Centre for Research
on Violence Against Women and Children

Working With Communities.

The Effect of Childhood Maltreatment on the Parent-Child Relationship: Project Summary

Co-Investigators: Dr. Carey Anne DeOliveira, Dr. Vicky Veitch Wolfe, Dr. Heidi N. Bailey

Date: 2004

Partially Funded by: Scotia Bank Community Research Grant

Centre for Research on Violence Against Women and Children
1137 Western Road, Room 118
Faculty of Education Building
The University of Western Ontario
London, Ontario, CANADA N6G 1G7
Telephone: (519) 661-4040 Fax: (519) 850-2464
www.CRVAWC.ca

ISBN#

Overview and Purposes of Study

The purpose of this project was to examine the impact of a mother's history of childhood abuse, and current trauma-related symptomatology, on her responsiveness to her own child's developing emotions and on child emotional outcomes. A large body of research has documented the deleterious effects that childhood maltreatment and adult trauma can have on adult women (Neumann, Houskamp, Pollock, & Briere, 1996; Resnick, Kilpatrick, Dansky, Saunders, & Best, 1993). These effects include psychological symptoms such as posttraumatic stress disorder (PTSD), depression, and eating disorders, but also relationship dysfunction, health problems, and substance abuse. Given these serious outcomes, it is not surprising that researchers have begun to investigate the effects of trauma experiences and resulting sequelae on women's various life roles, including parenting. Preliminary evidence suggests that mothers with a history of childhood abuse feel less competent as parents, find parenting more stressful, and have less effective parenting styles (DiLillo and Damashek, 2003; Douglas, 2000; Harmer, Sanderson, & Mertin, 1999; Ruscio, 2001). One of the few studies looking directly at the impact of trauma on parenting behaviours indicated that maternal history of physical abuse was associated with increased hostile-intrusive behavior toward their infants and increased infant negative affect, whereas a history of sexual abuse was associated with decreased involvement and restricted maternal affect (Lyons-Ruth & Block, 1996).

A few studies have further explored the mediating role of trauma symptoms in the link between maternal trauma and parenting behaviours. Banyard, Williams, and Siegel (2003) found that depression mediated that link between trauma and parenting satisfaction and Narang, and Contreras (2000) found that dissociation significantly mediated the link between physical abuse history and child abuse potential. Unfortunately, both of these studies relied on parental reports of parenting behaviours and experiences, rather than direct observation.

Though there are several pathways by which maltreatment and trauma can affect parenting, the purpose of this study was to investigate the effects of trauma and PTSD on mother's *emotion availability* within the parenting context. We proposed that mothers with histories of maltreatment and trauma and who showed significant PTSD symptoms would be less attuned to the emotional nuances of their relationships with their children, and these deficits would affect their ability to foster emotional development and emotion regulation in their children. Numerous studies have identified that maltreated children have difficulties in many areas of emotional functioning. In fact, in the words of Pollack, Cicchetti, and Klorman (1998) "Emotion regulatory problems are among the best documented of the problems maltreated children display." In adult samples, a history of childhood trauma has been linked with significant emotion regulatory difficulties during adulthood years, including heightened levels of fear and anger, avoidance responses to affect-evoking and abuse-related stimuli, and difficulties recognizing and responding to the affective states of self and others (Briere, 1992; Fonagy et al., 1996; Zanarini et al., 1997).

Looking to the attachment literature, theory and research adds credence to the suggestion that mothers who are classified as being unresolved with respect to loss or trauma may have difficulties responding to the emotional needs of their young children, particularly during times of stress. Main and Hesse (1990) suggested that mothers who are unresolved with respect to past trauma might behave during interactions in ways that are frightened or frightening to their infants. Lyons-Ruth, Bronfman, & Atwood (1999) further argued that the traumatic and unintegrated nature of the mother's experiences diminishes her ability to monitor and respond appropriately to her young child's distress, particularly when the expression of distress is unequivocal. These authors suggest that many traumatized mothers have an aura of helpless passivity in the face of their child's attachment-related emotions such as fear, experienced by the child as profound unresponsiveness (Lyons-Ruth et al., 1999). Such mothers must have a pervasive inability to respond in times of fear and stress in the helpful, soothing manner necessary to serve the age-appropriate co-regulatory function for her infant, representing a disruption in the basic caregiving system (George & Solomon, 1999).

For this study, therefore, we proposed that trauma and PTSD symptoms would affect mothers' abilities to foster emotional development and emotion regulation in their children (ages 4 to 6) through three mechanisms: (a) reduced sensitivity to child emotional states, (b) reduced integration of emotional words and concepts into parent-child interactions, and (c) reduced emotional availability and increased negative affect in

parent-child interactions. We also hypothesized that the children of mothers with histories of childhood trauma and PTSD would have poorer understanding of emotions and will show greater difficulty regulating affect. We were also interested in delineating the differential impact of types and complexity of trauma in predicting emotional availability and child emotional outcomes.

We focussed on mothers with children ages 4 to 6 for two reasons. In the preschool years, the mother-child relationship is key to children's development of emotion representations and emotion regulatory strategies (Lewis & Michalson, 1983). Second, prior to this age, the assessment of children's cognitive understanding of emotions is less reliable.

Experimental Plan and Design

Participants:

Ninety-three English-speaking mothers with children ages 4 to 6 were recruited who had at least one parenting risk factor (adolescent at time of child's birth, single parenthood, low income). This sampling procedure was used to reduce the probability that relationships among trauma, PTSD, parenting, and child outcomes would be confounded by a third variable, SES. Participants were recruited to assure broad representation of parenting styles. Five levels of recruitment were used: (a) advertisements in the community through newsletters, mail-outs, and newspaper ads, (b) recruitment through agencies designed to serve high-risk mothers (e.g. parenting groups and day care settings for families at risk for social, parenting, or child behavioural difficulties), (c) recruitment through clinical agencies servicing children or adults with mental health treatment needs, (d) recruitment through an ongoing study of parenting at the University of Western Ontario, and (e) recruitment through word of mouth from other research participants.

The mothers ranged in age from 19 to 46 years at the time of the data collection (M = 30.62 , SD = 6.41). Twenty-eight percent of the mothers were under 19 years of age when their child was born and 74% were single mothers. Fifty-seven percent of the mothers reported household incomes less than $20,000 CDN/year and 87% reported household incomes less than $30,000 CDN/ year. Children ranged in age from

Clinical feedback and a written report to referring clinicians and/or participants were offered when this appeared warranted and/or was requested by the parent. Parents and children with psychosis, mental deficiency, or pervasive developmental disorder were excluded from participating. Information relevant to inclusionary and exclusionary criteria was gathered at the time of initial phone contact and explored in greater detail during the initial interview with the mother

Procedure:

Mothers attended two sessions at the Child and Adolescent Centre. In the first session (approximately 2 hours) they met alone with an interviewer. After gathering general family information, the focus of this session was to gather information about the mother's traumatic life experiences, current mental health functioning, and other risk and protective factors. Maternal trauma history was assessed with the *Childhood Trauma Questionnaire(CTQ;* Bernstein & Fink, 1998) and the *History of Maltreatment and Trauma Interview(HTMI;* Wolfe, 2001). Mothers completed several questionnaires to assess their current mental health functioning, including, the *Trauma Symptom Inventory(TSI*; Briere, 1995), the *Inventory of Altered Self-Capacities (IASC;* Briere, 2000) and the *Centre for Epidemiological Studies Depression Scale (CES-D*; Radloff, 1977, 1991). Other questionnaires included the *Parenting Stress Index(PSI;* Abiden 1983) and the *Social Support Questionnaire (SSQ;* Sarason, Levine, Basham, & Sarason, 1983). During this visit mothers also completed the *IFEEL PictureTask* (Emde, Osofsky, & Butterfield, 1993). (described below).

Following the first session, the mother was invited to bring her child into the laboratory for the second research session. The focus of this 90 minute session was on the mother-child relationship and child emotional outcomes, and included several parent-child and experimenter-child tasks that were observed through a two-way mirror and videotaped for later coding. Tasks included the *Picture Book Task, Affect Task (Steele, Steele, & Fonagy, 1994), Frustration Task, Peabody Picture Vocabulary Test(Dunn & Dunn, 1997)., Delay of Gratification Task*, and *Parent-Child Interaction Task* (all tasks and measures described below). Child emotion regulation was coded from the Frustration Task and Delay of Gratification Task and maternal

emotional availability was coded from the Parent-Child Interaction Task. Maternal and child affective language were coded from the Picture Book Task and child emotional understanding was coded from the Affect Task. At the conclusion of this second session mothers also completed the Modified Stroop Procedure with one of the examiners.

Tasks and Measures:

Maternal Trauma Measures:

- ***Childhood Trauma Questionnaire*** *(CTQ;* Bernstein & Fink, 1998). The CTQ has 28 items relevant to emotional, physical, and sexual abuse, and emotional and physical neglect, and includes a validity scale to detect trauma minimization. Adequate convergent and discriminant validity and test-retest reliability has been reported (Bernstein & Fink, 1988; Fink, Bernstein, Handelsman, Foote, & Lovejoy, 1995).
- ***History of Trauma and Maltreatment Interview*** *(HTMI;* Wolfe, 2001) The purpose of this interview was to assesses severity and course of maltreatment (sexual, physical, emotional abuse), neglect (physical and emotional neglect and lack of supervision), exposure to family violence, other childhood traumas, and adult traumas and stressors. This relatively new assessment of trauma was included in the present study as an adjunctive assessment to the CTQ.
- ***Modified Stroop Procedure*** *(MSP)* Some individuals who experienced significant trauma may deny their experiences and trauma symptoms due to conscious or unconscious defenses against emotionally laden re-experiencing symptoms (Carlson, Armstrong, & Loewenstein, 1997; Melchert & Parker, 1997). Therefore, because psychological defenses play a role in reports of trauma and symptoms, we decided to include a Modified Stroop Procedure (MSP) to detect emotional reactivity to trauma-related words (Cassiday, McNally, & Zeitlin, 1992; Foa, Feske, Murdock, Kozak, & McCarthy, 1991). The MSP is a colour-naming, computerized task that assesses emotional reactivity to positive, neutral, and trauma-related words. Trauma-related interference is assessed through relative latency in response to trauma-related words. Strong MSP responses and minimal reports of trauma suggests trauma under reporting, which highlights cases for potential exclusion from particular analyses. Otherwise, the MSP provided an additional measure of trauma symptom severity. The MSP took approximately 10 minutes for mothers to complete

Trauma-Related Symptomatology:

- ***Trauma Symptom Inventory*** *(TSI*; Briere,1995). This 100-item test yields three validity and ten clinical scales that reflect both acute stress symptoms and PTSD. Adequate internal consistency and criterion and construct validity have been reported (Briere, 1995). The validity scales will be used to identify cases of over- or under-reporting of trauma symptoms (with deletion of invalid cases from the data set, as appropriate).
- ***The Inventory of Altered Self-Capacities*** *(IASC;* Briere, 2000). This 63-item questionnaire assesses constructs linked with chronic interpersonal childhood trauma (difficulties in relatedness, self-identity, and affect-regulation). Briere (2000) reported satisfactory reliability and construct, convergent, and discriminant validity.

Other Maternal-Report Variables:

- ***Parenting Stress Index*** *(PSI;*Abidin, 1983). The Parenting Stress Index assesses the degree of stress experienced by a parent in the context of the parent childhood relationship. This 120-item measure yields three dependent scores: Parent Stress, Child Stress, and Life Stress. Internal consistency reliability coefficients for domain and total scores range from .85 to .95 (Abidin, 1983). Several studies have demonstrated discriminant validity (Abidin, 1990).
- ***Social Support Questionnaire (****SSQ;*Sarason, Levine, Basham, & Sarason, 1983). For each of 27 questions, respondents list up to nine social supports. A sample item is, "Whom can you really count on to listen to you when you need to talk?" Respondents then rate satisfaction with the support received from each person listed. Mothers will answer the questionnaire concerning their current situation, and again retrospectively regarding their childhood. The dependent variables Network Size and Satisfaction

each show high internally consistency (alphas = .97 and .94, respectively) and interrater stability (6 weeks; r = .90 and .85, respectively).

Maternal Emotional Awareness/Socialization:

- ***IFEEL Picture Task*** (Emde, Osofsky, & Butterfield, 1993). Mothers in this study completed the IFEEL Picture Task during the first visit. In this task mothers were asked label the emotions represented on 30 pictures of infants, each depicting emotion-related facial expressions. Responses were placed into one of 12 different emotion categories (and an Other category) using an emotion lexicon provided by the authors. Adequate test-retest reliability (Appelbaum, Butterfield, & Culp, 1993) and good discriminant validity (Emde et al., 1993) have been reported for this measure.
- ***Picture Book Task.*** At the beginning of the second visit, mothers and their children were given a copy of a "picture book" containing eight pictures from the IFEEL task. They were left alone in the room for three minutes with the general instructions that they may look at the book "like they would look at a book at home." This procedure has been used by Zahn-Waxler, Ridgeway, Denham, Usher and Cole (1993) and others. The Scale of Maternal Affective Language (SMAL) and the Scale of Child Affective Language (SCAL) (Knopp, DeOliveira & Bailey, 2004) were constructed for the purpose of the present study. Both the SMAL and SCAL are Guttman-type five-point scales, anchored in concrete behavioural descriptions, ranging from 1- avoidance of emotion language to 5 – highest level of emotion socialization (mother) or elaborate and active participation in emotion task (child). Twelve videotapes were randomly selected coded by two independent raters for interrater reliability. Pearson correlation coefficients of .83 for the SMAL scale and .90 for the SCAL scale indicated sufficient levels of interrater reliability.

Child Emotional Development and Affect Regulation.

- ***Affect Task*** (Steele, Steele & Fonagy, 1994). Following the Picture Book Task, the experimenter returned to the room and the mother left. The child and the experimenter than engaged in the Affect Task. This test involves pictorial and story vignettes of a child engaged in social interactions with friends or family members. Children identify the child characters' emotions and explain the reasons for those emotions. Dependent variables include the Range of Emotions, Accuracy of Emotion to Context, and Resolution of Difficult Emotions. Steele, Steele, Croft, and Fonagy (1999) demonstrated construct validity for this measure.
- ***Frustration Task.*** Following the Affect Task, the examiner asked the child to complete a puzzle that was too difficult for his or her age (the WISC-III "soccer ball" puzzle), with the promise of prize based upon performance. During this two-minute task, the examiner sat close by but did not offer her assistance. At the end of the two minutes, the children were gently informed that the puzzle was too difficult for children their age and they were praised for their "hard work". The children were then able to choose a small prize from a toy chest as a reward. Essentially, the emotion regulatory goal of this task was *persistence* in the face of frustration. The Frustration Task and the Delay of Gratification Task were both coded using the *Preschool Emotion Regulation Coding Scheme (PERCS;* DeOliveira, Geadah, & Wolfe, 2004) that was constructed for the current study. The details of this coding system are outlined below.
- ***Peabody Picture Vocabulary Task*** *(PPVT;* Dunn & Dunn, 1997). Following the Frustration Task, the children completed a 20-minute receptive vocabulary task with the examiner, the Peabody Picture Vocabulary Task (PPVT; Dunn & Dunn, 1997) as part of the laboratory assessment. In this task, children are asked to point to one of four pictures that best represent a particular vocabulary word read by the examiner. This assessment is often used as a quick and valid assessment of receptive vocabulary and estimate for general verbal intelligence and has been shown to have sound psychometric properties (Dunn & Dunn, 1997). In the current study, this measure was included to covary out individual differences in emotion language or regulation due to the child's verbal/cognitive ability.
- ***Delay of Gratification Task.*** The Delay of Gratification Task followed the PPVT. For this task, the examiner demonstrated to the child how to use two very interesting toys, a remote-controlled robot and an electric guitar. After the demonstration, the examiner told the child that the toys belonged to another

child in the building and stated that she was going to leave the room and ask for permission to play with the toys. The examiner instructed the participating child to stay in the room and to not touch the toys until she returned. The child was then left alone in the room for three minutes with the attractive but unattainable toys, while the examiner and the parent observed through the one-way mirror. After three minutes the examiner returned and gave the child permission to play with the toys. This task was also coded using the PERCS.

- ***Preschool Emotion Regulation Coding Scheme*** (*PERCS*; DeOliveira, Geadah, & Wolfe, 2004). Specific behaviours were coded in five-second intervals over the Frustration and Delay of Gratification Tasks. The behaviour categories were not mutually exclusive (i.e. more than one behaviour could occur in each episode), but were designed to be exhaustive. Descriptions of the behavioural codes used in coding the Frustration Task included: Asking for Help, Passive Waiting, Behavioral Distraction, Cognitive Distraction, Looking at the Examiner and uttering Neutral Statements, Negative Statements or Other (off task) Statements, and Working on the Puzzle. Eight specific child emotion regulatory behaviours were coded in the Delay of Gratification Task, again with a focus on behavioural, cognitive, and emotional strategies. The specific codes relevant to this task were: Focussing on Situational Demands, Passive Waiting, Behavioural Distraction, Cognitive Distraction, Focussing on the Toy, Touching the Toy, Complete Avoidance and Emotion/Tension Regulation. A total of 20% of the videotapes were randomly selected and coded for inter-rater reliability, where a Kappa of at least .50 was the minimum. For the Frustration Task, Fair reliability (kappa=.52) was demonstrated for Working on the Puzzle (WP), while good agreement was shown for Asking for Help (AH; kappa= .64), Looking at the Examiner (LA; kappa= .68) and Neutral Statement (NS; kappa = .62), and Negative Statement (NE; kappa= .71). The remaining codes – Behavioural Distraction (BD), Complete Avoidance (CA), Other Statements (OT), and Passive Waiting (PW) – were observed so infrequently during the Frustration Task that interrater reliability calculations were not possible. Thus, these codes were removed from further analyses. Good interrater reliability was also achieved for the Delay of Gratification Task. Based on the Kappa statistic, fair reliability (kappa =.55) was demonstrated for Passive Waiting (PW), while good agreement was shown for Behavioral Distraction (BD; kappa= .69), Cognitive Distraction (CD; kappa= .74), Emotion/Tension regulation (ET; kappa= .66), and Focusing on the Toy(FT; kappa= .73). Excellent inter-rater reliability was exhibited for Complete Avoidance (CA; kappa= 1.0), Situational Demands (SD; kappa = .83), and Touching or Playing with the Toy (TP; kappa = .93). As CA and ET occurred very infrequently, and the reliability scores were based only very few observations, this codes were removed from further analyses

Maternal Emotional Availability

- ***Parent-Child Interaction Task.*** Shortly after the Delay of Gratification Task, the mother returned to the observation room to participate in the Parent Child Interaction Task. She was instructed to play with her child for a brief period (5 minutes) and, upon hearing a knock on the window of the observation room, to ask her child to help her clean up the toys. These instructions were similar to those used in the validation of the Emotional Availability Scales (Biringen et al., 2000). Subsequent to the "clean-up" period, the examiner returned to the observation room with a snack for the mother and child, and they were observed for an additional 3 minutes during this "snack time".
- ***Emotional Availability Scales*** **(**Biringen et al., 2000**)**. The Emotional Availability Scales 3rd Edition (Biringen et al. 2000) is an observational coding system designed to assess emotional availability and appropriateness of emotional behaviors in parent-child dyads. Specifically, The EA scales assess parental emotional availability through four dependent variables: (a) sensitivity (i.e., responsiveness to the child's emotional cues); (b) structuring (i.e., scaffolding according to the abilities and interests of the child); (c) non-intrusiveness (i.e., being an available parent without intruding on the child's autonomy); and (d) non-hostility (i.e., speaking and acting towards the child in ways that are not abrasive, impatient, or antagonistic). Rating scales are continuous (using the Likert method) but the scale points are all anchored in concrete descriptions of behaviors. In the current study, 20 dyads were randomly selected and coded for inter-rater reliability by two independent observers. The reliability correlations of the EA Scales were: r = .73, p<.01 for sensitivity, r = .60, p<.01 for structuring, r = .81, p<.01 for non-intrusiveness, and r = .71,

$p<.01$ for non-hostility. On closer examination of the structuring scale, it became evident that a generally restricted range of scale points contributed to the lower than anticipated interrater reliability. This variable was excluded from further analyses and the variables of sensitivity, non-intrusiveness, and non-hostility were retained.

Preliminary Results

Note: At the time of this summary we have analyzed the associations between maternal trauma and trauma symptomatology and emotional awareness and availability and child emotion regulation. Other tasks and measures (e.g. Picture Book Task, Affect Task, Modified Stroop Procedure) are currently in the process of being coded and analyzed. The preliminary findings are presented below.

Trauma and Emotional Awareness and Availability

Correlational analyses revealed that mothers with a history of emotional abuse and physical neglect and recent life stress were more *hostile* in interactions with their children during the Parent-Child Interaction Task. When entered into a hierarchical multiple regression, together these variables accounted for 11% of the variance in hostility after controlling for demographic variables, $R=3.27$, $p<.05$.

With respect to the IFEEL Picture Task, mothers with a history of emotional abuse, physical abuse, and life stress were also more likely to attribute *Caution* to the IFEEL pictures. These variables together accounted for 18% of the variance in Caution, $R=.42$, $p<.001$. The Caution category included emotion labels such as careful, doubting, hesitant, inhibited, shy, tentative, unsure, vulnerable and watchful.

We were also interested in the question of whether mothers with multiple forms of childhood trauma (in moderate-severe range on >2 scales on the CTQ) were more likely to have difficulties with emotional availability than mothers with more "simple" trauma (in moderate-severe range on 1-2 scales on the CTQ) and mothers with no trauma. To address this question, emotional availability scales (sensitivity, structuring, intrusiveness, and hostility) were entered into a multivariate analysis of variance as dependent variables with complexity of trauma as the between groups variable. After covarying out demographic variables, the multivariate effect was significant according to Pillais statistic, $p<.05$. There were significant univariate effects for non-intrusiveness and non-hostility (ps of $<.05$ and $<.01$, respectively). Posthoc comparisons revealed that mothers with a history of complex trauma were more intrusive and more hostile than mothers with a history of simple trauma. Interestingly, despite the fact that mothers with a history of sexual abuse were not coded as being any less emotionally available, these mothers tended to report lower levels of perceived parenting competence on the PSI.

Trauma symptoms and Emotional Awareness/availability

We found a different pattern in investigating the links between trauma symptoms (on the TSI) and emotional awareness and availability. Mothers who reported more symptoms on the TSI attributed more *Distress* to the IFEEL pictures. The *Distress* category included emotions such as: pain, pleading, screaming, struggling, upset, whimpering, anguish and hysterical. The majority of the variance in the association between trauma symptoms and the Distress category was accounted for maternal *Depression* on the TSI (accounting for 14% of the variance after controlling for demographic variables, $R=.38$, $p<.001$).

There was no significant linear relationship between depression and maternal behaviour. However, earlier work by Lyons-Ruth (Lyons-Ruth et. al., 1986) provided some evidence suggesting a non-linear relationship between maternal reports of depression and parenting. Based on this research, maternal depression data in the current study was split into three categories: low (lowest third), moderate (middle third) and high (highest third). Through a one-way analysis of variance we found that mothers in the high depression group were significantly less sensitive and less structuring during the Parent-Child Interaction Task than mothers in the moderate range (post hoc ps $<.01$). Interestingly, mothers who reported low levels of depression were also less sensitive than mothers in the moderate range, paralleling past findings.

Emotional Availability and Child Emotion Regulation

After controlling for demographic variables and child PPVT scores, maternal non-intrusiveness during

the Parent-Child Interaction Task predicted child emotion regulatory behaviours during the Frustration Task. Specifically, maternal non-intrusiveness predicted children's Asking for Help (AH) and making Neutral Statements (NS), $F(1,77)=7.15$, $p<.01$ and $F(1,77)=5.45$, $p<.05$, respectively. That is, children who frequently asked for help or made neutral statements during the Frustration task had mothers who were rated as being more intrusive during parent-child interactions. Accordingly, maternal non-intrusiveness also predicted the amount of time that children spent Working on the Puzzle (WP), $F(1,77)=6.0$, $p<.05$. In short, children of less intrusive mothers spent more time working on the puzzle and less time asking for help or making other neutral comments about the task.

None of the maternal emotional availability variables were significant predictors of child emotion regulatory behaviours during the Delay of Gratification Task. Several emotion regulatory behaviours were predicted by the demographic variables, however. Child age and status as a single mother significantly predicted the use of the cognitive distraction strategy, together accounting for 30% of the variance in CD, $F(2, 77) = 16.72$, $p<.001$. These variables also significantly predicted child Passive Waiting during the task, $F(2, 77) = 5.03$, $p<.01$. In sum, younger children and children of single mothers were less likely to use the cognitive distraction strategy and more likely to wait passively during the delay period. Focussing on the toy (FP) was significantly predicted by maternal age, $F(1,77) = 5.70$, $p<.05$. Younger mothers had children who were more likely to focus on the toy during the delay period.

Trauma and Child Emotional Regulation.

Stepwise hierarchical regression analyses were performed to determine if any maternal child abuse experiences were significant predictors of child emotion regulatory behaviours. Demographic variables were entered first in the analyses, followed by the different types of abuse. Results indicated that, after controlling for demographic variables, emotional abuse experiences significantly predicted child looking at the examiner during the Frustration Task, $R=.37$, $p<01$. Similarly, child physical abuse predicted making other statements, and not working on the puzzle ($R=.26$, $p<.05$ and $R=.25$, $p<.05$). In sum, both emotional abuse experiences and physical abuse experiences were associated with less adaptive emotion regulatory behaviours during the Frustration Task. There were no associations between child abuse experiences and emotion regulatory behaviours during the Delay of Gratification Task. Maternal trauma symptoms were not related to emotion regulatory behaviours in either task.

Summary and Clinical Implications

The preliminary results suggest that mothers who grew up in an abusive environment, particularly when they were subject to emotional abuse and neglect, were vulnerable to having difficulties socializing emotion in their own children. Mothers who were raised in an emotionally impoverished environment may lack the skills to socialize their own children's emotions as they lacked these essential caregiving experiences themselves. These mothers may be more vulnerable to becoming dysregulated when faced with experiences of stress or trauma. In the current study mothers with a history of physical and emotion abuse appeared to react to ambiguous emotions by projecting their own vulnerabilities, as evidenced their attribution of caution to the IFEEL pictures stimuli. Abused mothers responded to their own children with greater hostility. Interventions with these mothers may focus on direct parental guidance around increasing emotional awareness and sensitivity.

Mothers who reported significant symptoms of distress, particularly depression, saw more distress in the IFEEL pictures. Again, one might assume that the IFEEL pictures were serving as a projective stimulus. Mothers who reported high levels of depression also behaved less sensitively in interactions with their own children. These mothers may have more difficulty tolerating negative affect in their children and experience the displays more intensely, interfering with their capacity for sensitivity. Such mothers may benefit from an intervention aimed at helping to distinguish between their own states and experiences and those of their children and developing empathy toward their children's individual experiences.

Interestingly, while abuse experiences were associated with child emotion regulatory behaviours in the Frustration Task, trauma symptoms were not. Maternal trauma symptoms may have an impact on child emotion regulation in a way that was not picked up by our paradigms. Difficulties in emotion regulation in

naturalistic relationship contexts, such as peer or family relationships, may be important to consider in future research. In the current study we are in the process of coding maternal and child affective language in the Picture Book Task and children's emotional representations in the Affect Task. When coded, these variables may provide us with additional insight into the impact of maternal abuse history and related symptomatology on child emotional development.

What is apparent in these preliminarily results is that mothers with severe and complex trauma histories, coupled with high symptoms of distress, will be at very high risk for having difficulties responding to their children's emotions, both at an automatic/unconscious level and at a behavioural level. These vulnerable mother-infant dyads would be important targets for early identification and intervention efforts aimed at enhancing the quality of the mother-child relationship.

References

Abidin (1983). *Parenting Stress Index.* Charlottesville, VA: Pediatric Psychology Press

Abidin (1990). *Parenting Stress Index Manual (3rd ed.).* Charlottesville, VA: Pediatric Psychology Press.

Applebaum, M., Butterfield, P., & Culp, R. (1993). Operating characteristics and psychometric properties of the IFEEL Pictures. (pp. 97-130). In R. Emde & J. Osofsky (Eds). *The IFEEL Pictures: A new instrument for interpreting emotions.* Madison, CT: International Universities Press.

Banyard, V. L., Williams, L. M., & Siegel, J. A. (2003). The impact of complex trauma and depression on parenting: An exploration of mediating risk and protective factors. *Child Maltreatment, 8*(4), 334-349.

Bernstein, D. P., & Fink, L. (1998). *Childhood trauma questionnaire: A retrospective self-report*. San Antonio: The psychological corporation.

Biringen, Z, Robinson, J., & Emde, R. N. (1998). *The Emotional Availability Scales (3rd Ed).* Unpublished manual, Colorado State University.

Briere, J. (1992). *Child abuse trauma: Theory and treatment of the lasting effects*. Thousand Oaks, CA: Sage.

Briere, J. (1995). *Trauma Symptom Inventory (TSI).* Odessa, FL: Psychological Assessment Resources.

Briere, J. (2000). *Inventory of altered self-capacities (IASC) professional manual.* Odessa, FL: Psychological Assessment Resources.

Carlson, Armstrong, & Loewenstein (1997). Reported amnesia for childhood abuse and other traumatic events in psychiatric inpatients (pp. 395-401). In J. D. Read and D. S. Lindsey (Eds). *Recollections of trauma: Scientific evidence and clinical practice.* New York, NY.

Cassiday, McNally, & Zeitlin (1992). Cognitive processing of trauma cues in rape victims with post traumatic stress disorder. *Cognitive Therapy and Research, 16*(3), 283-295.

DeOliveira, C.A., Geadah, V., & Wolfe, V. V. (2004). *Preschool Emotion Regulation Coding Scheme (PERCS).* Unpublished coding manual.

DiLillo, D., & Damashek, A. (2003). Parenting characteristics of women reporting a history of childhood sexual abuse. *Child Maltreatment, 8*(4), 319-333.

Douglas, A. R. (2000). Reported anxieties concerning intimate parenting in women sexually abused as children. *Child Abuse and Neglect, 24*(3), 425-434.

Dunn, L. M., & Dunn, L. M. (1997). *Peabody Picture Vocabulary Test – Third Edition.* Minnesota: American Guidance Service.

Emde, R. N., Osofsky, J. D., & Butterfield, P. M. (1993). *The IFEEL Pictures: A new instrument for interpreting emotions.* Connecticut: International Universities Press.

Foa, Feske, Murdock, Kozak, & McCarthy (1991). Processing of threat-related information in rape victims. *Journal of Abnormal Psychology, 100*(2), 156-162.

Fonagy, P., Leith, T., Steele, M., Steele, H., Kennedy, R., Mattoon, G., Target, M., Gerber, A. (1996). The relation of attachment status, psychiatric classification, and response to psychotherapy. *Journal of Consulting and Clinical Psychology, 64*(1), 22-31.

George, C., & Solomon, J. (1999). Attachment and caregiving: The caregiving behavioral system. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: theory, research, and clinical applications*

(pp. 649-670). New York: Guilford.

Harmer, A. L. M., Sanderson, J., & Mertin, P. (1999). Influence of negative childhood experiences on psychological functioning, social support, and parenting for mothers recovering from addiction. *Child Abuse & Neglect, 23*(5), 421-433.

Knopp, R., DeOliveira, C. A., & Bailey, H. N. (2004). *Scale of Maternal Affective Language (SMAL) and the Scale of Child Affective Language (SCAL).* Unpublished coding manual.

Lewis, M., & Michalson, L. (1983). *Children's emotions and moods: Developmental theory and measurement*. New York: Plenum Press.

Lyons-Ruth, K., & Block, D. (1996). The disturbed caregiving system: Relations among childhood trauma, maternal caregiving, and infant affect and attachment. *Infant Mental Health Journal, 17*(3), 257-265.

Lyons-Ruth, K., Bronfman, E., & Atwood, G. (1999). A relational diathesis model of hostile-helpless states of mind: Expressions in mother-infant interaction. In C. George & J. Solomon (Eds.), *Attachment Disorganization* (pp. 33-70). New York: Guilford.

Main, M., & Hesse, E. (1990). Parents' unresolved traumatic experiences are related to infant disorganized attachment status: Is frightened and/or frightening parental behaviour the linking mechanism? In M. T. Greenberg, D. Cicchetti, & E. M. Cummings (Eds.), *Attachment in the Preschool Years: Theory, Research, and Intervention* (pp. 161-182). Chicago: University of Chicago.

Melchert, T.P., & Parker, R. L. (1997). Different forms of childhood abuse and memory. *Child Abuse and Neglect, 21*(2), 125-135.

Narang, D. S., & Contreras, J. M. (2000). Dissociation as a mediator between child abuse history and adult abuse potential. *Child Abuse and Neglect, 24*(5), 653-665.

Neumann, D. A., Houskamp, B. M., Pollock, V. E., & Briere, J. (1996). The long-term sequelae of childhood sexual abuse in women: A meta-analytic review. Child Maltreatment: *Journal of the American Professional Society on the Abuse of Children*, 1, 6-16.

Pollak, S., Cicchetti, D., & Klorman, R. (1998). Stress, memory, and emotion: Developmental considerations from the study of child maltreatment. *Development and Psychopathology,10*(4),: 811-828.

Resnick, H., Kilpatrick, D., Dansky, B., Saunders, B., & Best, C. (1993). Prevalence of civilian trauma and posttraumatic stress disorder in a representative national sample of women. *Journal of Consulting and Clinical Psychology, 61*, 984-991.

Ridgeway, D., & Zahn-Waxler, C. (1986), *Parent-Child Communication Task Coding Manual.* Typescript.

Ruscio, A. M. (2001). Predicting the child-rearing practices of mothers sexually abused in childhood. *Child Abuse and Neglect, 25*, 369-387.

Sarason, I. G., Levine, H. M., Basham, R. B., Sarason, B. R. (1983). Assessing social support: The Social Support Questionnaire. *Journal of Personality and Social Psychology, 44*, 127-139.

Steele, H., Steele, M., Croft, C., & Fonagy, P. (1999). Infant-mother attachment at one year predicts children's understanding of mixed emotions at six years. *Social Development, 8*(2), 161-178.

Steele, M., Steele, H., & Fonagy, P. (1994). *Affect Task.* Unpublished manuscript, University College London & the Anna Freud Centre.

Wolfe, V. V. (2001). *History of Trauma and Maltreatment Interview (HTMI).* Unpublished interview.

Zahn-Waxler, C., Ridgeway, D., Denham, S., Usher, B., & Cole, P. (1993). Pictures of infants' emotions: A task for assessing mothers' and young children's verbal communications about affect. In R. N. Emde, J. D. Osofsky, P. M. Butterfield, *The IFEEL Pictures: A new instrument for interpreting emotions.* (pp. 217-236), Madison: International Universities Press.

Zanarini, M. C., Williams, B. S., Lewis, R. E., Reich, R. B., Vera, S. C., Marino, M. F., Levin, A., Yong, L., & Frankenburg, F. R. (1997). Reported pathological childhood experiences associated with the development of borderline personality disorder. American Journal of Psychiatry, 154, 1101-1106