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To cite this article: Elisa van Ee, Rolf J. Kleber, Marian J. Jongmans, Trudy T.M. Mooren & Dorothee Out (2016) Parental PTSD, adverse parenting and child attachment in a refugee sample, *Attachment & Human Development*, 18:3, 273-291, DOI: [10.1080/14616734.2016.1148748](https://doi.org/10.1080/14616734.2016.1148748)

To link to this article: <http://dx.doi.org/10.1080/14616734.2016.1148748>



Published online: 16 Mar 2016.



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Parental PTSD, adverse parenting and child attachment in a refugee sample

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ABSTRACT

In contrast with traumatic experiences, there is a dearth of studies on the link between trauma symptoms, disconnected (frightened, threatening and dissociative) parenting behavior, extremely insensitive parenting behavior and child attachment. This study extends previous work on the impact of posttraumatic stress disorder (PTSD) on families by studying the unique contribution of disconnected and extremely insensitive parenting behavior on child attachment in a highly traumatized sample of 68 asylum seekers and refugees and their children (18–42 months). The results show that parental symptoms of PTSD are directly related to children's insecure attachment and disorganized attachment. The greatest proportion of the risk could be attributed to factors related to the dyad and not the family. A mediation effect of adverse parenting behavior was not confirmed. On the one hand the results indicate the need for an effective treatment of PTSD symptomatology while on the other hand the results indicate the need for clinical attention to insecure attachment relationships.

ARTICLE HISTORY

Received 13 September 2015
Accepted 27 January 2016

KEYWORDS

PTSD; refugee; parent; attachment; adverse caregiving

In the last decade, an increase in research studies on the impact of symptoms of posttraumatic stress disorder (PTSD) on parenting has been noted. An association between symptoms of PTSD and the emotional availability of the traumatized parent to the child is in evidence. Mothers with more PTSD symptoms have been reported to be less sensitive and responsive (Schechter et al., 2010; Van Ee, Kleber, & Mooren, 2012), more avoidant (Schechter et al., 2005; 2008), and more hostile and controlling when interacting with their child (Davies, Slade, Wright, & Stewart, 2008; Despars et al., 2011). Parental symptoms of PTSD also have a significant positive association with internalizing and externalizing behavior problems in children (Bosquet Enlow et al., 2011; Lester et al., 2010; Lombardo & Motta, 2008). In addition, research findings have provided convincing evidence regarding the negative implications of parental symptoms of PTSD for parenting satisfaction and for the perception of and satisfaction with the child (Davies et al.,

2008; Khaylis, Polusny, Erbes, Gewirtz, & Rath, 2011; Lauterbach et al., 2007; Samper, Taft, King, & King, 2004). Despite this increase in research studies, the mechanisms that explain the association between the consequences of trauma on parenting and child functioning are poorly understood.

In the attachment literature it has been proposed that parental expressions of fear (frightening, threatening and dissociative parenting behavior) related to traumatic experiences may explain the association between parental trauma-related disturbances and child functioning (Main & Hesse, 1990). Attachment research has demonstrated a link between childhood experiences of loss of significant others or childhood abuse on the one hand, and adult unresolved trauma or loss on the other hand (as measured with the Adult Attachment Interview; AAI) (Van IJzendoorn, 1995; Van IJzendoorn, Schuengel, & Bakermans-Kranenburg, 1999). Unresolved adults have been observed to behave in a frightened or frightening way, which can be frightening to the child (Madigan, Moran, & Pederson, 2006; Schuengel, Bakermans-Kranenburg, & Van IJzendoorn, 1999). Parental frightened or frightening behavior includes unusual vocal patterns, animal-like pursuit movements without meta-signals indicating play or affection, avoidance, sudden retreats or startles in response to the child, timid or deferential behavior, looming, stilling or freezing (Main & Hesse, 1999). Dissociative phenomena have been proposed to explain the link between unresolved attachment representations of the parent and frightening parenting behavior (Hesse & Main, 2006). Evidence has also been found for a link between unresolved attachment representations, frightened or frightening parenting behavior and infant disorganization (for a meta-analysis see Madigan, Bakermans-Kranenburg, et al., 2006). Disorganized attachment is the most insecure form of attachment, characterized by a lack of an organized strategy for dealing with distress and is presumed to result from the child's fear of the parent. As the parent is the only haven of safety but also a source of fear, the child is left with an irreconcilable paradox that leads to the breakdown of organized attachment behavior (Main & Hesse, 1990). In addition, Lyons-Ruth, Bronfman, and Parson (1999) suggested that children from extremely insensitive parents, who fail to soothe and comfort the child and thereby fail to regulate the child, may also develop a disorganized attachment. Therefore, in addition to frightening, threatening and dissociative parenting behavior, extreme insensitivity has been postulated as a robust predictor of disorganized attachment as well (Lyons-Ruth & Block, 1996; Madigan, Moran, et al., 2006; Out, Bakermans-Kranenburg, & Van IJzendoorn, 2009).

Until recently, attachment and trauma research have developed along separate lines (Stovall-McClough & Cloitre, 2006). However, it has been theorized that the underlying mechanism behind unresolved trauma or loss (as defined by attachment theory) and PTSD might be very similar. Using a cognitive framework, Fearon and Mansell (2001) proposed a model where the notion of unintegrated memory systems, related to traumatic experiences, linked unresolved loss with the intrusive and avoidant symptoms of PTSD. Persons classified as unresolved show striking lapses in the monitoring of reasoning and discourse when discussing a loss during the AAI. These momentary breakdowns might indicate dissociation, intrusions of frightening ideation, and/or lapses in metacognitive processes (Main & Morgan, 1996). Core symptoms of PTSD may play a key role in unresolved loss. The four distinct PTSD symptom clusters consist of intrusion, avoidance, negative alterations in cognitions and mood, and alterations in arousal and

reactivity (American Psychiatric Association, 2013). Fearon and Mansell (2001) suggest that the loss of a close loved one can lead to intrusive memories and cognitions and to avoidance, and these symptoms are similar to symptoms of PTSD. Successful resolution of both PTSD and unresolved loss involves the integration of information regarding the trauma or loss with existing schematic representations of the self and the world. Similarly, Lyons-Ruth and Block (1996) argued that intrusive and avoidant symptoms of PTSD and trauma-related symptoms, such as dissociation, can be thought of as an index of a continuing state of fear. Considering the subtle common processes involved in unresolved trauma and loss (as defined by the AAI), and PTSD, an exploration of trauma on family relationships in the context of both trauma and attachment theory is needed.

There is a dearth of studies on the link between PTSD, frightened, threatening and dissociative parenting behavior, and child attachment. As previous studies have shown that parents with PTSD symptoms are less sensitive and responsive to their children, it can be hypothesized that parents with PTSD are also more likely to have children with insecure attachments. In addition, as previous literature has consistently shown that parents with unresolved trauma and loss are more likely to have children with disorganized attachment (for a meta-analysis, see Madigan, Bakermans-Kranenburg, et al., 2006), it is possible that symptoms of PTSD have similar or identical consequences, and parents with PTSD are more at risk of having children with disorganized attachments. In particular, disorganized attachment in infants is associated with an elevated risk for later psychopathology (for a meta-analysis, see Van IJzendoorn et al., 1999). Therefore, more insight into the possible links between PTSD, disconnected (frightened, threatening and dissociative) parenting behavior, extremely insensitive parenting, and child attachment is needed and may have important implications for treatment.

This study extends previous studies on the impact of PTSD on family relationships by examining the relation between parental PTSD and child attachment, and the unique contribution of disconnected and extremely insensitive parenting behavior to these associations, using a highly traumatized sample of asylum seekers and refugees. Worldwide asylum seekers and refugees are forcibly displaced because their life is threatened as a result of persecution, conflict, generalized violence, or human rights violations. In general, asylum seekers and refugees have experienced life-threatening circumstances such as poverty and lack of medical care, and multiple interpersonal traumatic experiences such as rape, imprisonment, torture and murder of close relatives. These dangerous circumstances drive them to forced migration and application for asylum, through which they may regain hope for a new future. Most often, they face a hostile reception in the host-country, acculturation stress and a long-term threat of deportation. Refugees are distinguished from asylum seekers who still have to cope with the uncertainty of whether their claim for a refugee status will be admitted or rejected. In 2013, an estimated 10.7 million people worldwide were newly displaced as a result of persistent or new conflicts and persecution. Of this group, 1.2 million people fled over international borders, the highest number since record keeping began. The number of forcibly displaced people worldwide exceeded 51.2 million (UNHCR, 2014). Fazel, Reed, Panter-Brick, and Stein (2012) confirm, in their systematic review, that particularly refugee children resettled in high-income countries are a vulnerable group and call for

research to identify “relevant processes, contexts and predictor variables” to identify their mental health needs.

We hypothesize that: (1) there is an association between parent’s symptoms of PTSD and the likelihood of an insecure or disorganized attachment of the child; (2) this association between parental PTSD and child attachment is mediated by adverse parenting behavior (disconnected parenting behavior and by extremely insensitive parenting behavior); (3) the distinct diagnostic symptom clusters of PTSD intrusion and avoidance are of particular relevance in the prediction of child attachment; and (4) part of this association can be explained by factors on the family level, such as family composition, child sex, residence permit and clinical level of PTSD symptoms at the family level. We expect higher symptom levels of PTSD related to intrusion and avoidance to be associated with more adverse parenting behavior, and a higher prevalence of an insecure or disorganized attachment of the child.

Method

Participants

Participants in this study were asylum seekers and refugee parents in the Netherlands with traumatic experiences and a child between 18–42 months of age who was born in the Netherlands. A residency permit is granted to refugees whereas asylum seekers are in the process of applying for a refugee status. Asylum seekers and refugees with severe mental retardation, addictions or psychosis were excluded. As traumatization of the child has its own effect on parent–child interaction, dyads were excluded when children themselves had experienced traumatic experiences. Exclusion criteria were checked with the Mini International Neuropsychiatric Interview (Overbeek, Schruers, & Griez, 1999) and an interview to assess the child’s lifetime trauma exposure history. In this interview, parents were asked to report exposure to potential traumatic experiences such as accidents, hospitalization, and violent events throughout the life of their child.

The participants were recruited from Dutch asylum seeker centers and from client groups at Foundation Centrum ‘45,¹ a national treatment and expertise center for psychological trauma. At Centrum ‘45, therapists asked all clients with young children if the research team could inform them about the project. Of the 80 eligible parents, 35 consented to participate in the study. Those who agreed to participate did not differ from those who did not in terms of age ($t(101) = -1.57, p = .12$), region of origin ($\chi^2(2) = 1.60, p = .45$), education ($\chi^2(1) = 0.86, p = .35$) or reported post-traumatic stress symptoms on the Harvard Trauma Questionnaire ($t(89) = 1.04, p = .30$). There was a significant difference ($t(94) = 4.96, p < .001$) in time spent in the Netherlands between participating ($M = 6.66$ years, $SD = 4.78$, range 0.3–20) and non-participating clients ($M = 11.64$ years, $SD = 3.59$, range 6–19). At the asylum seeker centers, we used several strategies to recruit participants (word of mouth, leaflets in the living room, providing information door to door). Forty-nine parents consented to participate. Three fathers who were directly approached declined. Of the 84 parents who consented to participate from both research sites, 16 dyads were excluded: nine did not meet the inclusion criteria, one participant was in the final trimester of her pregnancy and was not able to complete the tests, one participant could not participate in the study because of

work-related circumstances, four participants did not show up, and one dyad was removed from the analyses because the Strange Situation Procedure was not reliably administered.

The final sample consisted of 68 parents and their children: 27 fathers, 41 mothers, 31 boys and 19 girls. Of these parents, 18 were single mothers, 36 were living as a couple and both parents consented to the assessment, and 14 were living as a couple but only one of the parents consented to the assessment. Mean ages for fathers, mothers, and children were 35.53 years ($SD = 8.46$, range 23–56), 29.65 years ($SD = 6.12$, range 20–44) and 29.67 months ($SD = 8.59$, range 18–44), respectively. The socioeconomic status of the sample was low as, within the Netherlands, asylum seekers are not allowed to work or study, and most refugees are unemployed or working in low status jobs. The level of education among participants varied strongly: 23.8% had little or no education, 17.9% had finished primary school, 17.9% had finished secondary school, 14.9% had finished vocational education and 25.1% held a professional or university degree. Parents had fled from various geographical regions: Middle East (36.8%), Africa (36.8%), East Europe (14.7%), Asia (7.4%), and South America (1.5%).

Procedure

All parents came with their child for one day to Centrum '45 or a designated area within the asylum seekers' center. Parents living as a couple were tested on separate days. Before testing started, inclusion and exclusion criteria were checked and informed consent was obtained. Participants were aware that they could withdraw their consent at any time and that anonymity was guaranteed. An interpreter was present during the entire day. Participants received 25 Euros and reimbursement for traveling expenses. The study was approved by the medical ethics committee of the Medical Center of Leiden University, The Netherlands.

Measures

Traumatic experiences and PTSD symptoms

The Harvard Trauma Questionnaire (HTQ; Mollica, Caspi-Yavin, Bollini, & Truong, 1992) was used to assess trauma experiences and symptoms of parents in their own language. The questionnaire consists of a list of 20 traumatic experiences and a 30-item trauma-symptom list. The first 16 items were derived from the DSM-IV criteria for PTSD and measure the severity of PTSD symptoms. The DSM-IV contains three symptom clusters: intrusion, avoidance and numbing, and hyperarousal. In the DSM-V, the avoidance and numbing cluster is split into two clusters: avoidance, and negative alterations in cognitions and mood. The other 14 items of the HTQ describe symptoms specifically related to refugee trauma. Participants are first asked to note which traumatic events they experienced, witnessed or heard of and then to rate to what degree specific symptoms have bothered them in the past week on a scale of 1 (not at all) to 4 (extremely). A cutoff score of 2.5 was used in several studies to identify clinically significant PTSD (Mollica et al., 1992). Mollica and colleagues (1999) have also developed a scoring algorithm to adapt this measure to DSM-IV criteria and suggest this method for populations for which the instrument has not been validated.

The HTQ is available in many languages. The psychometric properties of the HTQ are adequate across cultures and appropriate to measure symptoms of posttraumatic stress (Kleijn, Hovens, & Rodenburg, 2001). In a review of instruments used in studies on refugees, Hollifield and colleagues (2002) noted that the HTQ has been found to be statistically reliable and valid in multiple studies with multiple traumatized populations. In the current study, internal consistency was high (intrusion $\alpha = .86$, avoidance $\alpha = .78$, hyperarousal $\alpha = .85$, specific refugee trauma-items $\alpha = .88$, DSM-symptoms $\alpha = .91$, total symptom scale $\alpha = .94$). In our analyses we used the mean score of the first 16 items DSM scale score and the algorithm to compute the clinical levels of PTSD and symptom-cluster scores.

Adverse caregiving behavior

Parenting behavior was measured using the coding system for the observation of Disconnected and extremely Insensitive Parenting (DIP; Out, Bakermans-Kranenburg, et al., 2009; Out, Cyr et al., 2009). The DIP distinguishes between two types of adverse caregiving behaviors. The first dimension, disconnected behavior, is based on the coding system by Main and Hesse (1998) for the observation of frightening, frightened, dissociative and other anomalous parental behavior. Central to this dimension is the sudden change in normal (and possibly sensitive) parenting behavior. This may take the form of frightening and threatening behaviors (e.g., voice alterations); behaviors indicating fear of the child (e.g., startle in response to the child's behavior); dissociative behavior indicative of absorption or intrusion of an altered state of awareness (e.g., stilling or freezing); interacting with the child in a timid, submissive and/or deferential manner, and sexualized/romantic behavior; or disorganized and disoriented behavior (e.g., contradictions between behaviors, vocalizations, facial expression and/or voice tone). The parent's behavior appears to be disconnected from the immediate environment and as such may indicate a dissociative state (Hesse & Main, 2006). Important considerations in the observation of these behaviors are the lack of meta-signals indicating play or affection (e.g., smiling), the absence of any explanation for the behavior, and the unpredictable and sudden appearance. The second dimension covers extremely insensitive caregiving and incorporates some of the behaviors described in the coding system for atypical maternal behavior by Bronfman, Parsons, and Lyons-Ruth (2004). This dimension focuses on withdrawal and neglect (e.g., parent remains unresponsive when the child is in distress) as well as intrusive, negative and aggressive behaviors (e.g., hostile or rejecting comments). Thus, a clear distinction in the DIP was made between disconnected behavior that may result from (traumatic) dissociation and extremely insensitive caregiving. Construct and discriminant validity of the DIP was established in two previous studies, with disconnected behavior predicting infant disorganization but not organized attachment security and extreme insensitivity predicting insecure attachment but not disorganized attachment (Luijk et al., 2011; Out, Bakermans-Kranenburg, et al., 2009).

Parents were instructed to play with their child as they liked for 15 minutes. In the room different toys, two chairs and space to play on the ground were available. Two coders observed the video recordings of the parent-child interaction and coded discrete disconnected and extremely insensitive behaviors every time they occurred. A final score was assigned for each dimension, which was equal to the highest individual score or one

point higher when the parental behavior was severe or occurred frequently (range 1–9). For reliability purposes, the two coders rated the video recordings for 12% of the participants. Inter rater reliability ranged from .75 to .97 (Intra Class Correlation [ICC], single measure, absolute agreement, for disconnected behavior = .83, for subscale parental withdrawal and neglect = .97, for subscale intrusive, negative, aggressive behavior = .83, for extremely insensitive behavior = .75). Differences were resolved by conferencing. Coders were blind to the attachment classification of the child.

Attachment security

The Strange Situation Procedure (SSP) for preschool children 2–5 years of age (Cassidy, Marvin, & the MacArthur Working Group, 1992) was used to assess attachment security. The different sequences in this well-known procedure reflect three mildly stressful events: an unfamiliar environment, entrance of an unfamiliar person, and two short separations from the parent. Based on this procedure, an attachment classification is assigned. Observations of five modalities of child behavior are taken into consideration: physical contact and seeking or maintenance of physical proximity, body positioning, content and style of parent-directed speech, looking behavior directed to the parent, verbal and non-verbal indices of affect. The attachment relationship of the children can be either classified as securely attached (B), or insecurely attached. Insecurely attached children are categorized as avoidant (A), resistant (C), or disorganized (D). Children whose insecure attachment behavior cannot be classified in one of the three insecure attachment relationships are coded as insecure-other (IO). Similar to previous studies, the classifications D and IO were combined in one category. The categories B, A, and C are considered to be an organized reaction in response to the quality of caregiving behavior. Even though categories A and C are insecure attachment strategies, these children do develop a consistent pattern of attachment behavior to deal with an insensitive parent; avoidant children under-activate attachment behavior, whereas ambivalent children over-activate. A disorganized attachment is considered to be the most insecure and anxious form of attachment and is characterized by a breakdown of organized attachment behavior in response to unpredictable and frightening care-giving behavior (Main & Hesse, 1990). In the current study, comparisons were made between secure (B) versus insecure attachment (C + A + D), and between organized (B + C + A) and disorganized attachment (D).

The preschool system has been evaluated as reliable and valid (Moss, Bureau, Cyr, Mongeau, & St-Laurent, 2004; Teti, 1999). Two coders were trained towards reliability by R. Marvin, who developed the SSP for preschool children. In close consultation with him, we used the system for slightly younger children as well. To ensure reliability for the entire age range, all SSP's were coded by two coders. Cohen's kappa was good to very good (Peat, 2001): .79 for classification of attachment (four-way classification), .82 for B versus not B, and .86 for D versus not D. Differences were resolved by conferencing.

Statistical analysis

Multilevel structural equation modeling was used to test a combination of direct and indirect relations between the independent variable parental symptoms of PTSD, the mediators extremely insensitive parenting and disconnected

parenting, and the dependent variable child attachment. The model is represented in [Figures 1 and 2](#). The securely attached versus insecurely attached groups and the organized versus disorganized groups were analyzed separately. The model was tested using multilevel analysis, as the observations of the children were not independent but nested into families. Parents from a family each have a relationship with the same child. Therefore, multilevel analysis can be used to analyze first whether parents' symptoms of PTSD affect child attachment (dyadic level), and secondly whether children's attachment relationships with their parents are more similar within families than across families, which allows us to analyze the effects of predictors at the family level on child attachment. As described by Hox (2010), a multi-level analysis is conducted over several steps. Similarity between families is presented by ICC and computed from the intercept-only model (model 0). This model serves as a benchmark as other models are compared to this null model. The outcome variable of the model is binary; therefore, the cluster variance is a constant. The ICC was computed as $\sigma^2/(\sigma^2 + (\pi^2/3))$ (Guo & Zhao, 2000). An ICC close to 0 indicates that members within a family are no more similar than other participants, whereas an ICC of 1 indicates that family members have identical responses.

To test whether there is a relationship between parents' symptoms of PTSD (DSM symptom scale from HTQ) and child attachment and whether extremely insensitive parenting and disconnected parenting mediate this relationship, the null-model is expanded with these explanatory variables (Model 1). First, the mean PTSD symptoms according to the DSM was added as a predictor (hypothesis 1), followed by three separate models with the distinct diagnostic symptom-clusters (intrusion, avoidance, hyperarousal) as predictors (hypothesis 3). Whether extremely insensitive parenting and disconnected parenting mediated the relationship between PTSD symptoms and child attachment was tested by the significance of the indirect effects (hypothesis 2).

As a next step, model 2 investigates whether the predictors at the family-level can explain differences in child attachment (hypothesis 4): family composition (single parents versus traditional family composition), child sex, residence permit (asylum seekers versus refugees) and clinical level of PTSD symptoms at the family level. To compute this model one family was removed because within this family one parent was granted a residence permit while the other parent was not. To examine the effect of a clinical level of PTSD symptoms at family level, we divided the families where both parents participated ($n = 36$) into families with zero, one or two parents with a clinical level of PTSD symptoms according to the algorithm of Mollica et al. (1999).

In the final step, the random slope model is computed (model 3) to investigate the influence of the family on the regression slopes. In this model the variance components on the family level for the explanatory variables are estimated. Significant variances for regression coefficients are further analyzed with the predictors on the family level (cross-level interactions).

For multilevel modeling of binary data, we used Mplus 7.11 (Muthén & Muthén, 2013) with MLR as the estimator. This approach includes the necessary transformation and the choice of an appropriate error distribution explicitly in the statistical model thereby allowing for multilevel modeling of dichotomous data (Hox, 2010). Because the dependent variable is dichotomous, Mplus does not provide model fit indices. To indicate how

much of the variance was explained at both the parent and family level, we used the R^2 computed for each level separately. As it is expected that parental symptoms of PTSD increase the risk for maladaptive parenting and insecure child attachment, one-sided p -values are reported. For all other tests we report two-sided p -values.

Results

Preliminary analyses

Descriptive statistics for the trauma, parenting and attachment variables are summarized in Table 1. Examples of traumatic experiences are rape (26.5%), lack of food or water (47.1%), threatened with execution (47.1%), torture (48.5%), combat situation (48.5%), and near-death experience (59%). It should be noted that many participants experienced trauma or loss within the family context: 60.3% of the participants reported to have experienced a forced separation from family members, 55.9% reported an unnatural death of a family member, and 44.1% reported a murder of a family member. The majority (59.4%) experienced a clinical level of PTSD symptoms. In this sample, less than half of the children were classified as securely attached (42.6%), whereas 30.9% were classified as insecure organized and 26.5% were classified as disorganized.

Secure-insecure attachment

Null-model

The ICC for security of attachment was .07, which means that 93% of the total variability in the outcome is attributable to factors on the dyadic level and 7% is attributable to factors on the family level (model 0).

Model 1: model on the dyadic level

To test if the relationship between parental symptoms of PTSD (total score) and children's security of attachment was mediated by either extremely insensitive parenting or disconnected parenting, both explanatory variables were added to the null-model. The results are depicted in Figure 1.

Table 1. Descriptive statistics of explanatory variables.

Measure		<i>M</i>	<i>SD</i>	Range	Freq.	%.
HTQ	Traumatic events	12.42	5.62	1–20		
	PTSD symptoms	2.71	0.74	1–4		
	PTSD algorithm					
	Subclinical symptoms				28	41.2
	Clinical symptoms PTSD				40	58.8
DIP	Disconnected parenting	2.96	2.07	1–9		
	Extremely insensitive parenting	2.97	1.87	1–9		
PSSP	Attachment classification					
	Secure				29	42.6
	Avoidant				5	7.4
	Ambivalent				16	23.5
	Disorganized				18	26.5

HTQ = Harvard Trauma Questionnaire, DIP = Disconnected and extremely insensitive parenting, PSSP = Preschool Strange Situation Procedure.

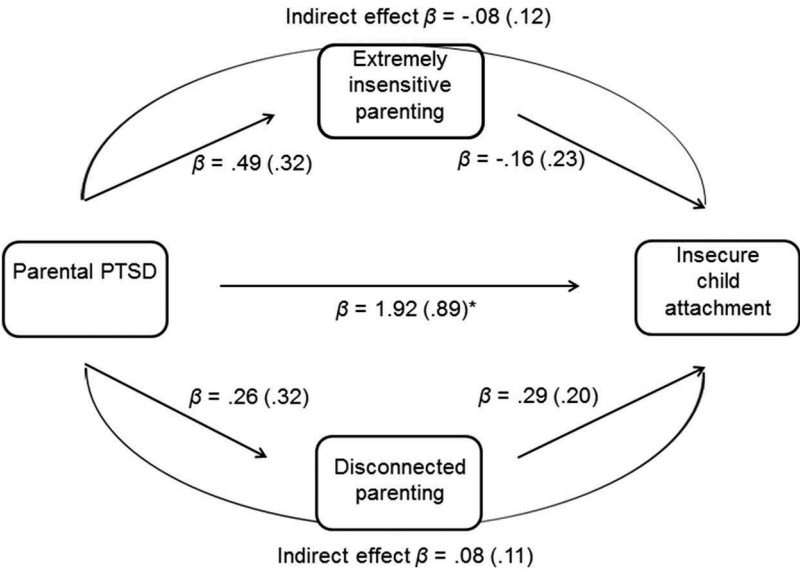


Figure 1. Associations between parental PTSD, adverse caregiving behavior and security of child attachment (model 1).

* $p < .05$, standard errors included in parentheses

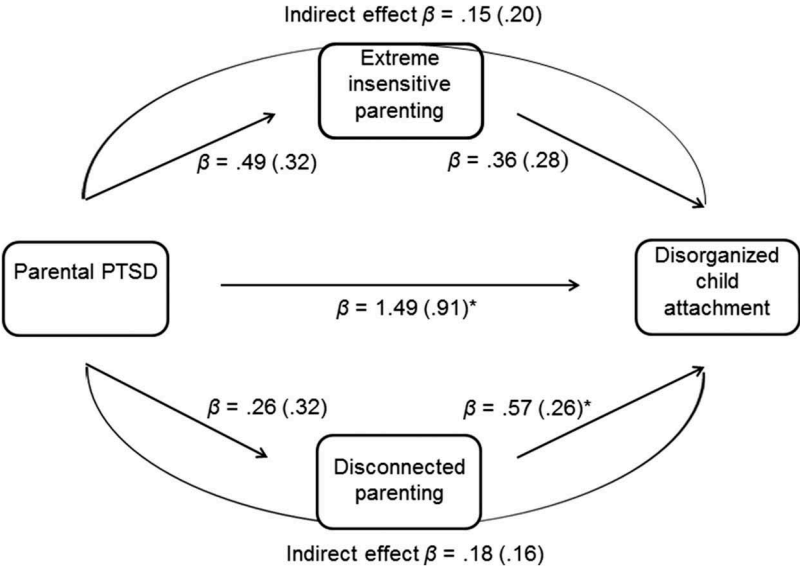


Figure 2. Associations of the relations between parental PTSD, adverse caregiving behavior and organization of child attachment (model 1).

* $p < .05$, standard errors included in parentheses

The direct effect of parental symptoms of PTSD on security of attachment was significant. An increase in parental symptoms of PTSD was associated with an insecure attachment in children. The relation between PTSD symptoms and parental extremely

insensitive behavior was noteworthy, but did not reach significance ($p = .06$). The relation between extremely insensitive parenting and security of attachment was not significant. The relation between PTSD symptoms and disconnected parenting behavior was not significant. In addition, the relation between disconnected parenting behavior and insecure attachment was noteworthy, but not significant ($p = .07$). Neither of the indirect effects was significant, indicating that there was no significant mediating effect of disconnected and extremely insensitive parenting behavior in the relation between PTSD symptoms and attachment security. Model 1 explained 43% out of the 93% variance in child attachment security at the dyadic level.

When we analyzed parental symptoms of PTSD separately for the distinct diagnostic symptom-clusters intrusion, avoidance and hyperarousal, the direct effect of every PTSD symptom-cluster on security of attachment was significant (see Table 2). In addition, intrusion and avoidance were significant in explaining individual differences in extremely insensitive parenting. Neither of the indirect effects was significant. The model with intrusion explained 39%, avoidance 30%, and hyperarousal 38% out of the 93% variance in child attachment at the dyadic level.

Model 2: model on the family level

To explain the variance in attachment security at the family level, we added the following predictors to the model: family composition, child sex, having a residence permit, and number of parents with a clinical level of PTSD within the family. Neither of the predictors reached significance: child sex ($\beta = 1.17$, $SE = 0.78$, $p = 0.14$), family composition ($\beta = 0.83$, $SE = 0.76$, $p = .27$), clinical level of PTSD within the family ($\beta = -0.22$, $SE = 0.60$, $p = 0.71$) and residence permit ($\beta = 0.88$, $SE = 0.69$, $p = .20$).

Model 3: random slope model

As a final step, the variance components for the regression coefficients of the explanatory variables were estimated. None of the variances around the slopes were significant (Table 3).

Table 2. Associations between PTSD symptom-clusters and security of child attachment (model 1).

	Intrusion		Avoidance		Hyper arousal	
	<i>B</i>	<i>SE</i>	β	<i>SE</i>	β	<i>SE</i>
Insecure attachment	.33**	.13	.20*	.13	.28*	.14
Disconnected parenting	.03	.06	.02	.05	.03	.05
Extreme insensitive parenting	.09*	.06	.08*	.05	.07	.06
Indirect effect disconnected parenting	-.02	.02	-.01	.02	-.01	.02
Indirect effect extremely insensitive parenting	.01	.01	.01	.01	.01	.02

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

Table 3. Model of the random slopes with security of child attachment.

Slope security of attachment	<i>M</i>	<i>SE</i>	$\bar{\sigma}$	<i>SE</i>
PTSD symptoms	2.57	0.14	0.03	0.05
Disconnected parenting	0.44	0.03	0.01	0.01
Extremely Insensitive parenting	0.74	0.72	1.16	1.97

$\bar{\sigma}$ = variance components on the family level for the explanatory variables.

Organized-disorganized attachment

Null-model

The ICC for organized versus disorganized attachment classification was .02, which means that 98% of the total variability in the outcome is attributable to factors on the dyadic level, and only 2% is attributable to factors on the family level. The variance in children's attachment organization can almost completely be attributed to the dyadic level.

Model 1: model on the dyadic level

In model 1, depicted in [Figure 2](#), the direct effect of parental PTSD symptoms (mean score) on children's attachment organization was significant, indicating that higher levels of PTSD symptoms were associated with an increased likelihood of a disorganized attachment. The effects of PTSD symptoms on extremely insensitive parenting behavior ($p = .06$) and of extremely insensitive parenting behavior on (dis)organization of child attachment ($p = .10$) were noteworthy, but not significant. The indirect effects did not reach significance. The effect of PTSD symptoms on disconnected parenting behavior was not significant, whereas the effect of disconnected parenting behavior on children's disorganized attachment was significant indicating that the risk for a disorganized attachment increased when the parent displayed more disconnected behavior. The model explained 52% of the 98% variance located at the dyadic level.

As a next step, parental symptoms of PTSD were analyzed at the distinct diagnostic symptom-cluster level. The direct effects of intrusion and avoidance, but not hyperarousal, on children's attachment organization were significant (see [Table 4](#)). In addition, intrusion and avoidance independently predicted extremely insensitive parenting. Neither of the indirect effects was significant, indicating that the adverse caregiving behavior did not significantly mediate the effects of PTSD cluster symptoms on disorganization of attachment. The model with intrusion explained 48%, and avoidance 44% out of the 98% variance located at the dyadic level.

Model 2: model on the family level

To explain the variance on the family level, we added the following predictors to the model: family composition, child sex, residence permit, number of parents with a clinical level of PTSD within families. Again, none of the predictors reached significance: child sex ($\beta = 0.96$, $SE = 0.76$, $p = 0.21$), family composition ($\beta = 0.34$, $SE = 0.72$, $p = .64$), clinical

Table 4. Associations between PTSD symptom-clusters and organization of child attachment (model 1).

	Intrusion		Avoidance		Hyper arousal	
	β	SE	β	SE	β	SE
Disorganized attachment	.24*	.14	.17*	.10	.15	.13
Disconnected parenting	.03	.06	.02	.05	.03	.05
Extremely insensitive parenting	.09*	.06	.08*	.05	.07	.06
Indirect effect disconnected parenting	.03	.03	.03	.02	.03	.02
Indirect effect extremely insensitive parenting	.02	.04	.01	.03	.02	.03

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

Table 5. Model of the random slopes with organization of child attachment.

Slope organization of attachment	<i>M</i>	<i>SE</i>	σ^2	<i>SE</i>
PTSD symptoms	2.02	1.24	0.71	1.35
Disconnected parenting	0.73	0.30	0.18	0.41
Extremely insensitive parenting	0.74	0.72	1.16	1.97

σ^2 = variance components on the family level for the explanatory variables.

level of PTSD within families ($\beta = -0.04$, $SE = 0.59$, $p = .95$) and residence permit ($\beta = 0.45$, $SE = 0.66$, $p = .49$).

Model 3: random slope model

As a final step, the variances around the slopes for the explanatory variables were estimated, but none were significant. The results are summarized in [Table 5](#).

Discussion

This study extends previous studies on the impact of PTSD on family relationships by examining the relation between parental PTSD and child attachment, and the unique contribution of disconnected and extremely insensitive parenting behavior in this association. The results show that parental symptoms of PTSD are directly related to children's insecure and disorganized attachment to the parent, but this relation could not be explained by adverse parenting behavior. Disconnected parental behavior but not extremely insensitive behavior was associated with an increased risk of a disorganized attachment relationship. The greatest proportion of the risk could be attributed to factors related to the dyad and not to factors at the family level.

The results confirmed that there is a relation between parental symptoms of PTSD and the likelihood of an insecure and disorganized attachment of the child. Overall, the majority of the children in this sample were insecurely attached. In comparison to other samples, the proportion of ambivalently attached children was especially high (Van IJzendoorn & Sagi-Schwartz, 2008). In an exploration of three international studies on the potential long-term effects of the Holocaust on the next generation (Bar-On et al., 1998), an attachment perspective was used to explain the pattern of preoccupied and overprotective interactions between parents and children. On the one hand, parents expressed the need to protect their children in an unsafe world. On the other hand, they desired them to be successful and make up for their own missed opportunities. It was also hypothesized that the ambivalent strategy is possibly the most adequate response to a child-rearing environment marked by the traumatic memories of the past. It is likely that asylum seeker and refugee parents develop comparable interaction patterns with their children. Indeed, parents from the current sample described on the one hand their difficulties with the developing autonomy of their children as they were eager to protect them, while on the other hand they had very high aspirations for the future of their children (van Ee, Sleijpen, Kleber, & Jongmans, 2013). Other parents have been observed as being fully immersed in their symptoms and withdrawn from their child. Our results underscore the increased risk for children of traumatized parents to develop an ambivalent or disorganized attachment strategy.

Adverse parenting behavior did not explain the association between parental PTSD and child attachment in this study. One explanation for not finding a mediating effect of adverse caregiving behavior could be a lack of statistical power. On an individual level, clinical experts working with traumatized families often observe that parents with PTSD show adverse parenting behavior and that their children are more likely to display insecure and disorganized attachment behavior. However, more research is needed to test these associations on a group level. The associations on a trend level between symptoms of PTSD, extremely insensitive parenting and child attachment may be of clinical relevance but need to be further explored in future studies.

In our study, the association between frightened, threatening and dissociative parenting behavior and child attachment was confirmed. No significant association was found between PTSD and disconnected parenting behavior. Although temporarily being disconnected from the immediate context could be part of PTSD, it may not necessarily be the case for all individuals. In contrast with PTSD, complex PTSD is typically not the result of exposure to a single traumatic experience, but the result of exposure to repeated or prolonged experiences or multiple forms of interpersonal traumatic experiences (Cloitre et al., 2011; Herman, 1997). Our sample of asylum seekers and refugees reported on the HTQ multiple forms of traumatic experiences often with an interpersonal character. The accumulation of these stressful events can lead to considerable psychological problems (Mollica, McInnes, Poole, & Tor, 1998; Steel, Silove, Phan, & Bauman, 2002). It can be argued that complex PTSD will be prevalent in this sample. Complex PTSD is characterized by the core symptoms of PTSD in conjunction with five domains of disturbances in self-regulatory capacities (Cloitre et al., 2011). Dissociation is explicitly mentioned under “alterations in attention and consciousness” and thereby considered to be one of the core symptoms of complex PTSD. Dissociative phenomena are considered to lie underneath disconnected parenting. Thus, an assessment of complex PTSD may reveal associations with frightened, threatening and dissociative parenting behavior and may indirectly have an effect on disorganized child attachment.

Symptoms related to avoidance and numbing were shown to have strong associations with perceived parenting in other studies (Lauterbach et al., 2007; Samper et al., 2004). This study extended these studies by showing that the distinct diagnostic symptom clusters of PTSD intrusion and avoidance are particularly associated with observed extremely insensitive parenting behavior. Main and Hesse (1990) suggested that “the traumatized adult’s continuing state of fear” (p. 163) may set the stage for frightening experiences for the child and disorganized attachment to develop. Our model suggests that the pathway of PTSD symptoms in parents to disorganized attachment in children may, in part, be different than hypothesized previously (Hesse & Main, 2006; Madigan, Moran, et al., 2006). In our sample avoidance and intrusion, but not hyperarousal, were associated with extremely insensitive parenting behavior, and had a direct effect on disorganized child attachment. As parents with these PTSD symptoms are at times preoccupied with their own experiences, they may fail to regulate the child and, for example, sometimes withdraw while at other times they display aggressive parenting behaviors. The behavioral oscillation creates an inherent unpredictable and thereby unsafe environment for the child.

Whether the factors on the family level that were investigated in the current study are either a risk or protective factor remains an issue that should be further explored.

Refugees and asylum seekers have dealt with multiple stressful events in their home country such as forced migration. After fleeing they face new difficulties, such as obtaining legal residency, learning a new language and adjusting to a new culture. In our sample, many asylum seekers reported serious concerns and stress over the asylum procedure, and some were even close to deportation. It is of interest that none of the factors on the family level were of relevance in explaining child attachment. As the quality of the attachment relationship between parent and child is mainly determined at the dyadic level, the impact of factors such as the asylum procedure or the other parent's PTSD symptoms may be limited, suggesting that, even in these circumstances, it is possible to build a secure relationship between parent and child.

Several limitations and strengths are to be noted. The current study had a cross-sectional design with a relatively small and heterogeneous sample, including 18 couples that were assessed with the same child. However, the sample size is commendable as asylum seekers and refugees are difficult to reach and recruit for research studies. Sixty-eight parents, fathers and mothers, have agreed to participate with their children. The methods consisted of extensive observations of both parent and child combined with self-report; and we employed multilevel analyses which are especially suitable for analyzing dependent data (children nested into families). While it is a limitation that this study did not use a structured clinical interview that could yield a formal PTSD diagnosis, it is a strength that both the parent-child interactions as well as the attachment relationships were observed using a well validated and structured coding system.

Parental symptoms of PTSD have a negative relation with the ability of a parent to create a secure environment in which a child can thrive, as an increased risk for insecure or even disorganized attachments was observed. On the one hand, the results indicate the need for an effective treatment of PTSD symptomatology, while on the other hand the results indicate the need for attention of clinicians and researchers to aspects beyond the PTSD symptomatology of the parent. Traumatized parents and their children require support to establish or re-establish a relationship that is marked by predictability and security. Parental symptoms of PTSD were not related to disconnected parenting, but disconnected parenting, or parental expressions of fear, was related to disorganized child attachment. Disconnected parenting, in particular, should alert the clinician for more disturbed parent-child interaction and the risk for disorganized child attachment. Therefore, traumatized refugee parents and children resettled in high-income countries are confronted with a mental health vulnerability that deserves our attention. As we are witnessing the greatest migration of vulnerable parents and children since the Second World War, there is an urgent need for attachment-informed interventions for refugees.

Note

1. www.centrum45.nl

Acknowledgements

We would like to thank all asylum seekers and refugees who were willing to trust our staff and participate in this research. We are especially grateful to M. J. Van IJzendoorn and M. H.

Bakermans-Kranenburg for their valuable contribution to the design of the study and the selection of measurements and to A.G.J. van de Schoot for his valuable contribution to the statistical analyses.

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

E. van Ee was supported by ZonMW [grant number 100002037] from the Netherlands Organization for Scientific Research (NWO). D. Out was supported by a Rubicon award (446-10-026) from NWO.

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