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ARTICLE

Mentalization and dissociation in the context of trauma: Implications for child psychopathology

Karin Ensink, PhD^a, Michaël Bégin, BA^a, Lina Normandin, PhD^a,
Natacha Godbout, PhD^b, and Peter Fonagy, PhD^c 

^aÉcole de psychologie, Université Laval, Québec, Québec, Canada; ^bDepartment of Sexology, Université du Québec à Montréal, Montréal, Québec, Canada; ^cPsychoanalysis Unit, Research Department of Clinical, Educational and Health Psychology, University College London, London, United Kingdom

ABSTRACT

Dissociation is a common reaction subsequent to childhood sexual abuse (CSA) and has been identified as a risk factor for child psychopathology. There is also evidence that mentalization contributes to resilience in the context of abuse. However, at this stage little is known regarding the relationship between mentalization and dissociation, and their respective contributions to psychopathology. The aim of this study was to examine pathways from CSA to depressive symptoms, externalizing behaviour difficulties and sexualized behaviour through mentalization and dissociation. These pathways were examined in a sample of 168 mother-child dyads, including 74 dyads where children (aged 7–12) had histories of sexual abuse. Maternal mentalization was assessed using the Parent Development Interview-Revised and children's mentalization was assessed using the Child Reflective Functioning Scale. Children completed the Child Depression Inventory and parents completed the Child Dissociative Checklist, the Child Behavior Checklist and the Child Sexual Behavior Inventory. Direct and indirect paths from CSA to child psychopathology via children's mentalization and dissociation were examined using Mplus. Distinct paths from abuse to psychopathology were identified. Child mentalization partially mediated the relationship between CSA and depressive symptoms. The effects of CSA on externalizing symptoms and sexualizing behaviour difficulties were sequentially mediated through mentalization and dissociation.

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Child sexual abuse (CSA) affects approximately 1 in 5 girls and 1 in 20 boys younger than the age of 18 (Finkelhor, Ormrod, Turner, & Hamby, 2005), but the factors conferring risk or resilience in the context of CSA remain inadequately understood (Rathus, Nevid, & Fichner-Rathus, 2008). CSA has been associated with both internalizing and externalizing behavior difficulties (Hébert, Langevin, & Bernier, 2013; Hébert, Parent, Daignault, & Tourigny, 2006) as well as sexualized behavior problems (Friedrich, Davies, Feher, &

Wright, 2003). Approximately a third of sexually abused children develop clinically significant levels of internalizing (Mathews, Abrahams, & Jewkes, 2013) and externalizing (Tremblay, Hébert, & Piché, 1999) behaviors. Dissociation and mentalization are 2 mental processes of potential importance in the context of trauma (Fonagy, Target & Gergely, 2000). Mentalization (Fonagy et al., 2000) refers to the uniquely human capacity to imagine the intentions and reasons underlying the behaviors and feelings of others as well as those underlying one's own feelings and behaviors. There is growing evidence that mentalization may be particularly important in the context of trauma (Allen, Fonagy & Bateman, 2008; Fonagy & Luyten, 2009), and dissociation is widely recognized as an important psychological process in models linking sexual abuse with mental health problems (Collin-Vézina & Hébert, 2005; Putnam, 1997). Although dissociation precludes and is almost antithetical to an intentional stance (Dennett, 1987; Fonagy et al., 2000), mentalization difficulties could also conceivably increase the risk of resorting to dissociation, but the relationship between dissociation and mentalization in children requires further investigation. Clarifying the respective roles of dissociation and mentalization in explaining the relationship between CSA and different types of psychosocial problems has potentially important implications for interventions.

CSA, regardless of its severity, has been shown to be associated with dissociation in children (Collin-Vézina & Hébert, 2005; Friedrich, Jarwoski, Huxsahl, & Bengston, 1997). Dissociation is complex and multifaceted, with key features including (a) an alteration of consciousness or detachment and disconnection from self and environment; (b) a segregation of psychological structures and disassociation of neurobiological systems that are normally integrated, such as cognition, affect, and memory (Brown, 2006; Cardeña & Carlson, 2011; Frewen & Lanius, 2006; Van der Hart, Nijenhuis, & Steele, 2006); and (c) a form of mental escape from overwhelming physical or psychological pain (Foa & Hearst-Ideka, 1996; Haugaard, 2004; Putnam, 1991). Freyd (2008) pointed out that in addition to fear, betrayal trauma by caregivers is also an important contributor to dissociation. Putnam (1997) argued that a developmentally sensitive approach is needed to understand infantile forms of dissociative phenomena given that dissociative-like reactions such as freezing and detachment are evident in infants and children but do not manifest the same level of complexity as in adults (Putnam, 1997). Children are considered more vulnerable to dissociation because processes that contribute to metacognitive integration and mental state understanding, such as the capacity to suspend reality in the context of pretend play, may also potentiate dissociation (Putnam, 1997; Silberg, 2013). In Putnam's (1997) developmental model, dissociative segregation is seen as disrupting the normal integration of self, affect, and agency necessary for flexible responding.

Instead, regulation strategies developed in the context of trauma are automatically and inflexibly triggered. In the long term, dissociation is associated with affect avoidance or emotional overmodulation (Brand, Lanius, Vermetten, Loewenstein, & Spiegel, 2013). Dissociation has been linked with internalizing and externalizing difficulties (Macfie, Cicchetti, & Toth, 2001; Putnam, 1991) and has been found to mediate the relationship between CSA and externalizing difficulties (Collin-Vézina & Hébert, 2005; Kisiel & Lyons, 2001). In sum, based on the existing evidence it would seem that dissociation is a likely process through which CSA could be linked to child psychopathology. However, little is known regarding the mediating effect of dissociation on CSA and sexualized behaviors in children.

Mentalization and psychopathology

Fonagy and Target (1996) proposed an attachment-based developmental model of mentalization and reflective functioning (RF) based on an integration of findings from research on attachment, theory of mind, social cognition, and emotional understanding. According to this model, from infancy onward, children discover and learn about their minds through early interactions with parents who have an interest in the subjective experience of these children, treat the children as beings with a mind, and interpret their behavior as subjectively motivated. In other words, children learn about their minds in interaction with caregivers who mind their minds (Slade, Sadler et al., 2005). In early childhood, understanding of the self is further elaborated in interactions in which the child can confide in and reflect on his or her experience with a caregiver (Fonagy, Gergely, Jurist, & Target, 2002). In line with this, parental RF has been shown to predict the development of emotional understanding and mentalization in children (Ensink et al., 2015; Steele, Steele, Croft, & Fonagy, 1999) as well as RF in adolescence (Benbassat & Priel, 2012).

There is evidence that low mentalization may be a risk factor associated with depressive disorders in adults (Fischer-Kern et al., 2013), and mentalization has been found to mediate the relationship between abuse and externalizing difficulties in adolescents (Taubner et al., 2013). This suggests that mentalization may be important for children's self-regulation and affect regulation in the context of sexual abuse, but this needs to be empirically tested.

Mentalization in the context of trauma

Sexually abused girls have been found to have lower emotional understanding compared to their peers (Shipman, Zeman, Penza, & Champion, 2000) and difficulties considering their own affective reactions and close

relationships in mental state terms. Children's mentalization capacities were also associated with the level of maternal mentalization (Ensink et al., 2015). The experience of abuse may lead children to avoid thinking of the minds of others who might harbor malevolent intentions, especially in the context of intrafamilial abuse (Allen, 2013; Fonagy, Gergely, Jurist, & Target, 2002). Furthermore, in contexts of intrafamilial abuse parents may discourage coherent discourse about mental states and undermine the development of mentalization in children, partly to avoid engaging with the suffering they inflict (Allen, Fonagy, & Bateman, 2008; Fonagy & Luyten, 2009). In sum, existing evidence points to sexual abuse having a negative impact on children's mentalization capacities, and this in turn may have implications for self-regulation and affect regulation as well as interpersonal functioning.

The current study

The aim of this study was to examine pathways from CSA to child psychopathology symptoms through mentalization and dissociation. In terms of the model, we hypothesized that mental processes including mentalization and dissociation may account for the effect of CSA on psychopathology symptoms when maternal education and RF, as well as child age, are controlled. More specifically, CSA was hypothesized to have a negative impact on children's mentalization, which in turn would lead to increased dissociation, both leading to psychopathology. Well-developed child mentalization capacities were expected to be linked with lower levels of dissociation and psychopathology, because mentalization can be seen as an important inner resource that helps children maintain a sense of who they are, understand that they are not to blame for what happened, and make their emotional reactions understandable. Sexual abuse implies a betrayal of trust that others, especially attachment figures, will respect and protect the child, and this was theorized to lead to a shutting down or loss of interest in thinking about the minds of others and the self. A shutting down or inhibition of agentful mentalizing of experiences and others may contribute to increased use of dissociation, as it becomes the only available strategy for dealing with affect and distress. Dissociation and states of detachment or affect avoidance, in which a child is not cognitively or emotionally present, can undermine the child's ability to integrate affective experience necessary for flexible responding. At the same time, dissociation and detachment may be associated with an increase risk of rigid or automatic trauma-related responses that are not appropriate in low-risk contexts later in life. In the absence of previous studies examining both mentalization and dissociation as possible mediators of the relationship uniting CSA and psychopathology, we examined parallel as well as sequential effects of mediation using path analysis to clarify the pathways through which these mental processes may explain the link

between CSA and different types of psychopathology (i.e., depression, externalizing behaviors, and sexualized behaviors).

Method

Participants and procedure

Participants were 168 mother–child dyads divided into two subgroups. The sexually abused group consisted of 74 dyads (44 girls and 30 boys ages 7–12 years, $M = 113$ months, $SD = 19.8$) in which the child had a history of sexual abuse, and the community control group consisted of 94 dyads (52 girls and 42 boys ages 7–12 years, $M = 112$ months, $SD = 17.8$). Sexually abused children and their mothers were referred to the university clinic by doctors or mental health practitioners at community health services and hospitals who suspected sexual abuse. Information regarding sexual abuse was based on medical and social work reports and information from police inquiries, including statements of admission by the abuser. The community control group was recruited through advertisements at Community Health Services and schools through pamphlets soliciting participation in a study on the impact of sexual abuse as part of a control group. Parents of control group children were interviewed about the child’s developmental history and traumatic life events to exclude children with possible sexual abuse. The control group was selected to broadly match the sociodemographic, age (within 6 months), and gender characteristics of the abused group. This procedure proved only partially effective: There was a significant between-groups difference in terms of maternal education, and this was subsequently controlled for in the path analyses.

The majority of the participants were Caucasian (98%), reflecting the sociodemographics of the region in Canada where the study was conducted. Assessments took place at a university child and adolescent consultation service. Parents received a modest stipend to cover transportation costs, and children were invited to choose a toy or small gift.

Measures

Child Reflective Functioning Scale

The Child Reflective Functioning Scale (Ensink, Target, & Oandasan, 2013) was adapted from the Adult Reflective Functioning Scale (Fonagy, Target, Steele, & Steele, 1998). The Child Reflective Functioning Scale was used to rate transcribed Child Attachment Interviews (Shmueli-Goetz, Target, Fonagy, & Datta, 2008; Target, Fonagy, Shmueli-Goetz, Schneider, & Datta, 2000). The Child Attachment Interview contains four items eliciting self-descriptions and reactions in response to upsetting events and nine questions regarding the child’s relationships with his or her parents and a description of parents’ reactions when

upset or when they argue. The Child Reflective Functioning Scale coding manual enables trained raters to reliably assess children's ability to provide mentalizing accounts of themselves and their attachment relationships. Children's accounts are coded on an 11-point scale (range = -1 to 9) in terms of their propensity to consider interpersonal interactions and personal reactions in mental state terms. The mean score is used as an indicator of the child's level of mentalization, with a mean of 5 indicative of a simple but solid understanding of self and relationships in mental state terms, expected in low-risk samples. Interrater reliability of Child Reflective Functioning Scale items has been found to be good, with intraclass correlation coefficients (ICCs) ranging from .6 to 1.00, with a median of .93 (Ensink, 2004). Temporal stability of children's RF has been shown to be high over a 3-month period (Ensink, 2004).

Interviews were conducted by four female psychology students. Child RF was rated by the first author and two postgraduate psychology students trained to a criterion of 85% agreement. Raters were blind with regard to group membership. Interrater reliability was calculated on 30% of protocols and was excellent (ICCs = .80-.90).

Maternal RF

Maternal RF was measured using the Parent Development Interview addendum to the Adult Reflective Functioning Scale (Fonagy et al., 1998). The Parent Development Interview is a 45-item semistructured interview developed to assess parental representations of the child and of the parent-child relationship and was revised (Slade, Aber, Bresgi, Berger, & Kaplan, 2004) for the assessment of RF across a range of domains: in relation to the child, the parent's own parents, and the self. In order to do this, four of the questions from the Adult Attachment Interview (George, Kaplan, & Main, 1985) designated by Fonagy et al. (1998) as demand questions and directly tied to the assessment of RF were included. The revised version was also developed to be applicable to a larger age range and can be used with parents of children from infancy to adolescence. Reliability estimates produced using ICCs range from .78 to .95 (Slade, Grienenberger, Bernbach, Levy, & Locker, 2005). In the present study, two questions relating specifically to sexual abuse were added: the first to determine the mother's reaction to the child's abuse and her comprehension of how her reaction may have affected the child, and the second asking about the mother's own experience of abuse. This 1-hr interview was videotaped and transcribed for coding purposes. Each demand question is coded with reference to the manual, which provides illustrations of different types and levels of RF responses. An overall RF score (range = -1 to 9) that is most representative of the parent's propensity to use mental state understanding when thinking about his or her child is assigned following the guidelines in the manual. All protocols were coded by two of us, both trained to code parental RF. Protocols were allocated so that we never coded both

parent and child measures for any dyad. Interrater reliability was calculated on 20% of protocols and was satisfactory (ICCs ranged from .67 to .98 and reached .73 for the global Parent Development Interview score).

Child Dissociative Checklist

The Child Dissociative Checklist is a 20-item questionnaire developed by Putnam (1990) as a parent-report measure of dissociative symptoms during the past 12 months in children ages 5–12. Dissociative symptoms are rated on a 3-point Likert scale, and total scores of 12 or more are considered indicative of clinically significant dissociative symptoms. For example, parents are asked to rate items such as “Child goes into a daze or trance-like state at times or often appears ‘spaced-out’” and “Teachers may report that he or she ‘daydreams’ frequently in school.” The checklist has been shown to have good psychometric properties, including high discriminant validity and good test–retest reliability (Putnam, 1993).

Child Depression Inventory

The Child Depression Inventory is a 27-item scale developed by Kovacs (1985) as a self-report questionnaire used to rate the severity of symptoms related to depression in children and adolescents ages 7–17. It takes 15–20 min to complete and covers five factor areas: negative mood, interpersonal problems, ineffectiveness, anhedonia, and negative-self-esteem. Children are asked to rate statements related to sadness, pessimism, self-deprecation, self-hate, self-blame, suicidal ideation, crying spells, irritability, reduced social interest, indecisiveness, negative body image, schoolwork difficulty, sleep disturbance, fatigue, reduced appetite, somatic concerns, loneliness, and feeling unloved. Based on the Beck Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) for adults, the Child Depression Inventory is widely used and accepted as an assessment of the severity of depressive symptoms in children and has been shown to have good psychometric properties, including high reliability and well-established validity. Each item is rated on a 3-point scale from 0 to 2, and children can obtain total scores from 0 to 52 that are then converted to standardized *T* scores. *T* scores of 65 or higher are considered indicative of clinically significant depressive symptoms. A raw score of 36 or more on the Child Depression Inventory reflects depression.

Child externalized behavior difficulties

The Child Behavior Checklist is a 118-item questionnaire used to assess a broad range of internalizing and externalizing difficulties (Achenbach, 1991). In the present study, we used the parent-report externalizing scale for children ages 6–18 (Achenbach & Rescorla, 2001). Parents are asked to rate aggressive and rule-breaking behavior on a 3-point scale as 0 (absent), 1

(occurs sometimes), or 2 (occurs often) for items such as “breaks rules at home, school, or elsewhere.” The Child Behavior Checklist has been demonstrated to have good psychometric properties (Achenbach & Rescorla, 2001).

Child Sexualized Behavior Inventory

The Child Sexualized Behavior Inventory is a 35-item parent-report behavior checklist developed by Friedrich et al. (2001) to assess sexual behavior in children 2–12 years during the previous 6 months and takes 10–13 min to complete. It covers nine domains including boundary issues, sexual interest, exhibitionism, sexual intrusiveness, gender-role behavior, sexual knowledge, self-stimulation, voyeuristic behavior, and sexual anxiety. Each item is rated on a 4-point scale from 0 (*never*) to 4 (*at least once a week*). The inventory has been demonstrated to have good psychometric properties, including item–total correlations and test–retest reliability (Friedrich et al., 2001). Total scores are converted to *t* scores, and *t* scores greater than 65 are considered indicative of clinically significant problems (Friedrich et al., 2001).

Data analysis plan

Missing data were imputed using the expectation maximization method. Expectation maximization is a maximum likelihood–based method with an algorithm that generates parameter estimates by cycling iteratively between an expectation and a maximization step. The conditional expectation of the complete data log-likelihood in the expectation step is computed based on the observed data and the current parameter estimates and produces estimated values for the missing data. In the maximization step, the expected log-likelihood is maximized to obtain updated parameter estimates. The iterative process stops when the parameter estimates converge to a preestablished criterion that was .001 in this study, meaning that every new iteration changes the estimated values by less than the established criterion (Gold & Bentler, 2000).

As part of the exploratory data analyses, a multivariate analysis of variance was used to compare maternal and child RF, child age, maternal education as well as depressive symptoms, externalizing difficulties, and sexualized behavior between sexually abused children and the control group. Correlational analysis was used to examine relationships between the variables of interest as well as potential control variables. Exploratory *t* tests were used to examine whether gender effects were present as well as to examine whether there were significant differences associated with intra- and extrafamilial abuse.

Next, pathways from sexual abuse through child RF and child dissociation to child psychopathology were examined using a path analysis model in Mplus 7.12 (Muthén & Muthén, 1998–2012). The model tested indirect effects, which involve the same calculations as mediation analyses. Effects of sexual abuse to indicators of child psychopathology (i.e., depression, externalizing and sexualizing difficulties) through two potential mediators (i.e., child RF and dissociation)

were tested. The indirect effect of sexual abuse on dissociation through child RF was also computed in the model. Furthermore, three sequential indirect effects from abuse through child RF first and then dissociation to child psychopathology were computed simultaneously. Sequential mediation is used to test the hypothesis that a causal chain is “linking the mediators, with a specified direction of causal flow” (Hayes, 2012, p. 14). All indirect effects were bootstrapped 1,000 times in order to construct bias-corrected 95% confidence intervals (CIs). The bootstrapping procedure drew 1,000 random samples with replacement of the original sample to construct CIs. Because indirect effects are calculated from the product of unstandardized coefficients, we first standardized all continuous variables in order to see the magnitude of the effects; path coefficients (*b*) are thus partially standardized indirect effects. The model tested whether the indirect effects were significantly different from 0. Indirect effects are considered significant at the .05 level when the 95% CI does not include the null value 0. Because of their expected relationships with the variables of interest, three covariates—namely, maternal RF, child age, and maternal education—were added to control for their potential effect on the dependent variables.

Different fit indices were used to test the adequacy of the model: the chi-square statistic, the comparative fit index, the Tucker–Lewis index, the root mean square error of approximation, and the standardized root-mean-square residual. Guidelines suggest that statistically nonsignificant chi-square values or ratios of chi-square to degrees of freedom (χ^2/df) less than 3, values greater than .95 for the comparative fit index and Tucker–Lewis index (Hoyle, 1995), and values less than .05 for the root mean square error of approximation and standardized root-mean-square residual indicate an excellent fit (Browne & Cudeck, 1993; Ullman, 2001).

Results

Preliminary analyses

As part of the exploratory analyses, a multivariate analysis of variance was used to examine whether there were significant differences between sexually abused children and children from the comparison group in terms of maternal RF, child RF, dissociation, and psychopathology. The results of the multivariate analysis of variance as well as the means and standard deviations for each variable for the sexually abused group and the comparison group are reported in [Table 1](#). The RF of sexually abused children and their mothers were significantly lower than those of the comparison group, and sexually abused children manifested significantly more dissociation, depressive symptoms, externalizing difficulties, and sexualized behaviors. The groups also differed in terms of maternal education, with mothers of sexually abused children having fewer years of education. All effect sizes were moderate to strong, ranging from .46 to .90 (Cohen’s *d*; see

Table 1. Group comparisons (multivariate analysis of variance) for child age, mother and child RF, and indicators of psychopathology.

Variable	Min	Max	Group	<i>M</i>	<i>SD</i>	<i>F</i>	Cohen's <i>d</i>
Child age	84	153	Abuse	112	19.8	0.14	.05
	84	155	Control	113	17.8		
Maternal education	6	21	Abuse	13.5	3.0	18.70*	.66
	8	24	Control	15.7	3.6		
Maternal RF	-1	6	Abuse	2.92	1.40	12.88*	.56
	1	7	Control	3.69	1.36		
Child RF	0	7	Abuse	1.85	1.39	23.40*	.75
	-1	7	Control	2.84	1.26		
Dissociation	0	27	Abuse	8.50	6.27	34.42*	.90
	0	31	Control	3.34	5.12		
Depression	34	78	Abuse	51.78	9.33	22.42*	.71
	37	64	Control	46.40	5.31		
Externalizing	44	86	Abuse	64.52	11.53	32.85*	.89
	30	84	Control	54.00	12.04		
Sexualizing	42	111	Abuse	69.27	24.74	9.21*	.46
	42	111	Control	59.37	17.47		

Notes: Child age is in months. Maternal RF was assessed with the Parent Development Interview-Revised; child RF was assessed with the Child Reflective Functioning Scale applied to the Child Attachment Interview; dissociation was assessed with the Child Dissociative Checklist; depression was assessed with the Child Depression Inventory; externalizing difficulties were assessed with the Child Behavior Checklist-Parent; sexualizing difficulties were assessed with the Child Sexualized Behavior Inventory. RF = reflective functioning.

* $p < .01$.

Table 1). Children with histories of intrafamilial and extrafamilial sexual abuse were also compared on key variables, but the results revealed nonsignificant differences. Results indicated no significant gender effects with regard to child RF, dissociation, depression, or externalizing and sexualizing difficulties. Relationships between maternal RF, child RF, dissociation, child psychopathology, and child age and mothers' education were examined using correlational analysis with an alpha threshold of .01 and are presented in Table 2. As expected,

Table 2. Correlations between age, mother's education, maternal and child RF, and child psychopathology ($N = 168$).

Variable	1	2	3	4	5	6	7	8
1. Child age	—							
2. Maternal education	-.046	—						
3. Maternal RF	-.023	.393*	—					
4. Child RF	.440*	.403*	.248*	—				
5. Dissociation	-.113	-.347*	-.322*	-.562*	—			
6. Depression	-.105	-.304*	-.034	-.436*	.193*	—		
7. Externalizing	-.048	-.231*	-.304*	-.429*	.687*	.231*	—	
8. Sexualizing	-.132	-.246*	-.253*	-.239*	.488*	.207*	.531*	—

Notes: Maternal RF was assessed with the Parent Development Interview-Revised; child RF was assessed with the Child Reflective Functioning Scale applied to the Child Attachment Interview; dissociation was assessed with the Child Dissociative Checklist; depression was assessed with the Child Depression Inventory; externalizing difficulties were assessed with the Child Behavior Checklist-Parent; sexualizing difficulties were assessed with the Child Sexualized Behavior Inventory. RF = reflective functioning.

* $p < .01$.

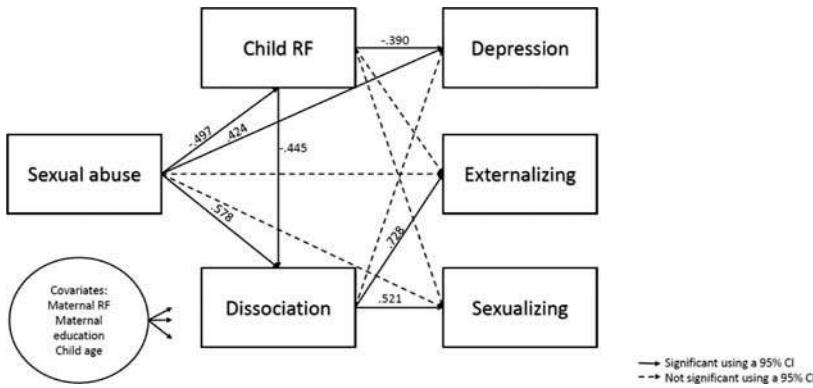


Figure 1. Direct effect of sexual abuse, child RF, and dissociation on child psychopathology ($N = 168$). Maternal RF was assessed with the Parent Development Interview–Revised; child RF was assessed with the Child Reflective Functioning Scale applied to the Child Attachment Interview; dissociation was assessed with the Child Dissociative Checklist. Covariates were allowed to predict all dependent variables in the model. Parameters are standardized. RF = reflective functioning; CI = confidence interval.

there were significant negative correlations between child RF and dissociation, as well as child psychopathology, and dissociation was significantly and positively correlated with child psychopathology. In addition, child age was associated with child RF. Maternal education and maternal RF were significantly and positively correlated with child RF and negatively correlated with most indices of child psychopathology as well as dissociation. For this reason, child age, maternal education, and maternal RF were controlled for in subsequent analyses.

Path analysis

A path analysis was conducted to test the hypotheses that child RF mediates the relationship between sexual abuse and dissociation and that child RF and dissociation both mediate the relationship between abuse and child psychopathology. Maternal education and maternal RF as well as child age were entered as covariates to control for their potential effect in the model, as they were associated with child RF and child psychopathology. Because child age was moderately associated with child RF, it was also entered in the path analysis model as a control variable. Fit indices indicated that the hypothesized model was a good representation of the observed data, $\chi^2(2) = 1.86$, $p = .359$, $\chi^2/df = .93$, comparative fit index = 1.00, Tucker–Lewis index = 1.01, root mean square error of approximation = .00, and standardized root-mean-square residual = .01.

Results showed that sexual abuse and lower child RF led to higher levels of dissociation. Tests of indirect effects revealed that the product coefficient for the path from abuse to dissociation going through child RF was significant ($b = .221$, 95% CI [.098, .384]), suggesting partial mediation (see Figure 1).

The total effect of sexual abuse on dissociation was reduced from a beta of .799 to .578, indicating that child RF can be considered a partial mediator of the relationship between abuse and dissociation. The proportion of the total effect of abuse on dissociation going through RF was 27.7%.

Regarding child-reported depression, results showed that sexual abuse, lower child RF, and maternal RF led to higher levels of depression. Results yielded a significant indirect effect (95% CI [.085, .371]); after we introduced child RF, the direct effect of abuse on depression remained significant but was reduced from $\beta = .575$ to $\beta = .424$, indicating partial mediation with 33.7% of the total effect of abuse on depression explained by child RF. The indirect effect through dissociation was not significant. The model explained 25.8% of the variance in children's symptoms of depression.

With regard to externalizing difficulties, results showed that higher levels of dissociation led to more externalizing. The indirect effect of sexual abuse on externalizing difficulties through dissociation was significant ($b = .421$, 95% CI [.233, .676]) and explained 61.2% of the total effect of abuse on externalizing difficulties. Results also indicated a significant sequential mediation; the indirect effect through child RF and dissociation, respectively, was significant ($b = .161$, 95% CI [.069, .279]), explaining 23.6% of the total effect of abuse on externalizing behaviors. After we introduced the mediators, the total effect of sexual abuse on externalizing difficulties decreased from $\beta = .683$ to a nonsignificant direct effect of $\beta = .076$, indicating full mediation. The model explained 57.6% of the variance in externalizing difficulties.

In terms of sexualized behavior difficulties, only dissociation had a significant direct effect ($\beta = .521$, $p < .01$). The indirect effect from sexual abuse through dissociation was also significant ($b = .301$, 95% CI [.160, .499]). After we introduced dissociation into the model, the effect of sexual abuse was reduced from $\beta = .262$ to $\beta = -.111$ and became nonsignificant, indicating full mediation. Results also confirmed that the sequential indirect effect through child RF and dissociation was significant ($b = .115$, 95% CI [.047, .214]) and explained 43.9% of the total effect of abuse on sexualized behaviors. The model explained 27.3% of the variance in sexualized behavior difficulties.

Discussion

The aim of this study was to examine pathways from CSA to depression and externalizing and sexualized behavior difficulties through mentalization and dissociation. The path analysis revealed distinct paths involving mentalization and dissociation to psychological symptoms of 7- to 12-year-olds. Children's mentalization partially mediated the relationship between CSA and depressive symptoms, and mentalization and dissociation sequentially

mediated the relationship between CSA and externalizing as well as sexualized behavior difficulties.

As expected, sexually abused children experienced significantly more dissociation, depressive symptoms, and externalizing and sexualized behavior difficulties than the comparison group. Furthermore, their RF, as well as that of their mothers, was significantly lower than that of the comparison group. The average RF of children was low in both groups (2.9 in the sexually abused group and 3.7 in the comparison group) and below the expected mean in low-risk samples (i.e., 5) indicative of a solid mental state understanding (Ensink, 2004). However, the relatively low average scores of the comparison group, which was selected to broadly match the socioeconomic status of the sexually abused group, are consistent with scores observed in higher risk adult samples (i.e., around 4) and suggest that mental state understanding is present but incomplete. The low mean observed in the sexually abused group suggests a level of reflexive functions in which basic mental states and emotion are identified but at a very simple level and prone to error, without an understanding of the links between behaviors, affect states, and emotions. As hypothesized, higher child and maternal RF were linked with less psychopathology. Lower maternal and child RF were related to higher levels of dissociation, which in turn were associated with more psychopathology.

The finding that the relationship between CSA and depressive symptoms was partially mediated by mentalization extends the results of previous research showing that adults with diagnoses of depression tend to have lower RF (Fischer-Kern et al., 2013). Mentalization can be seen as an important inner resource that is central to an intentional stance in which children actively try to make sense of social experience and integrate it into their identities. We have previously argued that mentalization contributes to resilience because rich semantic representations of self and others contribute to cognitive flexibility and reframing and are key to an autobiographical sense of self and identity (Fonagy, Steele, Steele, Higgitt, & Target, 1994; Stein, Fonagy, Ferguson, & Wisman, 2000). If CSA contributes to a defensive shutting down of mentalization, children may be more vulnerable to blaming themselves and may have little capacity to cognitively reframe negative affects and perceptions regarding themselves. Consistent with findings in previous studies (Macfie et al., 2001; Putnam, 1991), a significant but weak bivariate correlation was evident between dissociation and depressive symptoms; however, when dissociation and mentalization were considered together in the model, only mentalization remained significantly related to depression. This suggests that CSA may be associated with more depressive symptoms partially through its negative impact on children's mentalization.

With regard to behavioral difficulties (externalizing and sexualized behavior difficulties), dissociation was found to be the key mental process

mediating the impact of sexual abuse. The negative impact of dissociation was confirmed in two different ways: first, through simple effects of mediation in which the relationships between CSA and externalizing as well as sexualized difficulties were fully mediated by dissociation; and second, through a sequential mediation consistent with a model in which CSA led to lower mentalization that in turn was related to higher levels of dissociation, leading to externalizing and sexualized behavior difficulties. This confirms and extends previous findings in which dissociation was found to mediate the relationship between abuse and externalizing behavior problems (Collin-Vézina & Hébert, 2005). Our findings suggest that dissociation may create a context in which anomalous behaviors are initiated by the child that would usually be inhibited through a process of mental self-monitoring (Heyes & Frith, 2014). The finding that dissociation is central in processes associated with externalizing and sexualizing behaviors, partly by itself and partly with RF, nuanced our predictions based on the model proposed by Bateman and Fonagy (2008) in which mentalizing is considered to be the key mental process that has a social regulation role (McGeer, 2007). The findings of the current study also diverge somewhat from those of Taubner and Curth (2013), who found that mentalization in adolescents mediated the relationship between abuse and externalizing behavior difficulties. However, dissociation was not considered in either Bateman and Fonagy's conceptual model or Taubner and Curth's empirical study with adolescents. Furthermore, abuse experiences were distal in the study by Taubner and Curth, whereas those in the present study were proximal. Abuse-related neurophysiological dysregulation and dissociation could be assumed to peak proximal to abuse. As dysregulation attenuates over time, maintained mentalization capacities may become increasingly important in reestablishing self-regulation and affect regulation. Hence, Taubner and Curth's findings indicating that in adolescence mentalization mediated the relationship between CSA and behavior difficulties, and our findings suggesting that dissociation also plays a significant mediating role in this relationship, may be seen as suggesting that mentalization has a lagged effect on externalizing behavior that becomes evident more distal to abuse.

The finding that dissociation mediates the relationship between CSA and sexualizing behavior difficulties is new and suggests that dissociation may be an important and often overlooked process in linking CSA and sexualizing behavior difficulties. Addressing dissociation may help children who sexualize regain access to cognitive and affective resources that are important for them to develop increasing awareness and control over sexual behaviors. This is especially important given that sexualized behaviors place them at risk for rejection and further abuse.

The question remains why dissociation should have such a strong role in mediating the relationship between CSA and externalizing and sexualized

behavior difficulties. Based on findings from previous studies (Collin-Vézina & Hébert, 2005), we can assume that the direction of the effect is from dissociation to externalizing and sexualized behaviors, but this needs to be confirmed in longitudinal research. Emotion over modulation (Frewen & Lanius, 2006), with trauma contributing to a narrowed range of tolerable affects, and where high-intensity affects trigger attempts at suppression and dissociation, may be a key process underlying the maintenance of maladaptive response patterns associated with CSA. By precluding the development of strategies for tolerating and integrating affect, and comprehensively representing the impact of antisocial actions (Fonagy, 2004), dissociation conceivably increases the risk of manifesting behaviors maladapted to the demands of particular interpersonal contexts. Previously we assumed that insufficient or distorted mentalizing alone was the key mechanism in a process in which actions and behaviors become mismatched to reality (Fonagy & Target, 2000, 2007). However, the current findings suggest that in addition, dissociative detachment from experience may also be pertinent to this process, with mentalization difficulties in the aftermath of abusive experiences contributing to higher levels of dissociation in children. When resources like the ability to suspend reality, used in play to develop mentalization in the course of normal development, are instead invested in elaborating a parallel world of the child's creation that becomes as real to him or her as external reality (Fonagy & Target, 1996), this may further contribute to maintaining maladaptive behaviors, as the child is not cognitively and affectively engaged in assessing social contexts and their responses. This may underlie what has been referred to as *hypermentalizing*, in which presumptions are made about mental states that go beyond available data (Sharp et al., 2013) but in which the direct connection between physical reality and internal states may be weakened or lost, resulting in a mode of subjectivity we have described as *pretend mode* (Fonagy & Target, 1996), which in turn may indicate vulnerability to dissociation. Given that hypermentalization has been reported in the context of emergent personality disorders (Sharp et al., 2013), which in turn are frequently linked to childhood CSA (Widom, Czaja, & Paris, 2009), it would seem pertinent to examine the possible role of dissociation in this process.

This study has a number of strengths, including the focus on both dissociation and mentalization as mental processes that could mediate the relationship between abuse and psychopathology as well as the inclusion of three types of difficulties that children are known to experience in the context of abuse. In addition, the study had a comparatively large sample size. However, several limitations must also be considered. The use of parent-report measures of dissociation and externalizing and sexualized behavior difficulties may have inflated the reported relationships. Also, the use of a general indicator of dissociation does not account for the heterogeneity of

dissociative processes and leaves unanswered questions about whether specific dimensions of dissociation, such as detachment or altered states of consciousness, may account for the mediation findings. Given that the current study used a cross-sectional design, longitudinal research is warranted in order to clarify the relationship between dissociation and mentalization over time, both in the context of trauma and in normal development. More specifically, the relationship between mentalization and dissociation and their respective roles in psychopathology need to be examined longitudinally during early childhood as well as in middle childhood and adolescence.

Conclusion

The findings of this study nuance our understanding of how mentalization and dissociation together contribute to psychopathology in the context of CSA. Constriction of mentalization in the context of CSA and a breakdown of interpersonal trust appears to be a key process contributing to depression. Dissociation appears to be a central process accounting for the relationship between CSA and externalizing difficulties, as well as sexualized behavior difficulties, with lower mentalization related to higher levels of dissociation. These findings indicate that in addition to the usual treatment focus of helping children elaborate narratives regarding abuse, interventions to activate mentalization regarding self and others may contribute to overcoming negative affects and perceptions that underlie depression. Consolidating mentalization in the context of sexual abuse could potentially reduce recourse to dissociation by developing other resources that can be used when faced with difficult affects and interpersonal situations. Furthermore, identifying dissociative processes that undermine recovery in the context of externalizing and sexualized behavior difficulties, and helping child victims of CSA mentalize the unbearable affect states and sexual impulses, may be key to developing mentalizing strategies that can restore a sense of agency.

ORCID

Peter Fonagy  <http://0000-0003-0229-0091>

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