

Parental Reflective Functioning as a Moderator of Child Internalizing Difficulties in the Context of Child Sexual Abuse.

Ensink, Karin<sup>a</sup>, Bégin, Michaël<sup>a</sup>, Normandin, Lina<sup>a</sup> & Fonagy, Peter<sup>b</sup>

<sup>a</sup>Université Laval

École de psychologie

2325 rue des Bibliothèques

Québec (QC), Canada G1V 0A6

<sup>b</sup>University College London

Psychoanalysis Unit

Research Department of Clinical, Educational and Health Psychology

Gower Street

London, UK WC1E 6BT

Corresponding author:

Karin Ensink, PhD

Karin.Ensink@psy.ulaval.ca

## **Abstract**

The objective was to examine pathways from child sexual abuse (CSA) and maternal mentalizing to child internalizing and externalizing difficulties and to test a model of MRF as a moderator of the relationships between CSA and child difficulties. The sample was comprised of 154 mothers and children aged 2–12 where 64 children had experienced CSA. To assess parental mentalizing the Parental Development Interview was rated with the Parental Reflective Functioning Scale. Child internalizing and externalizing difficulties were assessed with the Child Behavior Checklist (CBCL). Results indicate that there were significant inverse relationships between maternal mentalizing and child internalizing and externalizing difficulties. When maternal mentalizing was considered simultaneously with CSA, only maternal mentalizing was a significant predictor of child difficulties. Furthermore, maternal mentalizing moderated the relationship between CSA and child internalizing difficulties. These findings provide evidence of the importance of the parents' mentalizing stance for psychiatric symptoms of children aged 2–12, as well as children's recovery from CSA. The clinical implications of the findings are discussed.

**Keywords:** maternal reflective functioning, mentalizing, child sexual abuse, internalizing difficulties, externalizing difficulties

## **Parental Reflective Functioning as a moderator of child internalizing difficulties in the context of child sexual abuse.**

### **1. Introduction**

Sexual abuse affects a sizable minority of children and a recent meta-analysis indicates that on average, 20% of girls and 8% of boys experience sexual abuse (Pereda et al., 2009b) although rates vary depending on country and context (0-60% of girls and 0-50% of boys; Pereda, et al., 2009a). Child sexual abuse (CSA) is associated with a range of short term and long term physical and mental health problems (Briere and Elliot, 2003; Hébert and Collin-Vézina, 2013; Mathews et al., 2013; Pollio et al., 2011; Sadowski et al., 2003). Up to 60% of sexually abused children develop moderate to severe symptoms of psychopathology (Maniglio, 2009; Putnam, 2003) and over one third of sexually abused children manifest clinically significant internalizing difficulties and 46-47% develop externalizing difficulties (Beaudoin, Hébert et al., 2013; Mathews et al., 2013; McCrae et al., 2006; Paolucci et al., 2001). Furthermore, findings from a recent study indicate that sexually abused children showed significantly more internalizing and externalizing difficulties than children exposed to other forms of abuse (Lewis et al., 2016).

The increased risk of health and mental health problems can be understood in part by the fact that sexual abuse undermines the development of positive sense of self and trust in others (Hébert et al., 2016) and disrupts the development of emotional regulation through dysregulation of the HPA axis (Kuhlman et al., 2015). It is thus a priority to identify potential resilience processes and consider how they can be supported and enhanced. Parenting may be particularly important to modulate the impact of child sexual abuse (CSA).

There is renewed interest in parenting, with evidence showing that parenting influences epigenetic regulation well into adulthood (Naumova et al., 2016) and modulates environmental

and genetic risk underlying inter-generational transmission of patterns of trauma and aggression (Fonagy, 2004, Berthelot et al., 2015). There is also accumulating evidence regarding the importance of mentalization in parenting (Slade et al., 2005; Suchman et al., 2010) for infant attachment (Ensink et al., 2016; Slade et al., 2005) and the development of emotion regulation (Rutherford et al., 2015). Mentalizing refers to a type of mental activity involved in imagining the minds of others and the underlying intentions and reasons for their behaviours, as well as an awareness of the impact of our feelings and behaviours on others in the course of everyday interactions in close (attachment) relationships (Fonagy and Target, 1997). In the context of trauma, mentalizing is considered to be an important resilience factor for parents (Berthelot, Ensink et al., 2015), adults (Allen, 2013; Ensink et al., 2014), children (Ensink et al., 2016) and adolescents (Taubner and Curth, 2013). Mentalizing is arguably most important when taking care of infants and children, especially in the context of trauma. Given that infants and young children are unable to articulate their feelings and distress, they depend on the parent's interest in their subjective experience, and parent's capacity to make their behaviour meaningful by interpreting it in terms of underlying mental states. In the context of child sexual abuse, the parent's mentalizing stance and capacity to notice and respond to the child's distress and see beyond difficult behaviours to the child's subjective experience, and capacity to understand that they have to protect the child from their own distress and anger can be expected to facilitate recovery and contribute to regulation of self and affect.

Reflective functioning is considered to promote sensitive parenting by helping the parent look beyond the child's behaviours and focus instead on the feelings, mental states and motivations that may be communicated through these behaviours. This is theorized to be at the root of sensitive responding and to help the child in turn develop a sense that their reactions can be understood. Consistent with this, there is evidence that the parent's reflective functioning

about their past attachment relationships as well as their children, underlies sensitivity in interaction with infants and is associated with fewer negative parental behaviours (Ensink et al., 2016; Slade et al., 2005; Grienenberger et al., 2010). A number of studies have shown that there is an association between maternal reflective functioning and infant attachment, and there is evidence that low parental RF increases the risk of infant attachment insecurity and infant attachment disorganization (Ensink et al., 2016; Slade et al., 2005). Low mentalizing by parents measured using Meins's closely related construct of mothers' mind-mindedness comments in interaction with infants, has been shown to increase the risk of later conduct disorder and oppositional defiant disorder when the children were aged 10 in a longitudinal study (Centifanti et al., 2016; Meins et al., 2013). In addition, parental RF has been shown to be associated with attachment in school aged children (Borelli et al., 2016), as well as RF (Ensink et al., 2014), and in turn children with higher RF tended to manifest less depressive symptoms (Ensink et al., 2016a). Despite this preliminary data regarding the implications of parental RF beyond infancy little is known regarding the implications of maternal reflective functioning for psychiatric symptoms of toddlers and older children, especially in the context of trauma. Consequent to trauma, the parents' mentalizing stance and capacity to consider the child's subjective experience and respond to the child's psychological and attachment needs can be hypothesized to be crucial for the child to regain a sense of security and trust, to attenuate the biological stress response, and to reduce the negative impact of abuse. A better understanding regarding the relationship between parental RF and psychiatric symptomatology and adaptation consequent to trauma has potentially vital implications for informing mentalization-based interventions for parents.

The aim of this study was to investigate the relationships between CSA, maternal mentalizing (measured as RF) and child internalizing and externalizing difficulties and to

examine whether maternal mentalizing would act as moderator. With regard to the research hypotheses it was expected that: 1) CSA would be associated with child internalizing and externalizing difficulties, 2) that higher maternal mentalizing would be negatively associated with child internalizing and externalizing difficulties, 3) that the mother's mentalizing would moderate the relationship between SA and child psycho-social difficulties so that children who have experienced SA, but have mothers with good mentalizing abilities will manifest less psychiatric symptomatology than those who have experienced CSA, but where the mother's mentalizing capacities are more limited. While we expected that maternal mentalizing will be important for the psychological adaptation of children in general, we also expect that maternal mentalizing will be particularly important to help children reestablish affect – and behavior regulation after experiences of sexual abuse.

## **2. Method**

### **2.1. Participants**

In total, 154 mother-child dyads participated in this study that was conducted at the university LAVAL psychology clinic in a medium-size French Canadian city. The sample was constituted of a group of 64 dyads (43 girls and 21 boys) where the child had experienced sexual abuse (CSA) and a comparison group (C) of 90 dyads (51 girls and 39 boys) without CSA. The children were aged 2–12 and 98% were Caucasian, reflecting the low ethnic diversity in the region where the study was conducted. Sexually abused children and their mothers were referred to the university psychology clinic by doctors, social services, or mental health practitioners at community health services, hospitals and child protection services in the city and surrounding regions. At the time of the research there were no other specialized psychological services for sexually abused children and the child and adolescent unit at the university clinic was known for providing specialized psychological assessment and intervention for sexually abused children and

their parents. CSA was reported to child protection services in all cases. Information regarding the sexual abuse and relationship with the perpetrator was based on reports from police, doctors and social services reports, as well as a semi-structured interview with the caregiver of the child. In total 98% of CSA involved genital contact. In terms of frequency of abuse, 20 reported 1-3 episodes of CSA, 12 reported 1-3 episodes per year over several years, 3 reported 1-3 episodes a month and 7 reported a number of episodes a week, while for 22 younger children the exact number of episodes could not be determined. Further information is summarized in Table 1. The children with CSA in this study remained within their families as there were at least one family member who was considered able to provide adequate care and protection.

The age range of the CSA group was 35 to 143 months with a mean age of 74 months ( $SD = 27.6$ ). The majority of perpetrators were related to their victims and were members of immediate family including biological fathers (14), step-fathers (6), grandfathers (6) and siblings (8). This was considered as intrafamilial sexual abuse. Other perpetrators were members of the extended family including uncles and cousins (11), someone known to the child (18) or a stranger (1). This was considered as extrafamilial abuse. Thirty-six percent of the families of the CSA group had an annual family income below Can\$15,000, 33% had an annual income ranging from Can\$15,001 to Can\$35,000, 25% ranged from Can\$35,001 to Can\$60,000 and the remaining 6% earned more than Can\$60,000 per year. The average number of years of education for mothers in the CSA group was 13.7 ( $SD = 3.2$ , range, range = 6 - 21) and in terms of family composition, 31 (50%) were single mothers.

The comparison group was recruited at community and health services, as well as schools through pamphlets soliciting participation in a study on the impact of CSA as part of a non-abused comparison group. The age range of the comparison group was 29 to 144 months with a

mean age 86 months ( $SD = 34.1$ ). Thirty-three percent of the families of this group reported an annual income of CAD\$ 25,000. Mothers in the control group had on average 15.7 years of education ( $SD = 3.8$ , range = 6 - 24) and 20 were single mothers. The comparison group was selected to broadly match the characteristics in terms of sociodemographics, age (within six months), and gender of the abused group (see Table 1). This procedure proved to be effective for child age, but there were significant between-group differences in terms of maternal and paternal education and family income. Because these variables correlated strongly with each other, only maternal education was used as a control variable in further analyses as it was the most strongly associated with the outcome variables.

The data reported in this article were collected as part of a larger longitudinal study of risk and protective factors influencing child psychological adjustment and development of mentalizing in the context of CSA. All assessments took place at the university clinic, where parents completed the Parent Development Interview and the Child Behavior Checklist, used to assess children internalizing and externalizing symptoms.

## **2.3. Measures**

**2.3.1. Maternal reflective functioning.** Maternal RF was measured using the Parent Development Interview-Revised (PDI-R: Slade et al., 2004) rated with the accompanying coding manual. The PDI-R is a 45-item semi-structured interview developed to assess parental mentalizing regarding themselves, the child, the parent – child relationship, and their relationship with their own parents. The mother is asked, for example: “Could you describe (name of the child)?”; “Can you give me an example of a time when he/she was distressed?”; “Describe a time when you became really angry with (name of child)?”; “What effect did this have on him/her?” Reliability estimates using the coding manual have been shown to be good, with ICCs ranging



from .78 to .95 (Slade et al., 2005). The interview takes approximately 1 hour to complete and is videotaped and then transcribed for coding purposes. Demand questions are coded using the manual, which provides illustrations of different types and levels of RF responses ranging from -1 (avoidance or active refusal to mentalize) to 9 (exceptionally rich, complete and sophisticated understanding of mental states in interaction) and where a 5 (clear and solid mental states understanding) is the mean observed in middle-class community samples. An overall RF score is assigned following the guidelines in the manual. All protocols were coded by two of the authors of the study, who had been trained to code parental RF. Protocols were allocated so that the same coder never coded both parent and child measures for any dyad. Inter-rater reliability was calculated on 20% of protocols and was satisfactory (ICCs ranged from .67 to .98 and reached .93 for the global PDI-R score).

**2.3.2. CBCL parent version:** The Child Behavior Checklist (CBCL-Parent report) is a 118-item questionnaire widely used to assess a broad range of internalizing and externalizing difficulties for 2–3 year olds and for 4–18 year olds (Achenbach, 1991). Each item is rated on a three-point Likert scale (0 = never, 1 = sometimes, 2 = often). The CBCL has been shown to have good psychometric properties (Achenbach and Rescorla, 2001). The raw scores were transformed into standardized T scores, with scores above 65 considered clinically significant (Achenbach, 1991). Test-retest has been shown to be good with a mean correlation of .85 between different measurement times. Internal consistency was evaluated with Cronbach alphas and was satisfactory in the present study ( $\alpha$  varied between .87 and .92).

## **2.4. Statistical analysis**

To examine the effect of the abuse-related characteristics and gender on child internalizing and externalizing symptoms preliminary *t* tests were used to compare children who have experienced intrafamilial and extrafamilial sexual abuse, as well as to examine whether

there were gender-related differences in child internalizing and externalizing symptoms. The relationships between CSA, maternal reflective functioning and child internalizing and externalizing symptoms were then examined using correlational analyses. Next pathway analyses were conducted using Mplus 7.4 software (Muthén and Muthén, 1998–2012) to evaluate the relative contributions of sexual abuse and maternal RF in predicting child internalizing and externalizing symptoms, but also to examine the moderating role of maternal RF in the context of CSA. To test the model fit, a number of fit indices were used, including chi-square, the ratio of chi-square to degrees of freedom, the *Comparative Fit Index* (CFI), the *Tucker-Lewis Index* (TLI), the *Root Mean Square Error of Approximation* (RMSEA) and the *Standardised Root Mean Square Residuals* (SRMR). The guidelines propose that a non-significant chi-square and a ratio  $\chi^2/df$  smaller than 3 (Ullman, 2001), a CFI and a TLI below .95 (Hoyle, 1995) and a RMSEA and a SRMR lower than .05 (Browne and Cudeck, 1992) are indicative of an excellent model fit. Furthermore, because there was an association between the mothers' level of education and their RF, and the externalizing and internalizing symptoms of children, level of maternal education was entered as a co-variable. This co-variable was used in the prediction of all the dependent variables. Finally, the analysis is tolerant of missing data that is treated using a method based on *Full Information Maximum Likelihood* (FIML).

### **3. Results**

#### **3.1. Preliminary analysis**

First, the results of preliminary *t* tests indicate that internalizing and externalizing symptoms did not differ significantly as a function of the relationship with the aggressor (intrafamilial CSA and extrafamilial CSA) or gender. To examine the links between CSA, MRF and internalizing and externalizing symptoms, correlational analyses were used. The results are presented in Table 2. All means and standard deviations of MRF and psychiatric symptomatology

of both CSA and control groups are presented in Table 3. In order to examine the relationship between CSA, MRF and internalizing and externalizing behavior difficulties, as well as maternal education, correlational analysis was used. This analysis made it possible to examine the feasibility of testing a pathways model by confirming the links between the different variables. The results indicate that CSA was associated with weaker MRF and lower maternal education, and more child internalizing and externalizing difficulties. In addition, weaker MRF was associated with more child internalizing and externalizing difficulties as well as lower maternal education. Furthermore, lower maternal education was also associated with more child internalizing and externalizing difficulties.

To further explore possible factors associated with MRF, we examined the percentage of the mothers who themselves had histories of CSA and whether there were differences in MRF related to the mothers' own CSA history. In total, 22.4% of the mothers of the control group and 62.3% of the mothers of the CSA group reported having themselves experienced CSA. The results of a *t* test showed that the mean MRF of mothers with CSA histories ( $M = 3.1, SD = 1.8$ ) was significantly lower than that of mothers without CSA histories ( $M = 3.8, SD = 1.5; t(136) = 2.53, p = .013$ ). The MRF of mothers of children in the comparison group ( $M = 3.8, SD = 1.5$ ) was also significantly higher than that of the CSA group ( $M = 2.9, SD = 1.6$ ). However, there were no differences in MRF between the intrafamilial CSA group ( $M = 2.8, SD = 1.6$ ) and the extrafamilial CSA group ( $M = 2.9, SD = 1.6; t(62) = 0.35, p = .730$ ).

### **3.2. Pathways analysis**

To evaluate the relative contributions of sexual abuse and MRF, as well as the potential interaction effect between sexual abuse and MRF, pathways analysis was used. The results indicate that the model proposed had an excellent fit with a non-significant chi-square test ( $\chi^2(1)$

= 0.875,  $p = .349$ ), a ratio  $\chi^2/df = .875$ , a CFI = 1.000, a TLI = 1.009, a RMSEA = .001 and a SRMR = .013. With regard to internalizing symptoms, two predictors were found to be significant, namely the interaction between CSA and MRF ( $\beta = .838, p < .05$ ) as well as MRF ( $\beta = -.269, p < .05$ ). The model explained 29.6% of the variance in internalizing symptoms. However, with regard to externalizing symptoms, only MRF emerged as a significant predictor ( $\beta = -.152, p < .05$ ), with the model explaining 25.8% of the variance in externalizing difficulties.

#### **4. Discussion**

The objectives of this study were to examine the links between child sexual abuse, MRF and internalizing and externalizing symptoms in 2-12 year old children using pathway analysis and to determine whether MRF would act as a moderator of the relationship between sexual abuse and child internalizing and externalizing difficulties. A key finding was that only MRF explained significant variance in child internalizing and externalizing difficulties when the contributions of both MRF and CSA were considered simultaneously in a pathways model. We expected that MRF would be a predictor of child psychiatric symptoms, but assumed that CSA would be an even more important predictor given the widely documented negative impact of abuse in terms of the activation of the fear system and dysregulation of the hypothalamic-pituitary-adrenal axis (Cicchetti et al., 2010). What we found was quite puzzling. Although CSA was associated with child internalizing and externalizing difficulties, the contribution of CSA was no longer significant when considered together with MRF, with MRF emerging as the main factor accounting for child psychiatric symptoms. This does not mean that CSA does not increase the risk of psychiatric symptomatology, far from that being the case. However we know from previous research that although CSA increase the risk of psychiatric symptomatology, not all children who experience CSA subsequently develop psychiatric symptoms. On reflection the centrality of MRF makes sense when we consider evidence that from birth onwards, MRF

influences key distal/early as well as proximal/concurrent parent child processes with implications for a range of child outcomes such as infant attachment (Ensink et al., 2016b; Slade et al., 2005; Rutherford et al., 2015), child attachment (Borelli et al., 2016) and child RF (Ensink et al., 2014). Higher MRF may have a cascading positive impact on dynamically interlacing developmental processes involving attachment, self organization, mentalization and self regulation, because MRF promotes interpersonal sensitivity, communication and holding the child in mind.

The link between MRF and externalizing difficulties in 2-12 year old children suggests that the mother's capacity to see the child's behavior as expressing emotional states that are understandable given the context, helps the child to regulate aggression and oppositional behavior. This adds to previous research showing that higher maternal mind-mindedness in interaction with infants was associated with less callous and unemotional traits 10 years later, through the impact of maternal mind-mindedness on child theory of mind (Centifanti et al., 2016). We consider that a combination of early distal processes like attachment and child theory of mind, as identified in the study by Centifanti et al., (2016), in interaction with proximal/concurrent parent child processes, underlie the findings that higher MRF is associated with less externalizing in children. The parent's capacity to understand the child's behavior as communication and respond sensitively and with marked mirroring when the child is distressed or frightened, are considered central for early self regulation and the early representation of affects, forming the precursors of mentalizing. Early self regulation and the emergence of mentalizing is thus facilitated by closely related parent child processes. This paves the way for the subsequent development of mentalizing as children learn about the minds of others through play and family discussions, but also about their own minds and emotions through interactions with parent who help them to elaborate an understanding of their own reactions and feelings.

With developing mentalizing abilities as well as self regulation, children may become less dependent on parents to help them regulate, but may still need help when confronted with complex situations, for example when they are confronted with the aggression of others or when they are overwhelmed by their own anger and distress. More proximally, when a mother responds to a child's oppositional and aggressive behavior by wondering what is troubling him/her, this is likely to communicate to the child that his/her reactions can be understood, and help them understand and articulate why they might be distressed or angry. In the process affects become mentalized and regulated through the interaction with cognitive and semantic processes. On the other hand if she responds as if his aggression and opposition is intentional provocation, and assumes that the child can simply control their behavior and resorts to threats and punishment this is likely to contribute further to the child's distress and dysregulation. Higher MRF may help mothers and children see aggression and opposition as a clumsy attempt to communicate that they are overwhelmed by difficult feelings and that they need help to express and make sense of these feelings. Higher MRF may also help parents to focus on the child and prioritize their need help with self regulation, and control the feelings that the child's aggression might evoke in her such as helplessness and withdrawal, or the desire to retaliate. Remaining available to help the child mentalize is likely particularly challenging when the mother is challenged to deal with her own distress about the abuse, especially when she has a history of CSA herself.

MRF was also associated with child internalizing difficulties for the group as a whole, but in addition, MRF moderated the relationship between CSA and child internalizing difficulties, indicating that MRF is particularly important as a resilience or protective factor in the context of trauma. This extends previous findings that MRF was associated with RF in school aged children (Ensink et al., 2014), and also that child RF was inversely related to child depression (Ensink et

al., 2017a). Higher MRF is likely associated with less distress, because the parent's benign interest in their minds promotes security and trust so that children can turn to attachment figures for help with mentalizing and regulating distress, and also because MRF is central in the early development of mentalization and its precursors. For sexually abused children the parent's mentalizing stance may be protective at a number of different levels. The trauma of abuse is likely to trigger the child's attachment system and need for protection, reassurance and support and the capacity of the parent to understand and respond empathically to their distress may be central for children to regain a sense of safety, and to re-establish self-regulation. For children who have been traumatized, failure by the parent to respond adequately to the child's distress may be particularly painful and increase distress and negative affect. CSA is known to elicit a range of negative feelings including confusion, fear, rage, guilt, shame and self-hatred that children are unlikely to understand and integrate such feelings without help from adults. Mothers with higher MRF may be more likely to notice and respond in a sensitive way to children's emotions and distress, and help children who have been traumatized to feel safe and understood, and overcome negative feelings about themselves. Marked contingent responding to the child's emotional response may be critical in supporting the regulation of affect through the creation of second order representations of constitutional self-states (Fonagy and Target, 1997).

When the level of RF of the mothers in the current study are considered, it is evident that many mothers of children with CSA (with a mean MRF score of 2.9) are functioning at a level where they struggle to imagine the psychological experience of their children, identify what emotions their children are likely experiencing, or think about their behaviours as linked to underlying feelings. The mothers of the comparison group had a somewhat higher mean MRF score of 3.8, suggesting that they are approaching being able to make links between mental states and behaviours and identify what a child is likely to be feeling and why. The mean RF of the

mothers in the comparison group is similar to that reported by Borelli et al., (2016) in a community sample in the US with mixed ethnicity and income. However, the means of both groups are much lower than the mean MRF of five usually found in low risk and highly educated, stable middle class populations (Slade et al., 2005) and where a 5 is considered to index a general capacity to consider children's psychological experience, think about affects, and understand behaviours as linked to underlying mental states. It is possible that an intergenerational pattern of abuse and neglect, where mental states are not considered, may be contributing to the low mean RF observed in mothers of sexually abused children. The findings show that 60% of the mothers of children with CSA have histories of CSA themselves, compared to 20% in the comparison group. Furthermore, the MRF of mothers who themselves had histories of CSA was significantly lower than that of mothers without such histories. This extends previous findings that children with CSA histories had significantly lower RF regarding self and others compared to their nonabused peers (Ensink et al., 2014). Considering the importance the mother's capacity to mentalize and understand children's reactions, interventions that can effectively help them develop these capacities seem to be particularly relevant. A wide range of mentalizing-based and closely related intervention programs have been developed principally for mothers and infants (Pajulo et al., 2013; Sadler et al., 2013; Slade, 2006; Suchman et al., 2016), or mothers facing violence (Lieberman, 2004; Lieberman and Van Horn, 2005), or for families in general (Fearon et al., 2006).

The present study has a number of strengths including the use of independent evaluations of MRF, and the inclusion of an under researched and difficult to recruit group of children (the group with CSA). However, the results need to be interpreted in the light of certain limitations such as the use of parent report measures to evaluate child internalizing and externalizing



symptoms. While children are considered the best informants of their own symptoms of distress, the use of self-report measures was not possible given the young age of the participants. A further limitation is the fact that fathers were not included in the study and their role in child adaptive functioning especially following abuse is under-researched. While we have focused on MRF and have revealed the importance of MRF, there is no reason to believe that parental reflective functioning of fathers is not equally important. Further research is also needed to clarify the parent child interactional processes which may account for the association between parental RF and child internalizing and externalizing difficulties in children of different ages.

## **5. Conclusion**

The findings of the study contribute new data on the importance of MRF for internalizing and externalizing symptomatology in children aged 2-12, especially in the context of CSA. When MRF and CSA were considered together, only MRF was associated with child internalizing and externalizing difficulties. This unexpected finding brings home the importance of the mentalizing abilities of attachment figures. Better MRF was associated with lower externalizing and internalizing difficulties in both sexually abused children and non-abused children, suggesting that when parents are able to recognize children's affects and understand their behaviours as communicating something about their subjective experience, this facilitates self-regulation. With regard to internalizing difficulties, MRF was shown to be particularly important for sexually abused children, indicating that MRF has a protective role in the context of trauma and may be central for containing child fears and mentalizing negative affects provoked by sexual abuse. Considering the importance of MRF for child adaptation and its protective role in the context of trauma, interventions to facilitate the development of this capacity emerge as a priority.

## References

- Achenbach, T.M., 1991. Manual for Child Behavior Checklist 4-18, 1991 Profile. Burlington : University of Vermont, Department of Psychiatry.
- Achenbach, T.M., Rescorla, L.A., 2001. Manual for the ASEBA School-Age Forms and Profiles. Burlington: University of Vermont, Research Center for Children, Youth, & Families.
- Allen, J.G., 2013. Mentalizing in the development and the treatment of attachment trauma. Karnac Books, London, UK.
- Beaudoin, G., Hébert, M., Bernier, A., 2013. Contribution of attachment security to the prediction of internalizing and externalizing behavior problems in preschoolers victims of sexual abuse. *Revue Européenne de Psychologie Appliquée/European Review of Applied Psychology*. 63, 147–157. doi:10.1016/j.erap.2012.12.001
- Berthelot, N., Ensink, K., Bernazzani, O., Normandin, L., Luyten, P., Fonagy, P., 2015. Intergenerational transmission of attachment in abused and neglected mothers: The role of trauma-specific reflective functioning. *Infant Ment. Health J*. 36, 200–212. doi:10.1002/imhj.21499
- Borelli, J.L., Kate, H., Cho, E., Suchman, N.E., 2016. Reflective functioning in parents of school-aged children. *Am. J. Orthopsychiatry* 86, 24–36. doi:10.1037/ort0000141
- Briere, J., Elliott, D.M., 2003. Prevalence and psychological sequelae of self-reported childhood physical and sexual abuse in a general population sample of men and women. *Child Abuse Negl*. 27, 1205–1222. doi:10.1016/j.chiabu.2003.09.008
- Browne, M.W., Cudeck, R., 1992. Alternative ways of assessing model fit. *Sociol. Methods Res*. 21, 230–258. doi:10.1177/0049124192021002005
- Centifanti, L.C.M., Meins, E., Fernyhough, C., 2016. Callous-unemotional traits and impulsivity: distinct longitudinal relations with mind-mindedness and understanding of others. *J. Child Psychol. Psychiatry* 57, 84–92. doi:10.1111/jcpp.12445
- Cicchetti, D., Rogosch, F.A., Maughan, A., Toth, S.L., Bruce, J., 2003. False belief understanding in maltreated children. *Dev. Psychopathol*. 15, 1067–1091. doi: <http://dx.doi.org/10.1017/S0954579403000440>
- Ensink, K., Bégin, M., Normandin, L., Fonagy, P., 2016a. Maternal and child reflective functioning in the context of child sexual abuse : pathways to depression and externalising difficulties. *Eur. J. Psychotraumatology* 7, 30611. doi:10.3402/ejpt.v7.30611
- Ensink, K., Berthelot, N., Bernazzani, O., Normandin, L., Fonagy, P., 2014. Another step closer to measuring the ghosts in the nursery : Preliminary validation of the Trauma Reflective Functioning Scale. *Front. Psychol*. 5.

- Ensink, K., Leroux, A., Normandin, L., Biberdzic, M., Fonagy, P., 2017. Assessing Reflective Parenting in Interaction With School-Aged Children. *J. Pers. Assess.* 1–11. doi:10.1080/00223891.2016.1270289
- Ensink, K., Normandin, L., Plamondon, A., Berthelot, N., Fonagy, P., 2016b. Intergenerational pathways from reflective functioning to infant attachment through parenting. *Can. J. Behav. Sci. Rev. Can. Sci. Comport.* 48, 9–18. doi:10.1037/cbs0000030
- Ensink, K., Normandin, L., Target, M., Fonagy, P., Sabourin, S., Berthelot, N., 2014. Mentalization in children and mothers in the context of trauma : An initial study of the validity of the Child Reflective Functioning Scale. *Br. J. Dev. Psychol.* 33, 203–217. doi:10.1111/bjdp.12074
- Fearon, P., Target, M., Sargent, J., Williams, L.L., McGregor, J., Bleiberg, E., Fonagy, P., 2006. Short-term mentalization and relational therapy (SMART) : An integrative family therapy for children and adolescents. In J. G. Allen & P. Fonagy (Eds.), *Handbook of Mentalization Based Treatment*, John Wiley & Sons Inc
- Finkelhor, D., Ormrod, R., Turner, H., Hamby, S.L., 2005. The Victimization of Children and Youth: A Comprehensive, National Survey. *Child Maltreat.* 10, 5–25. doi:10.1177/1077559504271287
- Fonagy, P., 2004. Early-Life Trauma and the Psychogenesis and Prevention of Violence. *Ann. N. Y. Acad. Sci.* 1036, 181–200. doi:10.1196/annals.1330.012
- Fonagy, P., 1991. Thinking about thinking : some clinical and theoretical considerations in the treatment of a borderline patient. *Int. J. Psychoanal.* 72, 639–656.
- Fonagy, P., Steele, M., Steele, H., Moran, G.S., Higgitt, A.C., 1991. The capacity for understanding mental states : The reflective self in parent and child and its significance for security of attachment. *Infant Ment. Health J.* 12, 201–218. doi:10.1002/1097-0355(199123)12:3<201::AID-IMHJ2280120307>3.0.CO;2-7
- Fonagy, P., Target, M., 1997. Attachment and reflective function: their role in self-organization. *Dev. Psychopathol.* 9, 679–700.
- Fonagy, P., Target, M., 1996. Playing with reality : I. Theory of mind and the normal development of psychic reality. *Int. J. Psychoanal.* 77, 217–233.
- Greening, S.G., Lee, T.-H., Mather, M., 2014. A dual process for the cognitive control of emotional significance: implications for emotion regulation and disorders of emotion. *Front. Hum. Neurosci.* 8, 253. doi:10.3389/fnhum.2014.00253

- Grienenberger, J.F., Kelly, K., Slade, A., 2005. Maternal reflective functioning, mother-infant affective communication, and infant attachment: Exploring the link between mental states and observed caregiving behavior in the intergenerational transmission of attachment. *Attach. Hum. Dev.* 7, 299–311. doi:10.1080/14616730500245963
- Gross, J.J., 2013. Emotion regulation: Taking stock and moving forward. *Emotion* 13, 359–365. doi:10.1037/a0032135
- Hébert, M., Cénat, J.M., Blais, M., Lavoie, F., Guerrier, M., 2016. Child sexual abuse, bullying, cyberbullying, and mental health problems among high schools students: A moderated mediated model. *Depress. Anxiety* 33, 623–629. doi:10.1002/da.22504
- Hoyle, R. (Ed.), 1995. Structural Equation Modeling : Concepts, Issues, and fundamental issues. In Hoyle, R. H. (Ed.), *Structural equation modeling : Concepts, issues, and applications.* (pp. 1–15). SAGE Publications, Inc, Thousand Oaks.
- Kim, S., Fonagy, P., Allen, J., Martinez, S., Iyengar, U., Strathearn, L., 2014a. Mothers who are securely attached in pregnancy show more attuned infant mirroring 7 months postpartum. *Infant Behav. Dev.* 37, 491–504. doi:10.1016/j.infbeh.2014.06.002
- Kim, S., Fonagy, P., Allen, J., Strathearn, L., 2014b. Mothers' unresolved trauma blunts amygdala response to infant distress. *Soc. Neurosci.* 9, 352–363. doi:10.1080/17470919.2014.896287
- Kuhlman, K.R., Geiss, E.G., Vargas, I., Lopez-Duran, N.L., 2015. Differential associations between childhood trauma subtypes and adolescent HPA-axis functioning. *Psychoneuroendocrinology* 54, 103–114. doi:10.1016/j.psyneuen.2015.01.020
- Lewis, T., McElroy, E., Harlaar, N., Runyan, D., 2016. Does the impact of child sexual abuse differ from maltreated but non-sexually abused children ? A prospective examination of the impact of child sexual abuse on internalizing and externalizing behavior problems. *Child Abuse Negl.* 51, 31–40. doi:10.1016/j.chiabu.2015.11.016
- Lieberman, A., Van Horn, P., 2005. *Don't Hit My Mommy ! : A Manual for child-Parent psychotherapy with young witnesses of family violence.* Zero to Three, Washington, DC.
- Lieberman, A.F., 2004. Child-parent psychotherapy; A relationship –based approach to the treatment of mental health disorders in infancy and early childhood. In A.J. Sameroff, S.C. McDonough, & K.L.
- Maniglio, R., 2009. The impact of child sexual abuse on health: A systematic review of reviews. *Clin. Psychol. Rev.* 29, 647–657. doi:10.1016/j.cpr.2009.08.003
- Mathews, S., Abrahams, N., Jewkes, R., 2013. Exploring mental health adjustment of children post sexual assault in south africa. *J. Child Sex. Abuse* 22, 639–657. doi:10.1080/10538712.2013.811137

- McCrae, J.S., Chapman, M.V., Christ, S.L., 2006. Profile of children investigated for sexual abuse: Association with psychopathology symptoms and services. *Am. J. Orthopsychiatry* 76, 468–481. doi:10.1037/0002-9432.76.4.468
- Meins, E., Centifanti, L.C.M., Fernyhough, C., Fishburn, S., 2013. Maternal mind-mindedness and children's behavioral difficulties : Mitigating the impact of low Socioeconomic status. *J. Abnorm. Child Psychol.* 41, 543–553. doi:10.1007/s10802-012-9699-3
- Muthén, L.K., Muthén, B.O., 1998-2012. Mplus Version 7 user's guide. Muthén & Muthén, Los Angeles, CA.
- Pajulo, M., Pyykkönen, N., Kalland, M., Sinkkonen, J., Helenius, H., Punamäki, R.-L., Suchman, N., 2012. Substance-abusing mothers in residential treatment with their babies: Importance of pre- and postnatal maternal reflective functioning. *Infant Ment. Health J.* 33, 70–81. doi:10.1002/imhj.20342
- Paolucci, E.O., Genuis, M.L., Violato, C., 2001. A meta-analysis of the published research on the effects of child sexual abuse. *J. Psychol.* 135, 17–36. doi:10.1080/00223980109603677
- Putnam, F.W., 2003. Ten-year research update review: Child sexual abuse. *J. Am. Acad. Child Adolesc. Psychiatry* 42, 269–278. doi:10.1097/00004583-200303000-00006
- Rutherford, H.J.V., Wallace, N.S., Laurent, H.K., Mayes, L.C., 2015. Emotion regulation in parenthood. *Dev. Rev.* 36, 1–14. doi:10.1016/j.dr.2014.12.008
- Slade, A., 2006. Reflective parenting programs : Theory and development. *Psychoanal. Inq.* 26, 640–657. doi:10.1080/07351690701310698
- Slade, A., Aber, J.L., Bresgi, I., Berger, B., Kaplan, 2004. The parent development interview Revised. Unpublished protocol. The City University of New York, New York, NY.
- Slade, A., Grienenberger, J., Bernbach, E., Levy, D., Locker, A., 2005a. Maternal reflective functioning, attachment, and the transmission gap : A preliminary study. *Attach. Hum. Dev.* 7, 283–298. doi:10.1080/14616730500245880
- Slade, A., Sadler, L., De Dios-kenn, C., Webb, D., Currier-Ezepchick, J., Mayes, L., 2005b. Minding the baby: A reflective parenting program. *Psychoanal. Study Child* 60, 74–100.
- Suchman, N.E., DeCoste, C., Leigh, D., Borelli, J., 2010. Reflective functioning in mothers with drug use disorders: implications for dyadic interactions with infants and toddlers. *Attach. Hum. Dev.* 12, 567–585. doi:10.1080/14616734.2010.501988
- Suchman, N.E., Ordway, M.R., de Las Heras, L., McMahon, T.J., 2016. Mothering from the Inside Out: results of a pilot study testing a mentalization-based therapy for mothers enrolled in mental health services. *Attach. Hum. Dev.* 18, 596–617. doi:10.1080/14616734.2016.1226371

Taubner, S., Curth, C., 2013. Mentalization mediates the relation between early traumatic experiences and aggressive behavior in adolescence. *Psihologija* 46, 177–192.

Tremblay, C., Hébert, M., Piché, C., 1999. Coping strategies and social support as mediators of consequences in child sexual abuse victims. *Child Abuse Negl.* 23, 929–945.  
doi:10.1016/S0145-2134(99)00056-3

Ullman, S.E., 2001. Structural equation modeling. In B. G. Tabachnick L. S. Fidell (Eds.), *Using multivariate statistics* (4th ed., pp. 966). Needham Heights, Mass : Allyn and Bacon.

**Table 1 : Sample characteristics as a function of abuse history.**

<b>Demographic Characteristics</b>	<b>Comparison group (N = 90)</b>		<b>Intrafamilial CSA (N = 34)</b>		<b>Extrafamilial CSA (N = 30)</b>	
% in groups	58.4%		22.1%		19.5%	
Family income < \$25,000	33.3%		52.9%		53.3%	
% girls	56.7%		73.5%		60.0%	
<b>CSA-related Characteristics</b>	<b>Mean</b>	<b>SD</b>	<b>Mean</b>	<b>SD</b>	<b>Mean</b>	<b>SD</b>
Age of first abuse (months)	-	-	42.3	24.8	49.8	33.2
% involving penetration (digital, object, penis)	-	-	28.6%	-	11.8%	-
% male perpetrator	-	-	94.1%	-	96.7%	-
<b>Clinical variables</b>	-	-	-	-	-	-
Internalising	54.4	9.7	65.9	7.9	62.7	8.9
Externalising	54.1	11.4	67.4	9.5	65.2	13.0
Maternal RF	3.8	1.5	2.8	1.6	2.9	1.6

**Table 2:** Association between sexual abuse, maternal RF, maternal education and, child internalizing and externalizing difficulties

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>1. Sexual Abuse</b>	-	-	-	-
<b>2. Maternal RF</b>	-.290*	-	-	-
<b>3. Internalizing Difficulties</b>	.476*	-.297*	-	-
<b>4. Externalizing Difficulties</b>	.481*	-.306*	.631*	-
<b>5. Maternal Education</b>	-.317*	.365*	-.327*	-.278*

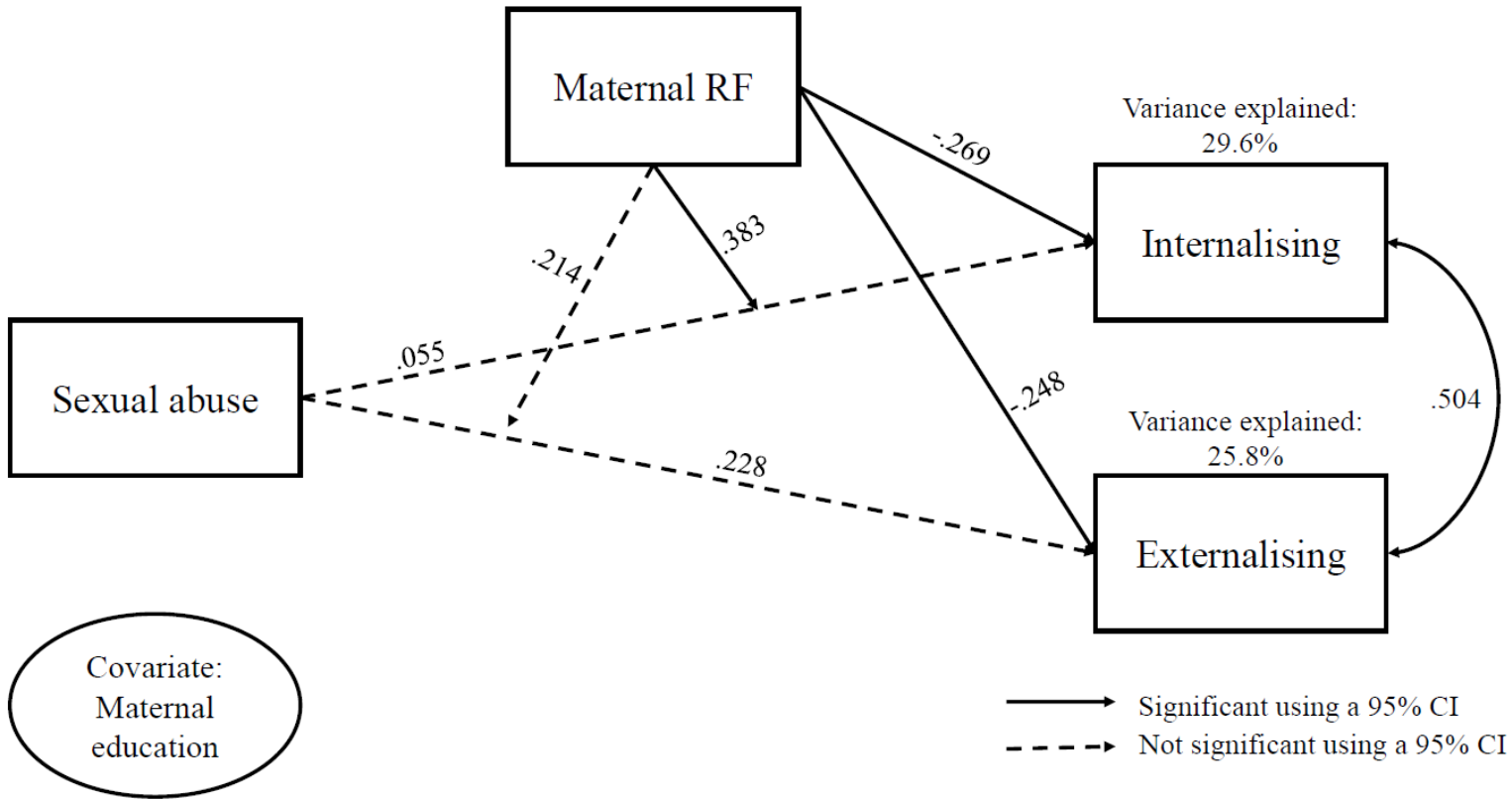
Note : Maternal RF measured with the PDI-R; child internalizing and externalizing difficulties measured with the CBCL (parent report); \*  $p < . 01$ .



**Table 3: Descriptive data of CSA and control groups on MRF and psychiatric symptomatology.**

<b>Variables</b>	<b>Group</b>	<b>Mean</b>	<b>Standard deviation</b>
Maternal RF	Control	3.84	1.54
	CSA	2.86	1.59
Child internalizing	Control	54.41	9.67
	CSA	64.43	8.46
Child externalizing	Control	54.14	1.25
	CSA	66.37	1.40

**Figure 1** : Moderating effect of maternal RF on child internalizing symptoms in the context of child sexual abuse.



Note : Maternal RF measured with the PDI-R; child internalizing and externalizing difficulties measured with the CBCL (parent report); the covariate was used as predictor of all the dependent variables.