealed no significant differences on the level of atypical parental behaviours, $t(16) = .83, ns$.

The above findings suggest that in this sample, aspects of attachment state of mind other than the unresolved status are relevant in understanding atypical parenting. In order to further understand which specific aspects of state of mind are related to atypical behaviour, we ran partial correlations (controlling for age of the foster child) between the specific AAI state of mind scales and atypical parental behaviour, both in terms of binary classification and levels. These correlations, displayed in Table 4, revealed that coherence of the caregiver's discourse on the AAI was related to parental behaviour, such that caregivers who were more consistent, clear, and collaborative in their descriptions of their experiences during the interview displayed lower levels of disrupted behaviour and were more likely to be classified as non-disrupted. A similar pattern was evidenced for caregivers who demonstrated metacognitive processes in their discourse: caregivers who showed an ability to monitor and report on their thought processes and recall during the interview had lower levels of disrupted behaviour. The level of passivity that

characterized caregivers' discourse was also associated with atypical parental behaviour, such that caregivers who displayed greater passivity in their discourse style had higher levels of disrupted behaviour and were more likely to be classified as disrupted.

Exploratory Analyses

The above findings suggested that an unresolved state of mind was not associated with atypical parenting. In order to understand this unexpected finding, exploratory analyses were undertaken to examine whether states of mind (unresolved in particular), although not related to overall atypical parenting, might be related to certain specific AMBIANCE dimensions (affective communication errors, role boundary confusion, fearful/disoriented, intrusive/negativity, and withdrawal). The analyses are presented for exploratory purposes only, given that examination of inter-rater agreement on the AMBIANCE dimensions was not possible (only one of the coders for this study was trained on rating these dimensions).

Table 5 presents means and standard deviations for each AMBIANCE dimension according to caregivers' unresolved vs. not-unresolved and autonomous vs. non-autonomous states of mind. These scores were submitted to two multivariate analyses of covariance (controlling for child age), one with the not-unresolved vs. unresolved status as the independent variable, the other on the autonomous vs. non-autonomous breakdown. The results of the first MANCOVA showed that the not-unresolved vs. unresolved status was unrelated to dimensions of atypical parenting, on both multivariate ($F(5, 30) = 1.77, ns$) and univariate levels (all F 's $< 3.1, ns$). Although the results of the second MANCOVA revealed that the autonomous/non-autonomous main effect only approached significance at the multivariate level, $F(5, 30) = 2.34, p = .07$, univariate

tests revealed significant differences between the autonomous and non-autonomous groups on fearful/disoriented behaviour ($F(1, 37) = 4.16, p < .05$), and intrusive/negative behaviour ($F(1, 37) = 8.74, p < .01$). In both cases, non-autonomous caregivers displayed higher levels of atypical behaviour.

The next exploratory analysis investigated the specific links between AAI subscales and the AMBIANCE dimensions. Table 6 presents partial correlations between these variables, controlling for child age. Involving anger with respect to father was negatively related to the withdrawal dimension, and passivity of thought was positively associated with the intrusive/negativity dimension. Importantly for our research questions, presence of abuse in the caregiver's history and the overall unresolved state of mind score were both related to the fearful/disoriented dimension (see Table 7 for AMBIANCE scores according to the presence of abuse). Hence, while unresolved states of mind were found to be unrelated to atypical parenting overall, it appears that one specific aspect of atypical caregiving, fearful/disoriented behaviour, does relate to the expected correlates of disrupted parenting.

In order to more closely examine the relative contributions of the correlates of fearful/disoriented parenting behaviour, a hierarchical regression analysis was carried out, aiming to determine whether level of non-resolution added to the prediction of fearful/disoriented caregiving above and beyond what is explained by sheer presence of abuse in the parent's history. Presence of abuse was thus entered in a first step, followed by the overall unresolved score. Together, these two factors predicted 14.8% of the variance in fearful/disoriented parenting. Presence of abuse explained 12% of the

variance ($\beta = .35, p < .05$). The overall level of non-resolution, however, did not add significantly to the prediction ($\beta = .19, ns$).

Discussion

The purpose of this study was to examine the association between attachment states of mind and disrupted patterns of parenting behaviour among foster caregivers. A more thorough understanding of this relation is especially important in the case of foster parents because infants placed in foster care are at greater risk of developing disorganized attachments (Dozier et al., 2001). The results revealed that caregivers with a non-autonomous (or insecure) state of mind were more likely to exhibit atypical interactive behaviour with their foster infant. These findings extend the work of Dozier et al. who found that foster infants were more likely to develop a disorganized attachment relationship if the foster parent had a non-autonomous state of mind. The findings of the current study suggest that this risk for attachment disorganization, although presumably attributable in part to foster children's earlier exposure to adversity, also stems from a tendency among non-autonomous foster caregivers to exhibit the atypical forms of parenting behaviour that are known to relate to infant disorganization.

These findings are disquieting given that a large proportion of foster parents have a non-autonomous state of mind compared to the general population. In line with the findings with the current foster care sample in which we found a rate of 64% of insecure states of mind, Steele, Kaniuk, Hodges, Haworth and Huss (2006) reported that only 32% of adoptive parents had a secure state of mind, compared to about 60-70% in the general population. Bordzinsky (1987) has argued that adoption can be considered a psychological stressor, in that the adopted child's experience of losing the biological

parents may lead to emotional and behavioural reactions in the child and the adoptive family. Further, risk factors experienced before placement, such as genetic disposition and pre-adoptive care, may contribute to difficulties in adopted children (O'Connor et al., 2000). The caregiver must therefore demonstrate a great deal of sensitivity to counter the maladaptive attachment behaviours of the child placed in care. Studies, however, have shown that more often than not, foster parents respond in a like manner to the attachment strategies displayed by the infant, thereby consolidating the maladaptive attachment pattern in the new relationship (Stovall & Dozier, 2000). The findings of the current study suggest that such insensitive responses are more likely to be displayed by foster caregivers who present an insecure state of mind with respect to attachment. It is therefore a source of concern that this study as well as others (e.g., Steele et al., 2006) have found low rates of autonomous states of mind among adoptive or foster parents.

These results also enhance our understanding of the patterns of behaviour that comprise disrupted interactions and their relation with attachment state of mind. The aspects of caregivers' discourse which were most relevant for understanding their disrupted parenting behaviour were coherence, metacognition, and passivity. Coherence and metacognition were associated with lower levels of atypical behaviours, while passivity was associated with a greater likelihood of exhibiting atypical behaviours. In other words, caregivers who described their past experiences in an organized, clear and consistent manner, and who demonstrated an ongoing awareness of the content of their discourse were able to provide the necessary emotional and social framework during interactions with their infants. On the other hand, caregivers whose discourse was marked by confusing or irrelevant discussions of past experiences displayed more

anomalous forms of caregiving. These findings are consistent with tenets of attachment theory, which suggest that parents' state of mind with respect to their attachment histories influences their parenting quality and capacity to respond to the infant's needs (van IJzendoorn, 1995). Prior work has linked maternal attachment representations, and coherence in particular, to a mother's sensitivity and emotional availability to her children (Biringen et al., 2000). A recent investigation of mothers' parenting behaviour with their children during foster care visits found that mothers' coherence, flexibility, and expression of affection toward their children during an attachment interview were associated with positive aspects of parenting (Schoppe-Sullivan et al., 2007). The findings of the current study add to those of these recent reports in reiterating the special significance of adults' discourse about their childhood attachment experiences for the unfolding of their own parenting behaviours, in both intact and foster care child-caregiver dyads.

Unexpectedly, we did not find a relation between an unresolved state of mind with regard to attachment and atypical maternal behaviour. There are several possible explanations for this null finding. First, the lack of associations with unresolved attachment status may result from an underreporting of experiences of loss or trauma, which is a prerequisite for the U classification. For example, Bailey, Moran, and Pederson (2007) found that the AAI elicited more reports of physical abuse and fewer reports of sexual abuse compared to a trauma questionnaire. Secondly, it has been proposed that other aspects of states of mind not related to lack of resolution of loss or trauma may be involved in the manifestation of anomalous forms of parenting. For example, Lyons-Ruth, Yellin, Melnick, and Atwood's (2003) elaboration of

hostile/helpless (H/H) states of mind with respect to attachment may expand the ability to capture maladaptive states of mind and correlates of atypical behaviour. Unlike unresolved status, H/H classification is not focused on reported past loss or abuse, but rather on the lack of cognitive and emotional integration in the speaker's representations of childhood experiences and relationships. A full explanation of the link between attachment state of mind and disrupted parenting behaviour may lie in a consideration of factors beyond the lack of resolution of past losses or traumas.

Given this unexpected finding, we sought to examine whether attachment states of mind were associated with any of the specific AMBIANCE dimensions. The five dimensions of the AMBIANCE each assess a conceptually distinct aspect of atypical parenting behaviour. Although an unresolved state of mind classification was not associated with any of the five AMBIANCE dimensions, we found a clear association between non-autonomous states of mind and fearful/disoriented behaviour as well as intrusive/negative behaviour. Interestingly, these two dimensions of the AMBIANCE correspond to the frightened and frightening behaviours, respectively, that Main and Hesse originally theorized as contributing to infant disorganization (Madigan, Moran, et al., 2006).

There is some accumulating evidence in the attachment literature that links non-autonomous states of mind with less optimal caregiving behaviours, although few studies have looked at insecure attachment specifically and the AMBIANCE instrument. Nonetheless, Holmes and Lyons-Ruth (2006) found that dismissing-avoidance attachment style, assessed using the Relationship Questionnaire (Bartholomew & Horowitz, 1991) was related to disoriented behaviours on the AMBIANCE. A study of

adolescent mothers also demonstrated a trend toward dismissing mothers behaving in a sensitive but more disengaged manner with their infants, an interactive style that was also associated with disorganized infant attachment (Bailey, Moran, Pederson, & Bento, 2007). Hence, more research is needed to determine whether the link found in this study between atypical parenting and a non-autonomous state of mind is specific to foster care and may partly reflect a special vulnerability among foster parents, or rather illustrates an association that is true in biologically-intact dyads but has seldom been investigated.

The current study also found associations between specific attachment state of mind scales and dimensions of atypical parental behaviour. Caregivers whose discourse was characterized by expressions of anger directed at father were less withdrawn in their interactions with their infant, while caregivers whose discourse was characterized by passivity displayed more intrusive/negative behaviour. However, perhaps the most conceptually salient findings were that the presence of abuse in the caregiver's history and the overall score for unresolved state of mind were both significantly correlated with fearful/disoriented behaviour. Of particular relevance is the finding that the presence of abuse in and of itself, is predictive of fearful/disoriented parenting behaviour. This has important implications because it challenges the prevailing attachment *theory* that an unresolved attachment state of mind is a necessary condition for the display of anomalous forms of caregiving. The current findings, suggesting that having experienced abuse, regardless of the degree of (un) resolution of the experience, is sufficient to lead to atypical parenting, are actually in line with attachment *research* on links between unresolved states of mind and infant disorganization. Hence, close examination of the empirical literature reveals that, in contrast to loss, there is no evidence for the often-

claimed assumption that abuse needs to be unresolved before it leads to infant disorganization (Bernier & Meins, 2008).

Similarly, with regards to parental behaviour per se, we were unable to find any evidence in the literature that abuse has to be unresolved in order to relate to pathological parenting. A relevant study is that of Lyons-Ruth and Block (1996), who found that maternal exposure to childhood trauma was associated with inadequate parent-infant interactions, involving fearful, withdrawn, and inhibited parenting behaviour (in the case of sexual abuse) or hostile, intrusive, and role-reversing behaviour (for physical abuse). However, this study did not consider whether mothers had resolved their abuse experiences, and therefore it was not clear whether abusive experiences needed to be unresolved to result in disrupted parenting.

Although the current study was unable to differentiate between unresolved state of mind as a result of sexual abuse or physical abuse, it is consistent with Lyons-Ruth and Block's (1996) finding that a history of trauma is a risk factor for anomalous caregiving. Cole (2005) also found that a caregiver's childhood experience of abuse negatively influenced infant security of attachment. Traumatic experiences in childhood are often associated with early attachment figures. Consequently, the attachment-related affects and behaviours a child displays may be threatening to the mother's defenses against re-experiencing the fear and distress associated with the earlier trauma (Lyons-Ruth & Block, 1996). A parent may therefore engage in fearful/disoriented behaviour, regardless of whether she is unresolved with regards to trauma, when the infant's attachment-related needs are activated; a situation that is particularly vulnerable for a parent with a history of abuse. Thus, our results provide some evidence that past experience of attachment-

related risk, notably the experience of abuse, may be just as important for understanding non-optimal caregiving as an unresolved state of mind. However, research has yet to determine whether a history of abuse is related to *specific* aspects of anomalous parenting behaviour, such as was found here, or to atypical parenting in general.

Although the current research did not assess infant attachment, a number of attachment researchers have found links between atypical behaviour and disorganization (e.g., see Madigan, Bakermans-Kranenberg, et al., 2006 for a review), particularly fearful/disoriented behaviour on the AMBIANCE and dissociative behaviour on Main and Hesse's FR system (two subscales which share similar behavioural indices, e.g., alterations in voice tone). For example, Madigan, Moran, et al. (2006) found that mothers in disorganized relationships displayed more fearful/disoriented behaviour and affective communication errors. Schuengel et al. (1999) and Abrams et al. (2006) both found that the dissociative-FR subscale was the only scale related to attachment disorganization. Abrams et al. also found that dissociative-FR behaviour was significantly related to unresolved adult attachment. Thus, although more research is called for, one might argue that some evidence is accumulating which may eventually allow for refinement to the theory concerning which aspects exactly of atypical parenting behaviour are responsible for the links between adult unresolved and infant disorganized attachment patterns.

Although the current investigation has key strengths, including the assessment of an understudied population and the utilization of a variety of methodologies (observations of mother-infant interactions in the home, semi-clinical interviews with caregivers), it is important to note some limitations. From a statistical perspective, the sample size was small and thus precluded more thorough analyses of the categories of

attachment state of mind and parenting behaviour, as well as the examination of different types of abuse (e.g., sexual, physical). It is also important to consider that maternal behaviour was observed during a 10-minute free-play situation in the home. Lengthier observations and observations made under various conditions (e.g., play situations with toys and without toys; see Madigan, Moran, et al., 2006), as well as comparisons across contexts (e.g., Strange Situation) may yield findings that reveal precise ways in which disrupted interactions occur and under what conditions. Finally, the fact that we were unable to examine inter-rater reliability on the AMBIANCE subscales does call for a great deal of caution in generalizing the findings specific to the fearful/disoriented subscale.

In conclusion, this study was unique in its examination of attachment representations and maternal parenting behaviour among foster caregivers. Studies of infants in foster care have found that, despite disruptions to their biological attachment systems, some of these infants can and do develop secure relationships with their foster caregivers (Cole, 2005; Dozier et al., 2001). This suggests that children organize their attachment behaviours around the availability of the caregivers currently providing care. The current study's findings suggest that non-autonomous attachment states of mind among foster caregivers are a significant risk factor for disrupted parental interactions. This raises important theoretical and practical concerns. Although the attachment literature has implicated unresolved states of mind in disrupted caregiving, it appears that other conditions are also involved, namely insecure states of mind and a history of abuse. The further exploration of the antecedents of anomalous forms of caregiving behaviour is

vital for our understanding of attachment-related risk-factors and to developing interventions targeting populations at risk.

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Footnote

¹ The term “unresolved/disorganized” (U) is assigned when lapses in the monitoring of reasoning or discourse occur during discussions of potentially traumatic events (e.g., loss experiences or abuse). It has been theorized that these lapses may be suggestive of temporary alterations in consciousness or working memory, and may represent interference from dissociated memories or absorptions involving memories triggered by the discussion of traumatic events. Such discourse/reasoning lapses often occur in high-functioning individuals and are normally not representative of the speaker’s overall conversational style. For this reason, transcripts assigned to the U category are given a best-fitting alternative, or secondary, classification (e.g., U/Ds) (Hesse, 1999).

Table 1

Descriptive Statistics for Psychosocial Adjustment Variables

| Variable | Mean | Standard Deviation | Observed Range | | Theoretical Range | |
|----------------------------------|------|--------------------|----------------|------|-------------------|-----|
| | | | Min | Max | Min | Max |
| Depression (BDI) | 4.39 | 4.98 | 0 | 20 | 0 | 63 |
| Stressful Life Events (LES) | 1.87 | 1.63 | 0 | 7 | 0 | 16 |
| Psychiatric Symptomatology (BSI) | .35 | .31 | 0 | 1.08 | 0 | 4 |
| Parenting Stress (PSI) | 1.85 | .47 | 1 | 3.56 | 1 | 5 |

Table 2

Cross Tabulation of Disrupted and Non-Disrupted Classifications, as Assessed Using the AMBIANCE, with Caregiver State of Mind Regarding Attachment

| AMBIANCE | AAI | | | % match |
|---------------|------------|----------------|-------|---------|
| | Unresolved | Not-Unresolved | Total | |
| Non-Disrupted | 6 | 12 | 18 | 67 |
| Disrupted | 12 | 9 | 21 | 57 |
| | Autonomous | Non-Autonomous | Total | % match |
| Non-Disrupted | 11 | 7 | 18 | 61 |
| Disrupted | 3 | 18* | 21 | 86 |

* Indicates significant cell, $p < .002$

Note. AMBIANCE = Atypical Maternal Behavior Instrument for Assessment and Classification; AAI = Adult Attachment Interview

Table 3

Means (and Standard Deviations) for Overall Level of Disrupted Communication according to Caregiver State of Mind Regarding Attachment (before adjusting for child age)

| AAI | <u>M</u> | <u>SD</u> |
|----------------|----------|-----------|
| Unresolved | 4.61 | (1.58) |
| Not-Unresolved | 4.14 | (1.62) |
| Autonomous | 3.43 | (1.40) |
| Non-Autonomous | 4.88 | (1.48) |

Note. AAI = Adult Attachment Interview

Table 4

Correlations between Attachment State of Mind Scales on the AAI and Overall Level of Disrupted Communication and Disrupted/Non-Disrupted Classifications (controlling for infant age)

| AAI | AMBIANCE | |
|--------------------------|--|--------------------------|
| | Level of Disrupted Communication (1 – 7) | Disrupted Classification |
| Mother: | | |
| Idealizing | .11 | .01 |
| Involving Anger | .02 | .11 |
| Derogation | .13 | -.03 |
| Father: | | |
| Idealizing | .13 | .13 |
| Involving Anger | -.02 | .12 |
| Derogation | .04 | .06 |
| Derogation | -.15 | -.22 |
| Lack of Memory | -.19 | -.11 |
| Metacognition | -.38** | -.15 |
| Passivity | .31* | .31* |
| Fear of Loss | .17 | .29 |
| Unresolved Loss | .04 | .17 |
| Unresolved Trauma | -.02 | .14 |
| Overall Unresolved Score | .13 | .25 |
| Presence of Abuse | .18 | .24 |
| Coherence of Transcript | -.36* | -.31* |
| Coherence of Mind | -.35* | -.31* |

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

Note. AMBIANCE = Atypical Maternal Behavior Instrument for Assessment and Classification; AAI = Adult Attachment Interview

Table 5

Means (and Standard Deviations) of Subscale Dimensions of Disrupted Maternal Behaviour, as Assessed Using the AMBIANCE, according to Caregiver State of Mind Regarding Attachment

| Dimension | AAI | | | |
|--------------------------------|----------------|-----------|----------------|-----------|
| | Not-Unresolved | | Unresolved | |
| | <u>M</u> | <u>SD</u> | <u>M</u> | <u>SD</u> |
| Affective Communication Errors | 3.38 | (1.63) | 3.44 | (1.62) |
| Role/Boundary Confusion | 2.17 | (1.42) | 3.22 | (1.35) |
| Fearful/Disoriented Behaviour | 2.33 | (1.62) | 3.11 | (1.49) |
| Intrusive/Negative Behaviour | 3.48 | (1.69) | 4.44 | (1.38) |
| Withdrawal | 2.57 | (1.72) | 2.33 | (1.46) |
| | Autonomous | | Non-Autonomous | |
| Affective Communication Errors | 2.17 | (1.27) | 3.80 | (1.66) |
| Role/Boundary Confusion | 2.57 | (1.45) | 3.16 | (1.34) |
| Fearful/Disoriented Behaviour | 2.00 | (1.18) | 3.08 | (1.68) |
| Intrusive/Negative Behaviour | 3.00 | (1.62) | 4.44 | (1.39) |
| Withdrawal | 2.07 | (1.27) | 2.68 | (1.73) |

Note. AAI = Adult Attachment Interview

Table 6

Partial Correlations between Attachment State of Mind Scales on the AAI and Subscale Dimensions of Disrupted Maternal Behaviour, as Assessing Using the AMBIANCE (controlling for infant age)

| AAI | Dimension | | | | |
|----------------------------|-----------|------|-------|-------|-------|
| | DIM 1 | DIM2 | DIM 3 | DIM 4 | DIM 5 |
| Mother: | | | | | |
| Idealizing | .07 | .12 | .07 | -.01 | .27 |
| Involving Anger | .02 | .03 | .05 | .13 | -.19 |
| Derogation | .00 | -.04 | .12 | .19 | -.06 |
| Father: | | | | | |
| Idealizing | .17 | -.01 | .04 | .01 | .21 |
| Involving Anger | .01 | .17 | .06 | .17 | -.35* |
| Derogation | -.12 | .06 | .18 | .12 | -.02 |
| Derogation | -.15 | -.20 | -.15 | -.20 | .05 |
| Lack of Memory | -.15 | -.16 | -.07 | -.29 | .13 |
| Metacognition | -.27 | -.13 | -.14 | -.19 | -.11 |
| Passivity | .08 | .19 | .23 | .38** | -.12 |
| Fear of Loss | .13 | .15 | .02 | .23 | -.17 |
| Unresolved Loss | -.15 | .24 | .22 | .24 | -.26 |
| Unresolved Trauma | -.08 | -.02 | .23 | .01 | .06 |
| Overall U | -.09 | .25 | .32* | .25 | -.15 |
| Presence of Abuse | .01 | .02 | .38** | .17 | .13 |
| Coherence of Transcript | -.16 | -.12 | -.27 | -.24 | -.17 |
| Coherence of Mind | -.17 | -.10 | -.27 | -.24 | -.18 |

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

Note. DIM 1 = affective communication errors; DIM 2 = role/boundary confusion; DIM 3 = fearful/disoriented; DIM 4 = intrusive/negativity; DIM 5 = withdrawal; AMBIANCE = Atypical Maternal Behavior Instrument for Assessment and Classification; AAI = Adult Attachment Interview

Table 7

Means (and Standard Deviations) of Subscale Dimensions of Disrupted Maternal Behaviour, as Assessed Using the AMBIANCE, according to Presence of Abuse

| Dimension | Absent | | Abuse Present | |
|--------------------------------|----------|-----------|---------------|-----------|
| | <u>M</u> | <u>SD</u> | <u>M</u> | <u>SD</u> |
| Affective Communication Errors | 3.40 | (1.69) | 3.29 | (1.50) |
| Role/Boundary Confusion | 3.00 | (1.39) | 3.00 | (1.53) |
| Fearful/Disoriented Behaviour | 2.50 | (1.55) | 3.86 | (1.47) |
| Intrusive/Negative Behaviour | 3.90 | (1.65) | 4.29 | (1.60) |
| Withdrawal | 2.40 | (1.57) | 2.71 | (1.80) |

Note. AMBIANCE = Atypical Maternal Behavior Instrument for Assessment and Classification

General Conclusion

Attachment researchers have begun to uncover a number of important factors that influence parents' quality of caregiving and their children's socio-emotional development. A key maternal characteristic that has been linked to parent and child outcome is maternal state of mind with regard to attachment (Bosquet & Egeland, 2001). The general purpose of the dissertation was to review the theoretical and empirical attachment literature on unresolved attachment state of mind and the differential parenting outcomes associated with trauma, including a history of loss or abuse. In addition, the dissertation examined the empirical relation between caregiver attachment states of mind and atypical parenting behaviour in a sample of foster mothers.

The findings from the study revealed that foster mothers with a non-autonomous, or insecure, state of mind were more likely to exhibit atypical parenting behaviour with their foster infant, and more specifically fearful/disoriented and intrusive/negative behaviour. The aspects of caregivers' discourse which were most relevant for understanding their disrupted parenting behaviour were coherence, metacognition, and passivity. Coherence and metacognition were associated with lower levels of atypical behaviours, while passivity was associated with a greater likelihood of exhibiting atypical behaviours.

Attachment theorists have often suggested that an unresolved state of mind poses a particular risk for poor parenting behaviour, but only a modest empirical link has been found between unresolved attachment and disrupted parenting (Madigan, Bakermans-Kranenburg, et al., 2006). The current study did not find an association between an unresolved state of mind and atypical caregiving, however the presence of abuse in the

caregiver's history and the overall score for unresolved state of mind were both significantly correlated with fearful/disoriented behaviour. Of particular relevance is the finding that the presence of abuse in and of itself, is predictive of fearful/disoriented parenting behaviour. Thus, an experience of trauma, regardless of the degree to which the trauma has been resolved, can lead to non-optimal caregiving. In line with this, Lyons-Ruth and Block (1996) found that mothers with trauma histories were much less likely to engage in positive and balanced verbal and physical interactions with their infants, regardless of the type of trauma. They also found that mothers with histories of physical abuse were more hostile in their interactions, while mothers who had experienced sexual abuse were more withdrawn. Consequently, an unresolved state of mind may not be the only necessary determinant for the display of atypical parenting behaviour. Broader aspects of maternal states of mind, such as insecure attachment, and attachment-related experiences, including trauma, appear to be implicated in anomalous forms of caregiving.

The findings of the dissertation have implications for the provision of effective interventions for well-targeted populations. One interesting question that arises is whether the link between atypical parenting and a non-autonomous state of mind is specific to foster parents and may partly reflect a special vulnerability among this population, or rather illustrates an association that is true in biologically-intact dyads but has seldom been investigated. Little research has focused on the effect of attachment state of mind on foster parenting. There is some evidence in the literature that disrupted attachments and other adverse experiences in the foster parents' own childhood may in fact provide foster carers with experience that allows for more empathic understanding of

the needs of foster children who may come from similar backgrounds (Caltabiano & Thorpe, 2007). For example, Kaniuk, Steele, and Hodges (2004) found that successful adoptive caregivers were more likely to have secure or “earned” secure attachment states of mind. In fact, the experience of childhood adversity in foster carers and adopters is often a motivation for fostering, and is thought to facilitate caregiving through the ability to identify with deprived and abused children (Steele, Kaniuk, Hodges, Haworth, & Huss, 2006). However, as previous attachment research and the current study demonstrate, adverse childhood experiences and in particular physical and/or sexual abuse, is a significant risk factor for disrupted caregiving behaviour. Kaniuk et al. noted that adoptive mothers with insecure attachment may encourage dependence in children, but may not respond appropriately to children’s needs. Further, Cole (2005) found that foster caregiver childhood trauma (e.g., emotional abuse, sexual abuse) predicted insecure attachment relationships with foster children, a disproportionate percentage (87%) of whom displayed a disorganized attachment pattern. Cole suggests that caregivers who have experienced abuse may perceive their environment as threatening and anxiously monitor their infants, thereby negatively affecting the quality of attachment of infants placed in their care. Hence, although having experienced adversity may represent a frequent and adequate *motivation* to become a foster parent, it is nonetheless likely to represent a risk factor for quality of parenting toward the foster child. One might wonder, for example, if the link found in the dissertation between adult attachment insecurity and disrupted parenting may stem in part from many foster parents’ history of traumatic experiences, regardless of whether such experiences are resolved or not. Thus,

a personal background involving both trauma and an insecure attachment state of mind may represent a particularly high-risk situation for foster caregiving.

It is noteworthy that of the foster mothers in the current study, a greater proportion was found to have an unresolved state of mind compared to Dozier, Stovall, Albus, and Bates's (2001) foster care sample. It is possible that more mothers in this sample had experienced loss or abuse and were unresolved with regards to their trauma histories, and that was a strong motivator for becoming a foster parent. These same mothers may have identified with the traumatic experiences of their foster child but were unaware of their own points of vulnerability, and the influence of this on their parenting behaviour. Although identification with deprived and/or abused children can be a powerful motivator for fostering or adopting, the research suggests that the basis for this motivation needs to be understood in greater depth in order to inform the provision of support. Other maternal characteristics not identified in the current study may also be implicated, and future research is needed to address this very important issue of whether foster caregivers are a particularly vulnerable group for anomalous caregiving.

Nonetheless, the findings point to ways that child welfare agencies can assist prospective caregivers in providing more optimal parenting to infants in their care. Erickson, Korfmacher and Egeland (1992) have proposed that interventions aimed at promoting positive parenting can influence internal working models (IWM) of attachment and in turn the parent-child relationship. First, the therapeutic relationship may alter a parent's IWM of relationships by providing a corrective emotional experience, thereby learning ways to relate to others with empathy and care rather than anger and fear. In turn, the parent may begin to experience more protective and nurturing

ways of relating to their children. Secondly, by making the caregiver aware of how her perceptions and assumptions, based on childhood experiences, influence her own parenting, the therapist can help her gain more control over her behaviours.

Kaniuk et al. (2004) suggest that an adult's attachment history and current attachment state of mind are fundamental to the assessment of their capacity to be adoptive parents. The assessment of foster carers needs to identify attachment issues that may interfere with the provision of optimal care to foster children who have experienced disrupted attachments, so that suitable interventions can be put into practice (Caltabiano & Thorpe, 2007). Several investigations have found that clients' attachment state of mind is associated with characteristically different ways of approaching treatment and treatment providers (Bosquet & Egeland, 2001; Dozier & Sepulveda, 2004). For example, Korfmacher, Adam, Ogawa, & Egeland (1997) found that high-risk mothers with autonomous states of mind were more collaborative and involved in an at-home intervention than mothers with non-autonomous states of mind. Caregivers with dismissing states of mind have been found to be the most rejecting of help, which may be attributable to their failure to acknowledge vulnerabilities and accept help (Dozier & Sepulveda, 2004). On the other hand, preoccupied clients are more at ease asking for help but have difficulty focusing on the relevant issues of the intervention (Dozier, 1990), which is similar to unresolved clients whose frequent crises make therapeutic progress difficult (Dozier & Sepulveda, 2004). Thus, although *selecting* potential foster caregivers based on psychological issues is difficult in Quebec due to practical issues (e.g., lack of assessment resources, shortage of available caregivers to choose from), attachment

history and current state of mind are important characteristics to bear in mind when planning the training and on-going supervision of foster caregivers.

Emotionally sensitive caregiving to foster children involves recognizing the needs of the child and responding appropriately, flexibility in terms of expectations of children in care, and warmth and empathy towards foster children without imposing or anticipating reciprocity (Caltabiano & Thorpe, 2007). Although attachment state of mind and a history of trauma are important determinants to consider when placing foster children, in themselves they are not a sufficient basis to form an opinion about the suitability of a potential foster carer. Rather, what is important is how caregivers understand the impact of these experiences on their sense of self, their relationships, and their views on parenting, as well as to help them identify their strengths and vulnerabilities. In turn, this knowledge could be used to provide foster caregivers with the educational and supportive tools needed to enhance their abilities to provide optimal caregiving.

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Appendix A

Adult Attachment Interview (AAI) Classifications (Main, Goldwyn, & Hesse, 2002)

Adult State of Mind With Respect to Attachment

Secure/Autonomous (F)

Coherent, collaborative discourse. Valuing of attachment, but seems objective regarding any particular event/relationship. Description and evaluation of attachment-related experiences is consistent, whether experiences are favourable or unfavourable. Discourse does not notably violate any of Grice's maxims.

Dismissing (Ds)

Not coherent. Dismissing of attachment-related experiences and relationships. Normalizing ("excellent, very normal mother"), with generalized representations of history unsupported or actively contradicted by episodes recounted, thus violating Grice's maxim of quality. Transcripts also tend to be excessively brief, violating the maxim of quantity.

Preoccupied (E)

Not coherent. Preoccupied with or by past attachment relationships/experiences, speaker appears angry, passive, or fearful. Sentences often long, grammatically entangled, or filled with vague usages ("dadadada", "and that"), thus violating Grice's maxims of manner and relevance. Transcripts often excessively long, violating the maxim of quantity.

Unresolved/Disorganized (U)

During discussions of loss or abuse, individual shows striking lapse in the monitoring of reasoning or discourse. For example, individual may briefly indicate a belief that a dead person is still alive in the physical sense, or that this person was killed by a childhood thought. Individual may lapse into prolonged silence or eulogistic speech. The speaker will ordinarily otherwise fit Ds, E, or F categories.

Note. Descriptions of the adult attachment interview classification system are from Hesse (1999).

Appendix B

Dimensions and Definitions of AMBIANCE Behaviours (Bronfman, Parsons, & Lyons-Ruth, 2006)

| Dimension | Sub-Dimensions | Examples of Atypical Maternal Behaviours |
|-----------------------------------|---|--|
| 1. Affective Communication Errors | 1a. Contradictory signalling to the infant 1b. Failure to initiate responsive behaviour to infant cue 1c. Inappropriate responding to infant signals or needs | 1a. Invites approach verbally then distances 1b. Does not attempt to soothe infant when distressed 1c. Laughs while infant is crying or distressed |
| 2. Role/Boundary Confusion | 2a. Role Confusion 2b. Treats child as sexual/spousal partner | 2a. Elicits reassurance from infant 2b. Behaves or speaks in a manner more appropriate for a spouse than an infant |
| 3. Fearful/Disoriented Behaviour | 3a. Appears frightened, hesitant or deferential in relation to the infant 3b. Disorientation/dissociation or disorganized behaviour | 3a. Exhibits "haunted" or frightened voice 3b. Handles infant as though inanimate |
| 4. Intrusive/Negativity | 4a. Verbal negative-intrusive behaviour 4b. Physical negative-intrusive behaviour | 4a. Uses loud, sharp, or angry voice 4b. Looms; directs infant to new activity while infant is clearly engaged |
| 5. Withdrawal | 5a. Creates physical distance from infant 5b. Creates verbal distance from infant | 5a. Holds infant away from body with stiff arms 5b. Interacts silently with infant |