

Relational Patterns Between Caregivers With PTSD and Their Nonexposed Children: A Review

Elisa van Ee¹, Rolf J. Kleber², and Marian J. Jongmans³

Abstract

The question as to whether or not children can be affected by the traumatization of their parents has been the topic of a long-standing debate. This article provides a critical review of 72 research studies on traumatized parents with symptoms of post-traumatic stress disorder (PTSD), the parent–child interaction, and the impact on their nonexposed child (0–18 years). The evidence suggests that traumatization can cause parenting limitations, and these limitations can disrupt the development of the young child. From the studies reviewed several patterns emerged: Relational patterns of traumatized parents who are observed to be emotionally less available and who perceive their children more negatively than parents without symptoms of PTSD; relational patterns of children who at a young age are easily deregulated or distressed and at an older age are reported to face more difficulties in their psychosocial development than children of parents without symptoms of PTSD; and relational patterns that show remarkable similarities to relational patterns between depressed or anxious parents and their children. Mechanisms such as mentalization, attachment, physiological factors, and the cycle of abuse offer a valuable perspective to further our understanding of the relational patterns. This article builds on previous work by discussing the emerged patterns between traumatized parents and their nonexposed children from a relational and transactional perspective.

Keywords

PTSD, parent–child relationship, developmental psychopathology, second generation, review

Introduction

A growing body of research has documented the importance of a healthy parent–child relationship in order for children to prosper in their social and emotional development. When parental psychopathology is present, a child's social and emotional development might be threatened. Parental psychopathology has consistently been associated with negative child outcomes (Goodman & Brumley, 1990). More specifically, a consistent association has been found between maternal depression and negative child outcomes, such as internalizing and externalizing problems (Beardslee, Versace, & Gladston, 1998; Cummings & Davies, 1994; Hay, Pawlby, Angold, Harold, & Sharp, 2003), insecure attachment at various ages (Campbell et al., 2004; Moehler, Brunner, Wiebel, Reck, & Resch, 2006), and a difficult temperament (Whiffen & Gotlib, 1989). Similar but less consistent results have been found between maternal anxiety and negative child outcomes (Bögels & Brechman-Toussaint, 2006; Manassis, Bradley, Goldberg, Hood, & Swinson, 1994; Murray, Cooper, Creswell, Schofield, & Sack, 2007). Maternal psychopathology not only has a negative impact on child outcomes but also on parent–child interaction (Downey & Coyne, 1990; Lovejoy, Graczyk, O'Hare, & Neuman, 2000; Nicol-Harper, Harvey, & Stein, 2007; Weinberg & Tronick,

1998; Woodruff-Borden, Morrow, Bourland, & Cambron, 2002). The impact of paternal psychopathology has been investigated far less extensively. Of the scant evidence available, results have shown similar, but less consistent, patterns between the psychopathology of fathers, parenting, and child outcome (Davis, Davis, Freed, & Clark, 2011; Kane & Garber, 2004; Lee, Taylor, & Bellamy, 2012; Low et al., 2012; Van Ee, Sleijpen, Kleber, & Jongmans, 2013). Consequently, chronic interactional disturbances have been postulated as a mediator in the relationship between parental psychopathology and developmental disturbances in their offspring.

In contrast to findings with regard to depression and anxiety, whether or not children can be affected by the traumatization of their parents has been the topic of a long-standing debate. The

¹ Reinier van Arkel, Psychotrauma Centrum Zuid Nederland, Den Bosch, the Netherlands

² Clinical and Health Psychology, Utrecht University, Utrecht, the Netherlands

³ Pedagogical Sciences, Utrecht University, Utrecht, the Netherlands

Corresponding Author:

Elisa van Ee, Reinier van Arkel, psychotrauma centrum Zuid Nederland, Postbus 70058, 5201 DZ Den Bosch, the Netherlands.

Email: e.van.ee@rvagroep.nl

diagnosis of posttraumatic stress disorder (PTSD) has a considerable symptom overlap with depression and anxiety disorders (Brewin, 2007). The four PTSD symptom clusters consist of the reexperiencing of the traumatic experience, the avoidance of stimuli, negative cognitions and mood, and persistent symptoms of arousal (American Psychiatric Association, 2013). Despite this considerable symptom overlap, it remains unclear whether or not there is an association between parental PTSD, parent–child relationship, and child outcome. Therefore, we undertook a systematic review and critical examination of the research evidence of the relation between parental symptoms of PTSD, parenting, and developmental disturbances in their children. How do we explain relational patterns between traumatized parents and their nonexposed children and are these patterns comparable to relational patterns between depressed or anxious parents and their children?

Research has shown that most victims recover well, and so, in order to understand the relationship between traumatized parents and their nonexposed children, a critical distinction needs to be made between parents who are coping well with extreme events and parents who are suffering from the long-term consequences of such events. This review summarizes empirical research on traumatized parents with symptoms of PTSD and their relationships with their nonexposed children (0–18 years), with the main goal of clarifying discernible mechanisms underpinning the interaction between traumatized parents and their children. To our knowledge, such a review has not yet been carried out.

First, we will describe the results relating to the effect of symptoms of PTSD on parent–child interaction as well as on child development. Second, we will describe the proposed mechanisms that emerge in the reviewed articles. Next, methodological issues of the reviewed studies will be highlighted. We end with a discussion of a theoretical framework for understanding the patterns between traumatized parents and their nonexposed children from different perspectives.

Method

A systematic review was conducted of the data sources Embase, PILOTS, PubMed, and PsycINFO for articles published between January 1970 and December 2014 using the Medical Subject Headings “trauma” or “PTSD,” and “mother” or “parent,” together with “neonatal,” “infant,” “infancy,” “preschool,” “young child,” or “child,” and the reference list the articles yielded. A total of 5,241 articles were retrieved. Studies were included if (1) they were published in English; (2) parents were assessed on PTSD symptoms (reports of a history of violence, war, and other extreme life events without an assessment of trauma symptoms led to exclusion); (3) children were aged between 0 and 18 years; and (4) children did *not* experience traumatic events. Articles were excluded for the following reasons: (1) the articles described parents and children who were both traumatized. In some cases, it seemed likely that the children had experienced traumatic events; for example, in articles describing the impact of family violence; (2) the

articles reported on physical trauma as a medical condition of the child; (3) the articles did not report on an assessment of parental traumatic symptoms, although they referred to traumatic experiences (mostly reported in interviews). One study was excluded from this review because posttraumatic stress was assessed by means of the Hopkins Symptom Checklist-25, which only contains an anxiety and depression subscale (Foss, 2001); (4) case studies; and (5) age of the children. Five studies were excluded because the mean age of the children was above 18 years. For example, the study by Ruscio, Weathers, King, and King (2002) reported an age range of 0.5–39 years with a mean age of 22.4 years and was excluded. If doubts arose regarding the inclusion of an article, the first author screened the full article (see Figure 1). Seventy articles (resulting from 63 studies) reported on research on traumatized parents and their nonexposed children (see Table 1).

Traumatized Parents and Their Nonexposed Children

The 72 included studies covered 7 types of trauma, child abuse (14), child birth (10), combat (14), interpersonal violence (1), mass violence (10), natural disaster (1), prematurity (2), still-birth (2), and three populations (general population (15), HIV (1), and substance abuse (2)). For an overview of the included studies see Table 2. Forty-one studies reported on mothers, 7 on fathers, and 23 on mothers and fathers (of which one study with mainly mothers and two studies with mainly fathers). The overview of the existing evidence will be organized in the following three different clusters: (1) the impact of parental symptoms of PTSD on the parent–child relationship, (2) the impact of parental symptoms of PTSD on child outcome, and (3) symptomatic overlap in psychopathology.

Impact on the Parent–Child Relationship

We identified 38 papers reporting on the association between parental symptoms of PTSD and the parent–child relationship. Reviewed articles showed a consistent negative association between more parental symptoms of PTSD and a reduced quality of the parent–child relationship.

Impaired relationship. Self-report measurements showed that parents with symptoms of PTSD shortly after birth did not perceive the relationship as being affected (Ayers, Wright, & Wells, 2007) but in the long term did perceive the relationship with their child as poorer than those without symptoms of PTSD (Ayers, Eagle, & Waring, 2006; Berz, Taft, Watkins, & Monson, 2008; Davies, Slade, Wright, & Stewart, 2008; Gewirtz, Polusny, DeGarmo, Khaylis, & Erbes, 2010; Jordan et al., 1992; Khaylis, Polusny, Erbes, Gewirtz, & Rath, 2011; Lauterbach et al., 2007; Muzik et al., 2013; Nicholls & Ayers, 2007; Parfitt & Ayers, 2009, 2012; Samper, Casey, King, & King, 2004; Schechter et al., 2010). Adolescents of veterans with PTSD perceived the bonding with both father and mother as less optimal and as more affectionless and controlling

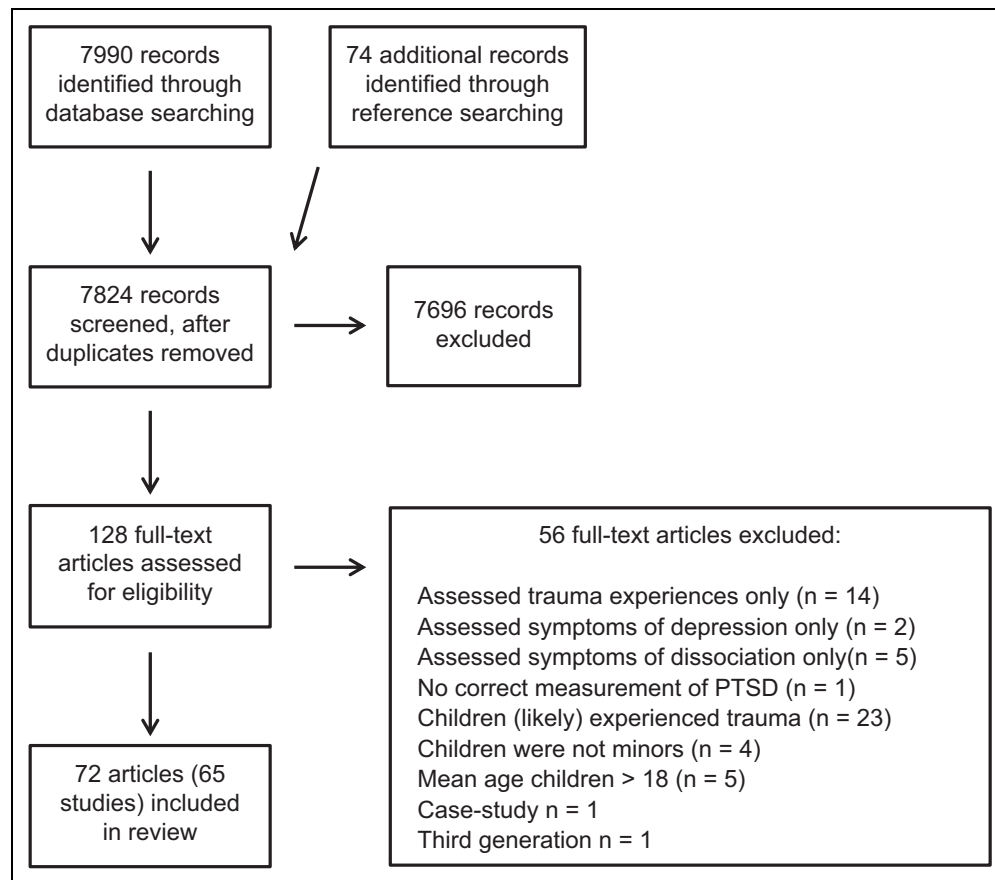


Figure 1. Flowchart of the selection of studies.

Table 1. Major Findings on Relational Patterns Between Caregivers With PTSD and Their Nonexposed Children.

<p>Parent-child relationship: A negative association between more parental symptoms of PTSD and a reduced quality of the parent-child relationship is evident. Not just parental satisfaction and parental functioning but also the perception of and the satisfaction with the child is negatively affected</p> <p>Impact on the child: The psychosocial development is the only developmental level that is significantly affected</p> <p>Informant bias: Parents, and specifically mothers, were used as the principal informants on children's emotional and behavioral functioning. It is therefore plausible that part of the reported association between parental traumatization and the child's psychosocial development can be explained by the parent's psychological distress and a more pessimistic assessment of the child's behavior</p> <p>Parental psychopathology: Our understanding of traumatized parents and their children reveals more similarities than differences to depressed or anxious mothers and their children</p> <p>Mentalization: Neither traumatic experiences nor PTSD were associated with levels of reflective functioning. However, among mothers with PTSD, reexperiencing the trauma was significantly associated with lower reflective functioning</p> <p>Attachment: Studies that focus on relations between PTSD and parent-child attachment elicit mixed results</p> <p>Physiological transmission: A biological basis has been shown to be a salient risk factor in the development of PTSD in offspring. Young children, even babies, show deregulation and distress in response to mild stressors</p>
--

Note. PTSD = posttraumatic stress disorder.

(Maršanić, Margetić, Jukić, Matko, & Grgić, 2013), whereas adolescents of survivors of the Khmer Rouge regime in Cambodia perceived more role reversal (Field, Muong, & Schanvimean, 2013). Parents with symptoms of PTSD perceived their child as more difficult in temperament and experienced more parenting stress (Davies et al., 2008; Holditch-Davis et al., 2009; Lester et al., 2013; McDonald, Slade, Spiby, & Iles, 2011). While watching a child displaying distress, mothers

with PTSD, related to interpersonal violence, experienced more stress and greater neural activity within the fear-circuit-related regions in the brains suggesting that these mothers are still in the "survival mode" (Schechter et al., 2012).

Aggression and withdrawal. Parents with PTSD were more likely to report the endorsement of moderate or severe aggression toward their children (Cohen, Hien, & Batchelder, 2008;

Table 2. Overview Review Articles.

Authors	Part	Child	PTSD	Other Measurements ^a	Main Outcome
Child abuse					
Brand et al. (2010)	126 d	6 m	SCID	CTQ, BDI-II, PERI HH, SCC	HPA axis functioning
Jovanovic et al. (2011)	36 d	6-13 y	SCID	CTQ, PSS, BDI, TESI, EMG, ECG	Startle response
Koren-Karie, Oppenheim, and Getzler-Yosef (2008)	33 d	4-10 y	IES	AI, AEED, BLAAQ-U, BSI, H-DES	Mother-child dialogues
Lang, Gartstein, Rodgers, and Lebeck (2010)	31 d ^b	7-32 w	PCL-C	CTQ, STAI, BDI-II, IBQ-R, PSOC, PSI-SF	Perceived parenting behavior
Leifer, Kilbane, Jacobsen, and Grossman (2004)	199 d	4-12 y	TSC-40	FOCS, NORCS, APCS, DCCS, ISF, RSQ, MAQ	Child abuse
Lyons-Ruth and Block (1996)	45 d	18 m	MS-PTSD	SSP, AAI, DES	Sensitivity, hostility, attachment
Muzik et al. (2013)	150 d	6 w-6 m	NWS-PTSD	PBQ, CTQ, PPDS, MACY-IPCS	Parent-baby bond
Pears and Capaldi (2001)	288	9-21 y	MMPI-derr scale	AE-III, SES, MMPI, parent disc., childhood difficulty, CES-D	Child abuse
Schechter et al. (2005)	41 d	8-50 m	SCID, PCL-S	DTHQ, LEC, BPSAQ, WMCI	Maternal reflective functioning
Schechter et al. (2008)	41 d	8-50 m	SCID, PCL-S	DTHQ, LEC, BPSAQ, WMCI, AMBIANCE	Maternal reflective functioning
Schechter, Zygmont, Coates, et al. (2007) and Schechter, Zygmont, Trabka, et al. (2007)	24 d	4-7 y	SCID	DTHQ, LEC, BPSAQ, CDC, MSSB, FAD-T	Child mental repr., attachment
Stacks et al. (2014)	83 d	4-18 m	NWS-PTSD	DR, CTQ, PPDS, MIPCS, PDI-R2-S, SSP	Maternal reflective functioning
Childbirth					
Ayers, Wright, and Wells (2007)	64 f	6-12 w	IES	EB, BM-IIS, DAS	Parent-baby bond
Ayers, Eagle, and Waring (2006)	6	7 m-18 y	PTSD-DS	Interview transcripts	Maternal relationships
Davies, Slade, Wright, and Stewart (2008)	211 d	6 w	PTSDQ, IES	EPDS, MORS-SF, ICQ, MPAS	Maternal perceptions
Despars et al. (2011)	58	2-12 m	IES	WMCI	Maternal representations
Ionio and Di Blasio (2013)	58 d	3 m	PPQ	MMPI-2, Still Face Par.	Parent-baby interaction
McDonald, Slade, Spiby, and Iles (2011)	81	0-2 y	PTSDQ, IES	HADS-D, MORS-SF, PSI-SF	Parenting stress
Nicholls and Ayers (2007)	12	0-10 y	PDS, THC	Interview transcripts	Parent-child bond
Parfitt and Ayers (2009)	152	0-2 y	PDS	EPDS, DAS, PBQ	Parent-baby bond
Parfitt and Ayers (2012)	130	4-8 m	BIMMH	EB, BM-IIS, DAS	Parent-baby bond
Parfitt, Pike, and Ayers (2013)	48 d	3 m	PDS	CARE, HADS	Parent-baby interaction
Combat					
Ahmadzadeh and Malekian (2004)	282	15-19 y	Med. records	AGQ, CAS, WSSSD	Psychopathology
Al-Turkait and U Ohaeri (2008)	166 f	6-33 y	CAPS	HSCL, I-E LOC, SES, FAD, PCL, CBI, Rutter A-2	Psychopathology
Berz, Taft, Watkins, and Monson (2008)	60	6-16 y	MCSR-PTSD	CTS, PS	Parenting satisfaction, partner violence
Gewirtz, McMorris, Hanson, & Davis (2014)	181	4-12 y	PCL(-M)	LEQ, DRR1, HSCL-25, DERS, DAS-7, APQ-9, PLOC, BERS-2	Psychosocial and relationship adjustment
Gewirtz, Polusny, DeGarmo, Khaylis, and Erbes (2010)	468	0-17 y	PCL-M	APQ-9, SAS-SR, DAS-7, AUDIT	Perceived parenting, couple adjustment
Gold et al. (2007)	89	6-16 y	MSCR-PTSD	DAS, MDS, FACES II, PS, CTS, PERI, CBCL	Family adjustment
Herzog, Everson, and Whitworth (2011)	54	2-17 y	PCL-M	STS, HITS, RAFFT, CBCL, PCL-M	Secondary trauma
Jordan et al. (1992)	1576	6-16 y	MSCR-PTSD	MPI, PPI, FACES II, SS LF, CTS, ISW, PERI, SSI, MAST, CBCL	Family adjustment, child behavior problems
Khaylis, Polusny, Erbes, Gewirtz, & Rath (2011)	97	0-18 y	PC-PTSD	DAS	Relationship concerns
Lester et al. (2010)	272	4-12 y	PDS, PCL-M	CBCL, CDI, MASC, BSI	Psychopathology
Lester et al. (2013)	280f	3-17 y	PCL-M	BSI, SDQ, FAD	Distress
Maršanić, Margetić, Jukić, Matko, and Grgić (2013)	122	12-18 y	Med. rec.	YSR, FAD, PBI	Child behavior problems
Rosenheck and Fontana (1998)	257	6-16 y	MSCR-PTSD	Hist. of vict., FSS, RCS, CBCL, FACES II	Child behavior problems
Samper, Casey, King, and King (2004)	250	0-18 y	MSCR-PTSD	DIS, CTS	Parenting satisfaction

(continued)

Table 2. (continued)

Authors	Part	Child	PTSD	Other Measurements ^a	Main Outcome
General population					
Bosquet, Egeland, Carlson, Blood, and Wright (2014)	45 d/96 d	0–18 y	PCL-C	LSC-R, EPDS, TESI-PRR, SSP, DR, K-SADS, LES, observations, WPPSI	Attachment, PTSD
Bosquet et al. (2011)	52 d	6 m	PCL-C	LSC-R, EPDS, TESI-PRR, SFP-R, INQ-R, ITSEA	Infant reactivity and regulation
Bosquet et al. (2009)	23 d	6 m	PCL-C	LSC-R, EPDS, SFP, LSS, IDB	Cardiorespiratory reactivity
Cohen, Hien, and Batchelder (2008)	176	9–15 y	SCID-SAC	LEC, CTS-2, CAP, PPS, CTSPC	Parenting behavior
Feeley et al. (2011)	21 d	6 m	PPO	NBRs, EAS, BSID	Parent–child interaction
Hairston et al. (2011)	184	4–18 m	NWS-PTSD	CDC PRAMS, CTQ-SF, PDSS, CSHQ, PBO, CBCL	Infant sleep
Lange et al. (2011)	339	1–3 y	CIDI 3.0	MFQ, parental report of asthma	Infant's asthma
Lauterbach et al. (2007)	323	0–18 y	DIS	CTS-PC, PCRQ, CTS-M, SSQ, MDQ, W-HSL, WaF	Perceived parenting
Leen-Feldner, Feldner, Bunaciu, and Blumenthal (2011)	3931	0–18 y	CIDI	PA, CP	Parental aggression, psychopathology
Lombardo and Motta (2008)	53 d	13–17 y	MPSS-SR	DASS-21, STS, CES-DC, RCMAS	Secondary trauma
Nöthling, Martin, Loughton, Cotton, and Seedat (2013)	70 d	10–42 m	HTQ	LEC, AUDIT, CESD, SDS, CBCL	Child behavior problems
Roberts et al. (2013)	413	0–18 y	SSS-PTSD	BTQ, CTQ, CES-D10, risk factors	Autism spectrum disorder
Selimbasic (2010)	100 d	10–15 y	HTQ	CBCL	Child behavior problems
Schechter et al. (2009)	67	1–4 y	CAPS, PCL-S	DTHQ, TLEQ, DES, BDI-II, MQ	Violent media exposure
Schechter et al. (2010)	74 d	1–4 y	CAPS, PCL-S	DTHQ, TLEQ, BDI-II, PCDI, SDS, AMBIANCE, CJAS	Parenting behavior, child separation distress
Schwerdtfeger and Goff (2007)	41	Prenatal	TSC-40	TEQ, PBI, MAAS	Prenatal attachment
Sullivan et al. (2011)	94	1–4 y	MINI, MPSS-SR	PRFQ-I	Maternal reflective functioning
Interpersonal violence					
Schechter et al. (2012)	20	12–42 m	CAPS, PCL-S	fMRI, SDS, DES, Crowell-proc., PDQ-4, TLEQ, LS	Neural activity (emotional reactions)
Mass violence					
Brand, Engel, Canfield, and Yehuda (2006)	98 d	9 m	PCL-C	IBQ	Cortisol levels, infants distress
Daud, Klinteberg, and Rydelius (2008)	80 d	6–17 y	H/UTQ, DSMIV	DICA-R, PTSSC, WISC-III, ITIA, SDQ	Resilience
Eng, Mulsow, Cleveland, and Hart (2009)	288 d	13–22 y	HTQ	RMS, AP	Academic performance
Field, Muong, and Schanvimean (2013)	78	16–18 y	HTQ, PCL	SS, HSCL, PBI, RPS	Psychopathology
Hinton, Rasmussen, Nou, Pollack, and Good (2009)	143	–	PCL	ALS, AEF, PASSS, LPS, ASSA, AAOs, ATRSS, ACCS, ELAS, KLAS, LBS	Family-directed anger
Jakupčević and Ajdukovic (2011)	180	6–14 y	ICD-10	GIQ, CAEI, PSSS, CAPI	Child abuse
Vaage et al. (2011)	88 d	10–23 y	DSM-III	SDQ, SCL-90-R, SRQ	Psychopathology
Van Ee, Kleber, and Mooren (2012)	49 d	1,5–4 y	HTQ	HSCL, CS, EAS, BSID, CBCL	Parent–child interaction
Van Ee, Sleijpen, Kleber, and Jongmans (2013)	80 d	1,5–4 y	HTQ	QoC, EAS, interviews	Parent–child interaction
Yehuda et al. (2005)	38 d	1 y	PCL	BDI, RIA	Salivary cortisol
Natural disaster					
Tees et al. (2010)	288	2–12 m	PCL-C	PPD, SCL-90-R, EITQ	Infant temperament
Prematurity					
Coppola, Cassibba, and Costantini (2007)	40d	25–35 GA	IES	AAI, EAS	Sensitivity
Forcada-Guex, Borghini, Pierrehumbert, Ansermet, & Muller-Nix, (2011)	72 d	26–41 GA	PPQ	WMCI, CARE, PERI, SES	Parenting behavior
Stillbirth					
Hughes, Turton, McGauley, and Fonagy (2006)	31 d	12 m	PTSD-I	AAI, EPDS, STI, SSP	(Disorg.) attachment
Turton, Hughes, Fonagy, and Fainman (2004)	60 d	12 m	PTSD-I	AAI, SSP	(Disorg.) attachment

(continued)

Table 2. (continued)

Authors	Part	Child	PTSD	Other Measurements ^a	Main Outcome
Substance abuse					
Holditch-Davis et al. (2009)	177	Preterm-2 y	PPQ	PSS:NICU, CESD, STAI, DHS, WI, PSS:PBC	Maternal psychological distress
Stover, Hall, McMahon, and Easton (2012)	126	0-18 y	PTSD SS	MAST, DAST, urine scr. PARQ (SF)	Parenting behaviors

Note. HPA = hypothalamic-pituitary-adrenal; m = month; PTSD = posttraumatic stress disorder; y = year; **PTSD Measures:** BIMMH = Birmingham Interview of Maternal Mental Health; CAPS = Clinician Administered PTSD Scale; CIDI 3.0 = World Health Organization Composite International Interview Schedule for PTSD; DSM-III/IV = Diagnostic and Statistical Manual of Mental Disorders III/IV; HITQ = Harvard Trauma Questionnaire; ICD-10 = International Classification of Diseases, 10th revision; IES = Impact of Events Scale; MINI = MINI International Neuropsychiatric Interview; MMPI-2 = Minnesota Multiphasic Personality Inventory-derived scale; MPFS-SR = Modified PTSD Symptom Scale – Self Report; MSCR-PTSD = Mississippi Scale for Combat-Related PTSD; MS-PTSD = Mississippi Scale for PTSD; NBRS = Revised Nursery Neurobiological Score; NWS-PTSD = National Women's Study PTSD Module; PCL-C = PTSD Checklist – Civilian Version; PCL-M = PTSD Checklist- Military Version; PCL-S = PTSD Checklist Short version; PC-PTSD = Primary Care - PTSD Screen; PDS = PTSD Diagnostic Scale; PPO = Perinatal PTSD Questionnaire; PSS = PTSD Symptom Scale; PTSD-I = PTSD Interview; PTSDQ = PTSD Questionnaire; SCID = Structured Clinical Interview for DSM-IV; SSS PTSD = Short Screening Scale PTSD; TSC-40 = Trauma Symptom Checklist-40. **Other Measures:** AAI = Adult Attachment Interview; AAOS = Anger Acting-Out Scale; ATRSS = Anger Trauma-Recall Severity Scale; ACCS = Anger Catastrophic-Cognitions Scale; AEEED = Autobiographical Emotional Events Dialogue; AE-III = Assessing Environments-III Questionnaire; AEF = Anger Episode Frequency; AGQ = Aggression Questionnaire; AI = Abuse Index; AIS = Anger Intensity Scale; AMBIANCE = Atypical Maternal Behavior Instrument for Assessment and Classification; AP = Academic Performance; APCS = Adult Problems Composite Score; APQ-9 = Alabama Parenting Questionnaire – Short Form; ASSA = Anger-Somatic-Symptoms Addendum; AUDIT = Alcohol Use Disorders Identification Test; BDI; Beck Depression Inventory; BERS-2 = Behavioral and Emotional Rating Scale, second edition; BLAAQ-U = Berkeley-Leiden Adult Attachment Questionnaire; BM-III = Bethlehem Mother-Infant Interaction Scale; BPSAQ = Brief Physical and Sexual Abuse Questionnaire; BSI = Brief Symptom Inventory; BSID = Bayley Scales of Infant Development; BTQ = Brief Trauma Questionnaire; CAEI = Child Abuse Experience Inventory; CAP = Child Abuse Potential Inventory Form VI; CAPI = Child Abuse Potential Inventory – Clinical Abuse Scale; CARE; CARE index; CAS = Cattle's Anxiety Scale; CBCL = Child Behaviour Checklist; CDI = Child Behavior Inventory; CD = Perceived early childhood difficulty; CDC = Child Dissociative Checklist; CDC PRAMS = Center of Disease Control Pregnancy Risk Assessment Monitoring System; CDI = Children's Depression Inventory; CEDS = Center for Epidemiological Studies Depression Scale; CES-DC = Center for Epidemiological Studies Depression Scale for Children; CJAS = Coordinated Joint Attention Scale; CP = Child Psychopathology; CPD = Consistency of parental discipline; CS = Current Stress; CSHQ = Child Sleep Habits Questionnaire; CTQ – SF = Childhood Trauma Questionnaire Short Form; CTQ = Childhood Trauma Questionnaire; CTS-M = Conflict Tactics Scale – Marital; CTS-PC = Parent Child Conflict Tactics Scale; DAS – 7; Dyadic Adjustment Scale – Short Form; DAS = Dyadic Adjustment Scale; DASS-21 = Depression Anxiety and Stress Scale 21-item version; DAST = Drug Abuse Screening Test; DCCS = Discontinuity of Care Composite Score; DERS = Difficulties in Emotion Regulation Scale; DES = Dissociative Experiences Scale; DHS = Daily Hassles Scale; DICA-R = Diagnostic Interview for Children and Adolescents; DIS = Diagnostic Interview Schedule; DRRI = Deployment Risk and Resilience Inventory; DTHQ = Demographic and Treatment History Questionnaire; EAS = Edinburgh Postnatal Depression Scale; FACES-II = Family Adaptability and Cohesion Evaluation Scale; FAD = McMaster Family Assessment Device; fMRI = Functional Magnetic Resonance Imaging; FOCS = Family of Origin Problems Composite Score; FSS = Family Stability Scale; GIQ = General Information Questionnaire; HADS = Hospital Anxiety and Depression Scale; H-DES = Dissociative Experiences Scale; HH = Health History; Hist. of vict. = History of victimization; HITS = Hurt-Insult-Threaten-Scream; HSCL-25 = Hopkins's Symptom Checklist-25; IBQ = Infant Behavior Questionnaire; IBQ-R Infant Behavior Questionnaire – Revised; ICQ = Infant Characteristics Questionnaire; IDB = Infant Distress Behavior; IE LOC = Internal-External Locus of Control; ISF; Inventory of Supportive Figures; ISW = Index of Subjective Well-being; ITIA = I Think I Am Questionnaire; ITSEA = Infant-Toddler Social and Emotional Assessment; KLAS = Khimer Language Ability Scale; K-SADS = Kiddie Schedule for Affective Disorders and Schizophrenia; LBS = Language-Barrier Scale; LEC = Life Events Checklist; LES = Life Events Scale; LFF = Level of Life Functioning Index; LPS = Length of Palpitations Scale; LSC-R = Life Stressor Checklist – Revised; LSS = Life Shift System; MAAS = Maternal Antenatal Attachment Scale; MAQ = Maternal Attachment Questionnaire; MASC = Multidimensional Anxiety Scale for Children; MAST = Michigan Alcohol Screening Test; MDQ = Marital Discord Questionnaire; MDS = Marital Dissatisfaction Scale; MFQ = Mood and Feelings Questionnaire; MIPICS = MACY Infant-Parent Coding System; MMPI-2 = Minnesota Multiphasic Personality Inventory-2; MORS = Mother's object relation scale – short form; MPAS = Maternal Postnatal Attachment Scale; MPI = Marital Problems Index; MQ = Media Questionnaire; MSSB = MacArthur Story Stem Battery; NORCS = Negative Outcome in Relationships Composite Score; PA = Parental Aggression; PARQ-SF = Parental Acceptance Rejection Questionnaire-Short Form; PASSS = Panic-Attack Somatic-Symptom Scale; PBI = Parental Bonding Instrument; PCDI = Parent-Child Dysfunctional Interaction; PCRQ = Parent-Child Relationship Quality; PDI-R2-S = Parent Development Interview-Revised Short Form; PDSS = Postpartum Depression Screening Scale; PERI = Psychiatric Epidemiological Research Interview; PERI DS = Peri Demoralization Scale; PERI HH = Psychiatric epidemiology research interview stressful life events scale; PERI* = Perinatal Risk Inventory; PLOC = Parental Locus of Control Scale; PpBQ = Postpartum Bonding Questionnaire; PPDS = Postpartum Depression Screening Scale; PPI = Parental Problems Index; PPS = Parental Punitiveness Scale; PRFQ-I = Parental Reflective Functioning Questionnaire; PS = Parenting Satisfaction; PSI-SF = Parenting Stress Index – short form; PSOC = Parenting Sense of Competence Scale; PSS:NICU = Parental Stressor Scale; NICU; PSS:PBC = Parental Stress Scale; PSSS = Perceived Social Support Scale; QoC = Quantity of Care; RAFFT = Relax-Alone-Friends-Family-Trouble; RCMAS = Revised Children's Manifest Anxiety Scale; RCS = Revised Combat Scale; RMS = Relationship with Mother Scale; RPS = Relationship with Parents Scale; RSQ = Relationship Scales Questionnaire; Rutter A-2 Scale – Rutter A-2 Scale – Parents' version; SAS – SR = Social Adjustment Scale – Self-Esteem Scale; SES = Socioeconomic Status; SFP = Repeated Still-Face Difficulties Questionnaire; SDS = Separation Distress Scale; SDS = Sheehan Disability Scale; SES = Self-Esteem Scale; SES = Self-Esteem Scale; SFP = Skill Face paradigm; SFP-R = Repeated Still-Face Paradigm; SII = Social Isolation Index; SQFC = Self-report Questionnaire Family Cohesion; SS = Social Support; SSC = Salivary cortisol concentrations; SSP = Strange Situation Procedure; SSQ = Social Support Questionnaire; STAI = State-Trait Anxiety Inventory; STI = Spielberger State-Trait Inventory; STS = Secondary Trauma Scale; TEQ = Traumatic Event Questionnaire; TESI = Traumatic Events Screening Inventory Parent Report; TESI-PPR = Traumatic Events Screening Inventory – Parent Report; Revised; THC = Trauma History Checklist; TLEQ = Traumatic Life Events Questionnaire; urine scr. = urine screen for toxicology; WaF = Work and Finances; W-HSL = Work-Home Stress Level; WI = Worry Index; WISC-III = Wechsler Intelligence Scale for Children; WMCI = Working Model of the Child Interview; WPPSI = Wechsler Preschool and Primary Scale of Intelligence- short form; WSSSD = Whitzman's Standardized Scale for Social Development; YSR = Youth Self Report.

^a All measurements are abbreviated. ^b d = dyades, parent and child were assessed. ^c f = families.

Hinton, Rasmussen, Nou, Pollack, & Good, 2009; Lauterbach et al., 2007; Leen-Feldner, Feldner, Bunaciu, & Blumenthal, 2011; Stover, Hall, McMahon, & Easton, 2012). A greater risk of physical and sexual child abuse was found among parents with PTSD (Jakupcevic & Ajdukovic, 2011; Leifer, Kilbane, Jacobsen, & Grossman, 2004). Pears and Capaldi (2001), in contrast, reported a reduced risk for abuse of parents with symptoms of PTSD. The authors suggested that parents with symptoms of PTSD may be more prone to withdrawing from the interaction with their children, making it less likely that they will be physically abusive. In addition, Lyons-Ruth, Bronfman, and Parsons (1999) proposed that parents who withdraw and fail to soothe and comfort the child and thereby fail to regulate the child may develop a disorganized attachment. 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).

Sensitivity. Observational measurements showed that mothers with more symptoms of PTSD were less sensitive and responsive (Feeley et al., 2011; Schechter et al., 2010; Van Ee, Kleber, & Mooren, 2012), more avoidant (Ayers et al., 2006; Schechter et al., 2005, 2008), more overprotective (Ayers et al., 2006; Schwerdtfeger & Goff, 2007), more intrusive (Ionio & Di Blasio, 2013), and more hostile and controlling when interacting with their child as well as exhibiting more insecure ("distorted") mental representations of their child (Davies et al., 2008; Despars et al., 2011; Forcada-Guex, Borghini, Pierrehumbert, Ansermet, & Muller-Nix, 2011; Van Ee et al., 2012). Koren-Karie, Oppenheim, and Getzler-Yosef (2008), in contrast, found no associations between maternal psychopathology and sensitivity within mother-child conversations. Refugee fathers with symptoms of PTSD were observed to be less sensitive, less structuring, and more hostile (Van Ee et al., 2013).

A negative association between the emotional availability of the traumatized parent to the child and PTSD appears to be evident from the majority of studies reviewed. The reviewed studies demonstrate implications of parental symptoms of PTSD not just for parental satisfaction and parental functioning but also for the perception of and the satisfaction with the child.

Impact on the Child

We identified 22 papers reporting on associations between parental symptoms of PTSD and child outcome. Higher levels of parental symptoms of PTSD had a significant positive association with more issues in a variety of child domains. Parental symptoms of PTSD predicted child internalizing behavior problems such as depression and anxiety, externalizing behavior such as aggression, and distress (Ahmadzadeh & Malekian, 2004; Al-Turkait & Ohaeri, 2008; Daud, Klinteberg, & Rydelius, 2008; Bosquet Enlow et al., 2011; Field et al., 2013; Gold et al., 2007;

Lester et al., 2010, 2013; Lombardo & Motta, 2008; Maršanić et al., 2013; Nöthling, Martin, Laughton, Cotton, & Seedat, 2013; Rosenheck & Fontana, 1998; Selimbasic, 2010; Van Ee et al., 2012). Mothers' trauma experiences and severity of PTSD symptoms predicted more dysregulated aggression, attentional bias to danger and distress as well as more avoidance of and withdrawal from conflicts presented in the children's narratives (Schechter, Zygmunt, Coates, et al., 2007). Parental symptoms of PTSD were associated with reports of difficult infant temperament (Parfitt, Pike, & Ayers, 2013; Tees et al., 2010). Mothers with a history of abuse and symptoms of PTSD reported that their infants had more disruptions in sleep and more separation anxiety around bedtime than mothers with a history of abuse without symptoms of PTSD or than mothers in the control group. The severity of their symptoms was correlated with the degree of sleep disturbance in the child (Hairston et al., 2011). However, mothers' PTSD symptoms were not related to a delay in infant cognitive and motor development (Feeley et al., 2011; Van Ee et al., 2012) and adolescent social development (Ahmadzadeh & Malekian, 2004).

To summarize, the association between parental PTSD symptoms and child outcome has been measured on different developmental levels: psychosocial, physical, cognitive, and motor development. The only level that elicited significant associations is the psychosocial development. It is noteworthy that nine of the studies on the psychosocial development used parent report, four studies used child report (Ahmadzadeh & Malekian, 2004; Field et al., 2013; Lombardo & Motta, 2008; Maršanić et al., 2013), two studies used a combination of parent and child report (Daud et al., 2008; Lester et al., 2010), and one study used an experiment (Schechter, Zygmunt, Coates, et al., 2007). In more than half of the studies, parents—and specifically mothers—were used as the principal informants on children's emotional and behavioral functioning. Research has shown that maternal reports have weak to moderate convergence with other more objective rating methods and are influenced by the mother's own psychological state (Durbin & Wilson, 2012; Najman et al., 2000). It is therefore plausible that part of the reported association between parental traumatization and the child's psychosocial development can be explained by the parent's psychological distress and a more pessimistic assessment of the child's behavior.

Symptomatic Overlap in Parental Psychopathology

As described before, PTSD shares symptoms with a range of psychological problems. Most studies did not pay specific attention in their data analysis to core symptoms that would yield a diagnosis of PTSD or comorbidity of depression and anxiety. Lang, Gartstein, Rodgers, and Lebeck (2010) reported that after the contributions of trauma history and depressive symptoms were taken into account, no support was found for an association between PTSD symptoms and parent-child interaction. Parfitt, Pike, and Ayers (2013) found an association between maternal prenatal anxiety and mother-child interaction but no association for PTSD. In contrast, they do report

an association between paternal symptoms of PTSD and child responsiveness. Lombardo and Motta (2008) reported that regardless of the presence of PTSD, children of parents with mental illness reported higher levels of intrusion and avoidance. Other studies, however, do report evidence for a unique contribution of PTSD after taking depression into account (Bosquet Enlow et al., 2011; Hairston et al., 2011; McDonald et al., 2011; Nöthling et al., 2013; Yehuda et al., 2005).

The results of these studies underline the difficulties in discerning the unique contribution of PTSD. Our understanding of traumatized parents and their children reveals more similarities than differences to depressed or anxious mothers and their children. Parental depression or anxiety has an impact on some but not all children and on some but not all areas of development. Many parents and children show resilience. Why would this be different for traumatized parents and their children?

Mechanisms

More than half of the reviewed studies do not use an explicit theoretical framework beyond the general notion that trauma affects relational patterns as has been shown by previous research results. For the purpose of this review, we grouped those papers that referred to a theoretical framework. Four frameworks emerged: (1) mentalization ($n = 4$), (2) attachment ($n = 16$), (3) physiological transmission ($n = 6$), and (4) cycle of abuse ($n = 8$).

Framework: Mentalization

Mentalization is the capacity to perceive and understand mental states of the self and the child that help to explain and predict feelings, thoughts, and behavior. It also refers to the capacity to reflect on these mental states (reflective functioning; Fonagy, Target, Steele, & Steele, 1998). Mentalization may help the parent to put himself or herself in the place of the child and thereby prevent the parent from repeating the past. This process may be related to parental mental representations of the child and the relationship with the child. Parents with nonbalanced representations have difficulties regulating the affective relationship. The capacity of the caregiver to mentalize, and then to respond to the child's cues, is fundamentally supportive of emotion regulation and the development of mentalization within the child (Fonagy, Gergely, & Jurist, 2003).

Four studies of the reviewed papers referred to parental mentalization or mental representations. Schechter et al. (2005, 2008) examined the issue of mentalization in a sample of 41 mothers who had been exposed to interpersonal violence in childhood and their children (8–50 months). The study found evidence that maternal interpersonal violence-related PTSD and reflective functioning (as an operationalization of mentalization) were significantly associated with mothers' mental representations of their young children. More specifically, they found that maternal PTSD interfered with, and that reflective functioning supported, the formation of mothers' balanced, integrated mental representations of their young children.

Negative and distorted mental representations predicted hostile-intrusive, negative or frightening, and frightened caregiving behavior. No significant relationships were found between PTSD, reflective functioning, and overall atypical caregiving behavior. Sullivan et al. (2011) and Stacks et al. (2014) replicated this finding; neither traumatic experiences nor PTSD were associated with levels of reflective functioning. However, among mothers with PTSD, reexperiencing the trauma was significantly associated with lower reflective functioning. When a child's distress acts as a trigger for the mother to reexperience her own trauma, it may interfere with the mother's ability to reflect on the child's needs.

It is of interest that, within the reviewed studies, the perception by the traumatized parent of the parent–child relationship has so often been studied but that this interaction has been so little observed. Although many studies reported on parental mental representations of the relationship with the child, they did not do this within the framework of mentalization. Parents with PTSD symptoms have been found to report less parental satisfaction. These studies measured parental satisfaction, which refers to the evaluation of their parenting and the parent–child relationship, and not parental functioning, which refers to the quality of parent–child relationships. Whether the evaluation of the parent matched the actual quality of the parent–child relationship was, however, not assessed. A critical distinction needs to be made between the perception of the traumatized parent and the observed quality of the parent–child relationship or the objectified well-being of the child. Comparing perceptions with observations could contribute to a valuable clarification of these research results. If PTSD interferes with the formation of balanced and integrated representations of children, we will better understand which traumatized parents are affected and how to support the mentalization processes of these parents.

Framework: Attachment

Attachment theory is an important perspective to our understanding of traumatized parents and their interaction with their children. It is considered essential for the development of a secure attachment of the young child to experience a sensitive and responsive interaction with the caregiver (Bowlby, 1973). Insecure attachment, in particular disorganized attachment, has been found to be a risk factor for a range of later social and cognitive difficulties and psychopathology (Belsky & Nezworski, 1987; Green & Goldwyn, 2002). An unresolved status in the parent is consequently associated with disorganized attachment in their offspring (Bailey, Moran, Pederson, & Bento, 2007; Lyons-Ruth, Bronfman, & Parsons, 1999). Parents with an unresolved status show disrupted patterns of interaction with their child (Madigan, Moran, & Pederson, 2006). The caregivers, preoccupied with their trauma, repeatedly provoke fear in their infants and are less able to react sensitively to their infant's cues (Goldberg, Benoit, Blokland, & Madigan, 2003). These behaviors are considered to be driven by their memories of the traumatic experience. The attachment of children of parents with unresolved trauma often becomes

disorganized because the children are placed in the paradoxical situation of being attached to parents who sometimes behave in a fear-provoking way (Green & Goldwyn, 2002; Hesse & Main, 1999).

Although there is a wide variety of studies on the relation between a mother's lack of resolution regarding trauma or loss and the attachment of the child (see, e.g., the work of Lyons-Ruth or van IJzendoorn), only a small number of studies focus explicitly on the relation between PTSD and child attachment. In the reviewed studies, seven referred to the bonding process of the mother to the child. Schwerdtfeger and Goff (2007) found that a history of interpersonal trauma was related to more PTSD symptoms and lower maternal attachment to the unborn child. Mothers with symptoms of PTSD perceived the bonding to their infant as less optimal (Ayers et al., 2006; Davies et al., 2008; Hairston et al., 2011; Muzik et al., 2013; Nicholls & Ayers, 2007; Parfitt & Ayers, 2009, 2012) except when it was measured shortly after birth (Ayers et al., 2007). Women who met all of the criteria for PTSD expressed less desire for proximity to their infants (Davies et al., 2008). In two studies, adolescents of parents with PTSD reported the bonding to be less optimal when compared to adolescents of parents without symptoms (Field et al., 2013; Maršanić et al., 2013).

In contrast with these results are the findings on child attachment. Seven of the reviewed studies referred to attachment. Maternal symptoms of PTSD were not related to infant attachment (Lyons-Ruth & Block, 1996) or more specifically to infant disorganized attachment (Turton, Hughes, Fonagy, & Fainman, 2004). In addition, no correspondence was found between unresolved loss and symptoms of PTSD. Interestingly, PTSD symptoms have been argued to even serve as a protection against an insecure attachment with the child. Hughes, Turton, McGauley, and Fonagy (2006) argue that experiencing traumatic events (stillbirth) in intrusive ways may protect the mother from dissociation and may help to stay in touch with the loss of a child but in relationship with the living child. Coppola, Cassibba, and Costantini (2007) argue that experiencing traumatic events (premature birth of the child) in intrusive ways may strengthen the coping of insecure mothers as they try to reorganize what has happened to them and search for emotional and practical support. However, in a prospective longitudinal study of an at risk population Bosquet Enlow, Egeland, Carlson, Blood, and Wright (2014) did establish a relation between maternal PTSD and insecure, particularly disorganized child attachment, suggesting potent effects of parental PTSD on the attachment relationship.

Again, worthy of note is the distinction between results generated from self-report versus observation. In studies that demonstrated a link between parental symptoms of PTSD and bonding, parents perceived the relationship as less optimal. In studies that were unable to relate parental PTSD to parent-child attachment, parents and child were observed. All of these studies but one focused on childbirth, whereas the study that included observations within a strong design (Bosquet Enlow, Egeland, Carlson, Blood, & Wright, 2014) did establish a relation between maternal PTSD and child attachment, and the effect of PTSD on attachment deserves further exploration.

Framework: Physiological Transmission

Where the mechanisms of mentalization and attachment are closely related, the mechanism of physiological transmission takes a different perspective and explains the impact of PTSD on parenting and children by a biological basis. A biological basis has been shown to be a salient risk factor in the development of PTSD in offspring. The hypothalamic-pituitary-adrenal (HPA) axis is hypothesized to be programmed by early life experiences and early developmental factors (Seckl, 2004; Yehuda et al., 2005). The HPA activity appears to be an important link between early life experiences and the pathophysiology of later psychopathology (Brand et al., 2010). The repeated exposure to parental PTSD may increase the child's vulnerability by programming the epigenetic expression of genes involved in the stress reactivity (Bosquet Enlow et al., 2014). Indeed, childhood trauma and PTSD have been associated with greater sensitivity of the HPA axis to stress and significant increases in cortisol.

Six of the reviewed articles examined physiological mechanisms to understand the relation between caregiver PTSD and child functioning. Maternal posttraumatic stress during pregnancy has emerged as an important in utero contributor to programming of physiological systems of the child. Mothers who developed symptoms of PTSD after the World Trade Center (WTC) attacks on September 11 and their infants showed lower salivary cortisol levels (Yehuda et al., 2005). These WTC attacks-exposed mothers who developed PTSD symptoms rated their infants as having greater distress to novelty. As these mothers did not rate their infants as having other negative temperamental traits, the results cannot be ascribed to the perception of the mothers but to the infants as being more easily distressed (Brand, Engel, Canfield, & Yehuda, 2006).

Maternal stress after birth, in addition, has emerged as an important perinatal contributor to programming of physiological systems of the child. The quality of parenting in the first years of life helps to shape HPA activity. Sensitive and responsive parenting supports the development of child's self-regulation, buffering the child's physiological responses to stress. Lack of caregivers' regulation impairs the development of child's self-regulation and is a risk factor for the development of extreme stress responses (Charney, Deutch, Krystal, Southwick, & Davis, 1993; Spangler & Grossmann, 1993). In response to a mild laboratory stressor, both infants and mothers with a history of child abuse and PTSD demonstrated the greatest increase in cortisol relative to baseline (Brand et al., 2010). In response to the still face paradigm, another mild laboratory stressor, maternal lifetime trauma exposure, and symptoms of posttraumatic stress were associated with diminished infant recovery as reflected in higher heart rate, respiratory dysregulation, and distress (these indices of the autonomic nervous system have been associated with a vulnerability to stress). In fact, the strongest associations were found in the period from the stressor to the recovery, suggesting that maternal PTSD symptoms were not associated with measures of infant emotional reactivity (speed and intensity of initial activation of responses)

but were associated with measures of infant emotion regulation (the ability to manage the reactivity). Reactivity is theorized to reflect biologically based differences; the ability to self-regulate is largely theorized to develop out of interactions with caregivers. Maternal PTSD symptoms were not associated with maternal report and observations of the reactivity of the infant but with the infant's ability to regulate and recover once distressed (Bosquet Enlow et al., 2009, 2011). However, Jovanovic et al. (2011) report that maternal childhood physical and emotional abuse was associated with psychophysiological markers in the children (dark-enhanced startle). This relationship was not accounted for by maternal symptoms of PTSD or other psychopathology.

The assumption behind these studies is that traumatic experiences, particularly early childhood trauma, are associated with greater sensitivity to stress in adulthood through biological mechanisms. This sensitivity potentially underlies a vulnerability to the development of PTSD or other symptomatology such as depression and anxiety. All studies, except for the last one, suggest that both trauma exposure and PTSD symptoms in the mother are related to physiological markers in the child. In addition, the results show that young children, even babies, show deregulation and distress in response to mild stressors.

Framework: The Cycle of Abuse

Certain types of experience, such as injury, sexual abuse, and physical abuse as a child (Gewirtz et al., 2010; Lyons-Ruth & Block, 1996; Rosenheck & Fontana, 1998; Tees et al., 2010), and participation in abusive violence (veterans; Rosenheck & Fontana, 1998), have been positively associated with worse child outcomes. Especially, chronic childhood trauma of parents may have long-lasting negative effects on the parent-child relationship that might be distinct from the effects of recent traumatization of parents. Eight of the reviewed studies reported on both parental PTSD and child abuse in the history of the parent.

A history of physical or sexual abuse has been associated with increased hostile and physical and psychological aggressive behavior (Cohen et al., 2008; Lyons-Ruth & Block, 1996), overprotectiveness toward children (Schwerdtfeger & Goff, 2007), decreased involvement with the infant, restricted maternal affect, and disorganized attachment (Lyons-Ruth & Block, 1996). An increased risk for sexual abuse of the child was mediated by current maternal functioning, especially symptoms of PTSD (Leifer et al., 2004). A history of emotional abuse has been associated with poorer parent-child interaction, but the interaction was less affected than the parent-child interaction of parents with a history of physical and sexual abuse (Lang, Gartstein, Rodgers, & Lebeck, 2010). In some studies, trauma severity and not parental symptoms of PTSD predicted if the children were more vigilant and had more difficulty recovering from distress (Jovanovic et al., 2011; Lang et al., 2010; Lyons-Ruth & Block, 1996), while other studies report a larger effect (increase in cortisol in the child) when a history of child

abuse and PTSD symptoms are combined (Brand et al., 2010) or the effect of a history of abuse to disappear when PTSD symptoms are taken into account (Muzik et al., 2013).

The results of the studies are difficult to compare as the applied methods vary between studies: one study controlled for maternal psychopathology including symptoms of PTSD (Jovanovic et al., 2011), one study defined PTSD symptoms as a moderator (Brand et al., 2010), one study defined PTSD symptoms as a mediator (Lyons-Ruth & Block, 1996), and five studies looked at the interaction between childhood experiences and PTSD (Cohen et al., 2008; Koren-Karie, Oppenheim, & Getzler-Yosef, 2008; Lang et al., 2010; Muzik et al., 2013; Schwerdtfeger & Goff, 2007). A valid comparison of the effect of parental history of traumatic experiences versus parental symptoms of PTSD on the child is therefore, within this review, not possible.

Methodology

Measurements

The 70 articles reviewed revealed a wide variety of measures of trauma and PTSD, outcome measures, and concepts, making it difficult to compare results and leading to scattered knowledge on this issue (for an overview, see Table 1). Especially noteworthy is the variety in approaches to measuring traumatizing events and posttraumatic stress symptoms. In the included articles, 28 different instruments to measure the symptoms of PTSD were used! The use of an assessment that yielded a formal diagnosis of PTSD such as a structured clinical interview was rare. We must note though that looking only explicitly at PTSD could be a limitation. There is a variety in the complexity of traumatic experiences and the responses to these experiences. It is possible that, consequently, there is a variety in children's responses to the psychopathology of their parents as well. Still, in general, studies could be strengthened by a thorough examination of the symptoms of posttraumatic stress and PTSD following these events.

In the reviewed studies, the preferred method of measuring PTSD, parenting, and child outcomes was parental self-report. With regard to outcome measures, 42 studies used only parental reports, 8 studies used self-reports of both parents and children, and 5 studies combined parental report with physiological measures. Eleven studies included observations of parent-child interaction or child behavior (Bosquet Enlow et al., 2014; Feeley et al., 2011; Forcada-Guex et al., 2011; Ionio & Di Blasio, 2013; Koren-Karie et al., 2008; Lyons-Ruth & Block, 1996; Muzik et al., 2013; Parfitt et al., 2013; Stacks et al., 2014; Van Ee et al., 2012, 2013) and four studies combined these observations with a structured interview to assess PTSD (Hughes, Turton, McGauley, & Fonagy, 2006; Schechter et al., 2008, 2010; Turton et al., 2004). The use of parental reports alone has serious limitations (e.g., perception of the parent and social desirability).

The main outcome measure covered 32 different concepts. Most of the reviewed articles examined the interaction between

mothers and their children. A crucial difference, though, exists between research on mothers and research on fathers. Research among male-dominated groups (veterans, first responders in emergencies) focused on the *perceived* quality of the parent–child relationship or symptomatology of the child (as rated by the parent), while research among female-dominated groups focused on the *observed* quality of the parent–child relationship or symptomatology of the child (as rated by the researcher). Thus far, only two studies (Parfitt et al., 2013; Van Ee et al., 2013) examined the quality of interaction between traumatized fathers and their children.

Design

Seven reports used data from multiple time-point assessments (Bosquet Enlow et al., 2014; Brand et al., 2006, 2010; Lange et al., 2011; Nöthling et al., 2013; Pears & Capaldi, 2001; Vaage et al., 2011). Six studies used two prospective time-point assessments (Bosquet Enlow et al., 2011; Hairston et al., 2011; Holditch-Davis et al., 2009; McDonald et al., 2011; Muzik et al., 2013; Stacks et al., 2014) and six studies on posttraumatic stress at child birth took at least two measurements but did not analyze these prospectively (Davies et al., 2008; Despars et al., 2011; Forcada-Guex et al., 2011; Hughes et al., 2006; Ionio & Di Blasio, 2013; Turton et al., 2004). All other studies used a cross-sectional design with a one-time assessment. Clearly, collecting a representative sample is one of the major challenges in a research project. The majority of the reviewed studies were based on small to medium sample sizes and may therefore not be able to detect certain effects due to a lack of statistical power (see Table 1). Eighteen studies reported as a limitation the use of a convenience sample, but, on the basis of the reports, we concluded that almost all of the studies worked with convenience samples (except (Berz et al., 2008; Bosquet Enlow et al., 2014; Brand et al., 2006; Gold et al., 2007; Hairston et al., 2011; Jordan et al., 1992; Lange et al., 2011; Lauterbach et al., 2007; Leen-Feldner et al., 2011; Pears & Capaldi, 2001; Samper et al., 2004; Rosenheck & Fontana, 1998; Yehuda et al., 2005)). In addition, eight studies reported the possibility of a sampling bias. Clearly, child development needs to be understood over contexts and over time; therefore, there is a need for longitudinal designs within nonselected samples.

Discussion

How do we explain the relational patterns between traumatized parents and their nonexposed children? This article reviewed relational patterns between traumatized parents and their nonexposed children by analyzing the parent–child interaction and the impact on the child. From the studies reviewed several patterns emerged: Relational patterns of traumatized parents who are observed to be emotionally less available and who perceive their children more negatively than parents without symptoms of PTSD; relational patterns of children who at a young age are easily deregulated or distressed and at an older age are reported

to face more difficulties in their psychosocial development than children of parents without symptoms of PTSD; and relational patterns that show remarkable similarities to relational patterns between depressed or anxious parents and their children. In what follows, we discuss perspectives that emerged from these relational patterns and could strengthen our understanding and further the integration of research and clinical practice.

A Relational Perspective

Scheeringa and Zeanah (2001) described three relational patterns for traumatized mothers and their traumatized children. The withdrawn, unresponsive, unavailable pattern describes traumatized parents whose avoidance and withdrawal symptoms may limit them from reading and responding sensitively to a child. The overprotecting, constricting pattern describes parents who are preoccupied by their fears and become constrictive and overprotective. The reenacting, endangering, frightening pattern describes parents who become preoccupied with reminders of the trauma rather than avoiding them. Our review suggests that these relational patterns may apply to traumatized parents and nonexposed children as well. The results show that some parents with symptoms of PTSD are more withdrawn and even avoidant and less sensitive and responsive within the parent–child interaction. Other parents with symptoms of PTSD are more overprotective and controlling, sometimes even hostile. The reenacting, endangering and frightening pattern, suggested by Scheeringa and Zeanah, is less investigated among parents with symptoms of PTSD. One indication of the existence of this pattern is increased parental aggression toward the child; another indication could be that children of exposed parents are more likely to be exposed to traumatic experiences themselves (Chemtob, Gudiño, & Laraque, 2013; Roberts et al., 2012). The “cycle of abuse” is a mechanism that partly fits within this pattern. Lambert, Holzer, and Hasbun (2014) reported similar effects between traumatized parents and their traumatized children as between traumatized parents and their nonexposed children. These findings support the importance of attention for relational patterns.

Furthermore, in our clinical experience, three additional relational patterns that could apply to traumatized parents and nonexposed children are: (1) the overexpecting, (2) the overgiving, and (3) the “despite everything, I am going to give my best” pattern. The overexpecting pattern describes traumatized adults who believe that their traumatic experience has mutilated their inner-being, that recovery from the traumatic event is impossible, and that they therefore do not have a future. But the child does, and he or she needs to make up for the losses the parent experienced. The parent expects the child to be and to become everything in this world. The overgiving pattern is similar in the experience of the parent as broken and without a future, but the compensation mechanism is quite different. Instead of expecting something from the child, they start to give everything and expect (almost) nothing. The parent almost disappears as everything is done for the sole interest

of the child. These first two patterns illustrate the difficulty of these affected parents to mentalize and put himself or herself in the place of the child. A third pattern encountered which we would like to call “despite everything, I am going to give my best.” It is a resilient pattern in the sense that these parents fight each and every day with and against their symptoms and manage to take care of their child in a sensitive manner. These parents know their weaknesses and know when to call for help from others, thereby providing a safe home and effectively protecting their children from their own symptoms. These children are likely to develop secure attachment relationships. Naturally, the existence of these patterns needs to be confirmed in future studies. Moreover, more attention needs to be given to resilient patterns as valuable lessons for treatment can be learned from these parents.

A Transactional Perspective

Although the transactional model is generally accepted as a framework for relational patterns (Dixon, 2002), it is surprising to notice that we found no evidence of this model to be incorporated in the reviewed studies. The transactional model proposes that both parent and child play a crucial role as they both contribute protective and risk factors to the interactional experience. It is a dynamic process in which they are interdependent and change as a function of their influence on one another (Sameroff, 2009). As we described earlier, few studies have so far incorporated multiple time-point assessments or child characteristics that are a requisite to study relational patterns from a transactional perspective.

Nevertheless, the model offers a valuable explanation for the positive and negative outcomes for children of traumatized parents. Such a model, which takes into account the behavior of the parent and the child as well as the parent and child representations including changes over time, could offer a framework for the (at times mixed) research results and mechanisms. For example, a traumatized parent represents the self as scarred and broken, without a future. The birth and development of a child stirs new hope and the parent starts to represent the child as the one who needs to compensate for their loss. The parent’s behavior, depending on parent characteristics, such as childhood experiences, but perhaps also the transactions with the child, such as reactivity and regulation, develops into a relational pattern. If the parent is overexpecting and the child is a compliant and intelligent child, the child at first might represent the self as someone who has the power to make the parent happy and excel. As time goes by, this behavior of the child could soften the behavior of the parent as the parent experiences the child in itself as sufficient and rewarding and becomes sensitized to the child’s needs. But if the child fails to excel, the parent may grow disappointed and hostile and the child hence becomes anxious and realizes he will never get it right.

This example illustrates the importance of not just researching parental behavior and representations but including child behavior and representations. In our opinion, this area has so far been overlooked. It also illustrates the importance of

longitudinal investigations as both the negative effect of parental PTSD on the child and the resilience might be either visible or invisible at different moments in time. Of particular interest is the timing of effect; when is the child or parent particularly vulnerable and when is the child or the parent most open to change (i.e., sensitive periods)? Furthermore, culture has been described as the prime context for determining associations between activity, such as parent–child interaction, and meaning (Bornstein, 1995). The impact of PTSD on parenting has been demonstrated in different cultures. None of the reviewed studies paid attention to variety in parenting between and within cultures though. Finally, the example illustrates that the transactional model is much more helpful than a causal, fixed unidirectional model in understanding resilience and explaining the probability of parents and children doing well, despite adversity.

Integrational Perspective

How do these perspectives relate to each other? As is visualized in Figure 2, the perspectives are not different perspectives. The transactional perspective builds on the relational perspective by including child behavior and representations. The model illustrates the complexity of the effect of parental trauma on the child. First of all, there are multiple pathways in which the traumatic experience can impact the parent–child relationship and ultimately the child. Second, an alteration in one component can set in motion an entire pathway. Third, the effect is most often not unidirectional but feeds back. Finally, research uses different viewpoints to describe the effect on either the parent–child interaction or the child (e.g., a biological basis lies underneath the symptom clusters of PTSD and partly explains symptomatology of parents. All mechanisms are linked with the parent–child interaction, but there is a dearth of analyses on the pathway from the mechanism via the parent–child interaction to the child). Without an overarching model, results from different mechanisms and perspectives may sound like different or even contradicting results, but when used within the model, they complement each other.

Conclusion

In recent years, quite a sudden rise in publications on the topic of trauma and parenting has occurred. More than half of the reviewed articles were published in the last 5 years. Despite this increased attention, our understanding of the relational patterns between these traumatized parents and children remains limited. One explanation is the variety in applied methodologies. The broad variety in PTSD measures and outcome measures hampers the integration of research results. The lack of observations and overuse of parental report may be more serious. How can we understand the child if we only listen to the parent? And how can we understand relationships if we only question the individual? This review shows that the relational patterns between traumatized patterns and their children are complex. Many factors need to be taken into account (e.g., parental symptoms of PTSD, comorbidity in parental psychopathology,

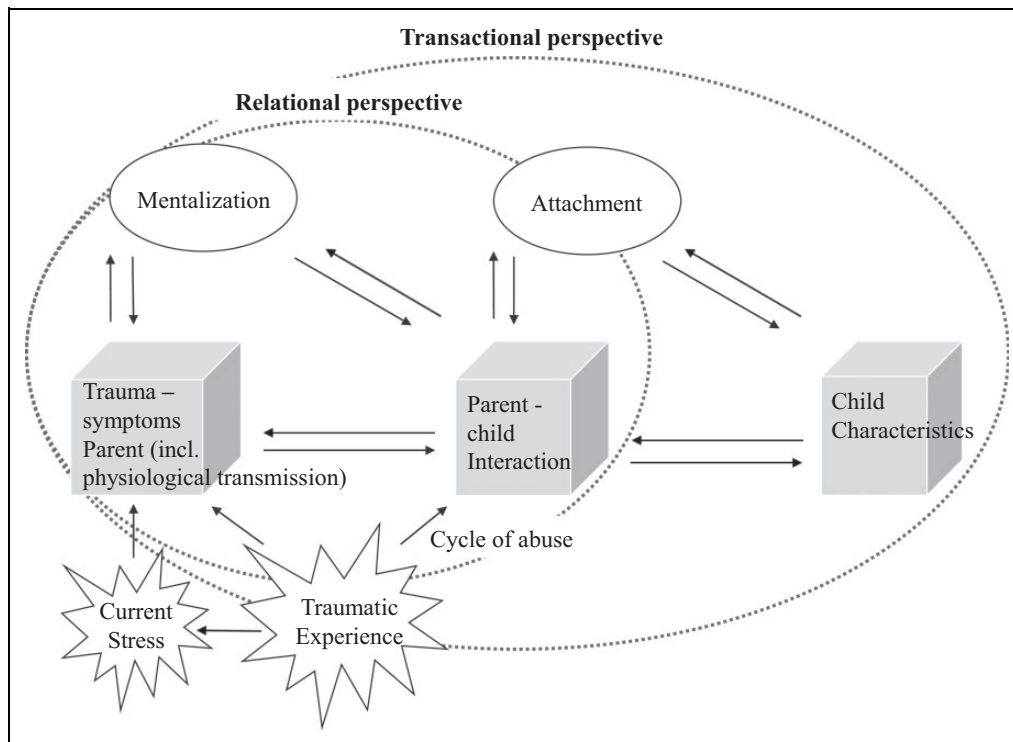


Figure 2. Integrational perspective.

and childhood trauma of the parent). Although mechanisms such as mentalization, attachment, physiological factors, and the cycle of abuse have offered a valuable perspective, we have also argued that using a more relational or transactional framework can enhance our understanding of the relation between trauma and parenting. Traumatization can cause parenting limitations, and these limitations can disrupt the development of the young child. This is a probabilistic relationship, though, and certainly not a deterministic one. To understand the possible mechanisms involved in the impact of parental traumatization on children, the inclusion of child factors is needed. The impact needs to be “caught” within the research room and throughout the developmental span. From a clinical perspective, this probabilistic relationship implies that there is no clear-cut answer to whom to treat first, the symptomatic parent, the at-risk child, or the parent–child interaction. Every case is unique and a transactional analysis needs to be made. On the basis of that analysis, the clinician might decide to intervene with the child, the parent, or in the parent–child relationship. In our clinical experience, these interventions do not stand alone. For example, intervening in the parent–child relationship ameliorates the parental sense of competence and efficacy and thereby alleviates parental symptoms of posttraumatic stress. As much as the trauma of one person can vibrate through the system, interventions can as well: interventions become transactions.

Implications for Practice, Policy, and Research

- Despite increased scientific attention, our understanding of the relational patterns between traumatized parents

and children remains limited. Sound measurements of posttraumatic stress disorder (PTSD), uniformity in used concepts, standardized observational measurements, and longitudinal studies are needed to increase our understanding.

- In clinical practice and research, the situation of traumatized parents and children demand a relational or transactional framework.
- Clinicians of traumatized parents have the responsibility to inquire about the client’s parenting and their child.
- Clinicians need to perform a transactional analysis to adapt the type and pace of treatment to the specific relational pattern. The inclusion of developmental factors and child factors is therefore needed.
- Preferably treatment encompasses a combined treatment of parent and child in which attention is given to the restoration of safety and reestablishment of secure attachment relationships. Reading and responding sensitively to a child should be a focus in therapy.
- Within treatment, specific attention needs to be given to regulation of arousal in response to trauma triggers but also in response to the unique triggers of parent–child interaction. Identifying the unique triggers for a parent can help to work on solutions for the most challenging situations within the interaction with the child.
- During treatment more attention needs to be given to a solid establishment of compensating relationships. It can give parent, child, and therapists valuable time. Time needed for the parent to recover and to work on the relationship without an excessive burden for the child.

- Policies regarding access to treatment or form of treatment should take adult, child, and parent–child perspectives into account.
- Traumatized parents and their children are not just at risk, they also have valuable things to offer to each other. Parents have amazing lessons of resilience to learn to their children, children have lessons of hope and new opportunities to learn to their parents. These interactions can be a source of healing.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This article was financially supported by a ZonMw grant (10002037) from the Netherlands organization for scientific research (NWO).

References

- Ahmadzadeh, G., & Malekian, A. (2004). Aggression, anxiety, and social development in adolescent children of war veterans with PTSD versus those of non-veterans. *Journal of Research in Medical Sciences, 9*, 231–234.
- Al-Turkait, F. A., & Ohaeri, J. U. (2008). Psychopathological status, behavior problems, and family adjustment of Kuwaiti children whose fathers were involved in the first gulf war. *Child and Adolescent Psychiatry and Mental Health, 2*, 12.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders, DSM V*. Washington, DC: Author.
- Ayers, S., Eagle, A., & Waring, H. (2006). The effects of childbirth-related post-traumatic stress disorder on women and their relationships: A qualitative study. *Psychology, Health & Medicine, 11*, 389–398.
- Ayers, S., Wright, D. B., & Wells, N. (2007). Symptoms of post-traumatic stress disorder in couples after birth: Association with the couple's relationship and parent-baby bond. *Journal of Reproductive and Infant Psychology, 25*, 40–50.
- Bailey, H. N., Moran, G., Pederson, D. R., & Bento, S. (2007). Understanding the transmission of attachment using variable- and relationship-centered approaches. *Development and Psychopathology, 19*, 313–343.
- Beardslee, W. R., Versace, E. M., & Gladston, T. R. (1998). Children of affectively ill parents: A review of the past 10 years. *Journal of the American Academy of Child & Adolescent Psychiatry, 37*, 1134–1141.
- Belsky, J., & Nezworski, T. M. (1987). *Clinical implications of attachment*. New Jersey, NJ: Lawrence Erlbaum.
- Berz, J. B., Taft, C. T., Watkins, L. E., & Monson, C. M. (2008). Associations between PTSD symptoms and parenting satisfaction in a female veteran sample. *Journal of Psychological Trauma, 7*, 37–45.
- Bögels, S. M., & Brechman-Toussaint, M. L. (2006). Family issues in child anxiety: Attachment, family functioning, parental rearing and beliefs. *Clinical Psychology Review, 26*, 834–856.
- Bornstein, M. H. (1995). Form and function: Implications for studies of culture and human development. *Culture & Psychology, 1*, 123–137.
- Bosquet Enlow, M., Egeland, B., Carlson, E., Blood, E., & Wright, R. J. (2014). Mother-infant attachment and the intergenerational transmission of posttraumatic stress disorder. *Development and Psychopathology, 26*, 41–65.
- Bosquet Enlow, M., Kitts, R. L., Blood, E., Bizarro, A., Hofmeister, M., & Wright, R. J. (2011). Maternal posttraumatic stress symptoms and infant emotional reactivity and emotion regulation. *Infant Behavior and Development, 34*, 487–503.
- Bosquet Enlow, M., Kullowatz, A., Staudenmayer, J., Spasojevic, J., Ritz, T., & Wright, R. J. (2009). Associations of maternal lifetime trauma and perinatal traumatic stress symptoms with infant cardiorespiratory reactivity to psychological challenge. *Psychosomatic Medicine, 71*, 607–614.
- Bowlby, J. (1973). *Attachment and loss: Volume II: Separation, anxiety and anger*. London, England: The Hogarth Press and the Institute of Psycho-Analysis.
- Brand, S. R., Brennan, P. A., Newport, D. J., Smith, A. K., Weiss, T., & Stowe, Z. N. (2010). The impact of maternal childhood abuse on maternal and infant HPA axis function in the postpartum period. *Psychoneuroendocrinology, 35*, 686.
- Brand, S. R., Engel, S. M., Canfield, R. L., & Yehuda, R. (2006). The effect of maternal PTSD following in utero trauma exposure on behavior and temperament in the 9-month-old infant. *Annals of the New York Academy of Sciences, 1071*, 454–458.
- Brewin, C. R. (2007). Autobiographical memory for trauma: Update on four controversies. *Memory, 15*, 227–248.
- Campbell, S. B., Brownell, C. A., Hungerford, A., Spieker, S. J., Mohan, R., & Blessing, J. S. (2004). The course of maternal depressive symptoms and maternal sensitivity as predictors of attachment security at 36 months. *Development and Psychopathology, 16*, 231–252.
- Charney, D. S., Deutch, A. Y., Krystal, J. H., Southwick, S. M., & Davis, M. (1993). Psychobiologic mechanisms of posttraumatic stress disorder. *Archives of General Psychiatry, 50*, 294.
- Chemtob, C. M., Gudiño, O. G., & Laraque, D. (2013). Maternal post-traumatic stress disorder and depression in pediatric primary care. Association with child maltreatment and frequency of child exposure to traumatic events. *JAMA Pediatrics, 167*, 1011–1018.
- Cohen, L. R., Hien, D. A., & Batchelder, S. (2008). The impact of cumulative maternal trauma and diagnosis on parenting behavior. *Child Maltreatment, 13*, 27–38.
- Coppola, G., Cassibba, R., & Costantini, A. (2007). What can make the difference? premature birth and maternal sensitivity at 3 months of age: The role of attachment organization, traumatic reaction and baby's medical risk. *Infant Behavior & Development, 30*, 679–684.
- Cummings, E. M., & Davies, P. T. (1994). Maternal depression and child development. *Journal of Child Psychology and Psychiatry, 35*, 73–122.
- Daud, A., Klinteberg, B., & Rydelius, P. (2008). Resilience and vulnerability among refugee children of traumatized and non-traumatized parents. *Child and Adolescent Psychiatry and Mental Health, 2*. doi:10.1186/1753-2000-2-7

- Davies, J., Slade, P., Wright, I., & Stewart, P. (2008). Posttraumatic stress symptoms following childbirth and mothers' perceptions of their infants. *Infant Mental Health Journal, 29*, 537–554.
- Davis, R. N., Davis, M. M., Freed, G. L., & Clark, S. J. (2011). Fathers' depression related to positive and negative parenting behaviors with 1-year-old children. *Pediatrics, 127*, 612–618.
- Despars, J., Peter, C., Borghini, A., Pierrehumbert, B., Habersaat, S., Müller-Nix, C., & Hohlfield, J. (2011). Impact of a cleft lip and/or palate on maternal stress and attachment representations. *The Cleft Palate-Craniofacial Journal, 48*, 419–424.
- Dixon, W. E. (2002). *Twenty studies that revolutionized child psychology*. New Jersey, NJ: Pearson College Div.
- Downey, G., & Coyne, J. C. (1990). Children of depressed parents: An integrative review. *Psychological Bulletin, 108*, 50–76.
- Durbin, C. E., & Wilson, S. (2012). Convergent validity of and bias in maternal reports of child emotion. *Psychological Assessment, 24*, 647.
- Eng, S., Mulrow, M., Cleveland, H., & Hart, S. L. (2009). Academic achievement among adolescents in Cambodia: Does caregiver trauma matter? *Journal of Community Psychology, 37*, 754–768.
- Feeley, N., Zelkowitz, P., Cormier, C., Charbonneau, L., Lacroix, A., & Papageorgiou, A. (2011). Posttraumatic stress among mothers of very low birthweight infants at 6 months after discharge from the neonatal intensive care unit. *Applied Nursing Research, 24*, 114–117.
- Field, N. P., Muong, S., & Schanvimean, V. (2013). Parental styles in the intergenerational transmission of trauma stemming from the Khmer Rouge regime in Cambodia. *American Journal of Orthopsychiatry, 83*, 483–494.
- Fonagy, P., Gergely, G., & Jurist, E. L. (2003). *Affect regulation, mentalization and the development of the self*. London/New York: Karnac Books.
- Fonagy, P., Target, M., Steele, H., & Steele, M. (1998). *Reflective-functioning manual, Version 5, for application to Adult Attachment Interviews*. Retrieved from <http://mentalizacion.com.ar/images/notas/Reflective%20Functioning%20Manual.pdf>
- Forcada-Guex, M., Borghini, A., Pierrehumbert, B., Ansermet, F., & Müller-Nix, C. (2011). Prematurity, maternal posttraumatic stress and consequences on the mother-infant relationship. *Early Human Development, 87*, 21–26.
- Foss, G. F. (2001). Maternal sensitivity, posttraumatic stress, and acculturation in Vietnamese and Hmong mothers. *MCN: The American Journal of Maternal/Child Nursing, 26*, 257–263.
- Gewirtz, A. H., McMorris, B. J., Hanson, S., & Davis, L. (2014). Family adjustment of deployed and nondeployed mothers in families with a parent deployed to Iraq or Afghanistan. *Professional Psychology, 45*, 465–477.
- Gewirtz, A. H., Polusny, M. A., DeGarmo, D. S., Khaylis, A., & Erbes, C. R. (2010). Posttraumatic stress symptoms among national guard soldiers deployed to Iraq: Associations with parenting behaviors and couple adjustment. *Journal of Consulting and Clinical Psychology, 78*, 599–610.
- Gold, J. I., Taft, C. T., Keehn, M. G., King, D. W., King, L. A., & Samper, R. E. (2007). PTSD symptom severity and family adjustment among female Vietnam veterans. *Military Psychology, 19*, 71–81.
- Goldberg, S., Benoit, D., Blokland, K., & Madigan, S. (2003). Atypical maternal behavior, maternal representations, and infant disorganized attachment. *Development and Psychopathology, 15*, 239–257.
- Goodman, S. H., & Brumley, H. E. (1990). Schizophrenic and depressed mothers: Relational deficits in parenting. *Developmental Psychology, 26*, 31–39.
- Green, J., & Goldwyn, R. (2002). Annotation: Attachment disorganization and psychopathology: New findings in attachment research and their potential implications for developmental psychopathology in childhood. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 43*, 835–846.
- Hairston, I. S., Waxler, E., Seng, J. S., Fezzey, A. G., Rosenblum, K. L., & Muzik, M. (2011). The role of infant sleep in intergenerational transmission of trauma. *Sleep, 34*, 1373–1383.
- Hay, D. F., Pawlby, S., Angold, A., Harold, G. T., & Sharp, D. (2003). Pathways to violence in the children of mothers who were depressed postpartum. *Developmental Psychology, 39*, 1083–1094.
- Herzog, J. R., Everson, R. B., & Whitworth, J. D. (2011). Do secondary trauma symptoms in spouses of combat-exposed national guard soldiers mediate impacts of soldiers' trauma exposure on their children? *Child and Adolescent Social Work Journal, 28*, 459–473.
- Hesse, E., & Main, M. (1999). Second-generation effects of unresolved trauma in nonmaltreating parents: Dissociated, frightened, and threatening parental behavior. *Psychoanalytic Inquiry, 19*, 481–540.
- Hinton, D. E., Rasmussen, A., Nou, L., Pollack, M. H., & Good, M. J. (2009). Anger, PTSD, and the nuclear family: A study of Cambodian refugees. *Social Science and Medicine, 69*, 1387–1394.
- Holditch-Davis, D., Miles, M. S., Weaver, M. A., Black, B., Beeber, L., Thoyre, S., & Engelke, S. (2009). Patterns of distress in African-American mothers of preterm infants. *Journal of Developmental and Behavioral Pediatrics, 30*, 193–204.
- Hughes, P., Turton, P., McGauley, G. A., & Fonagy, P. (2006). Factors that predict infant disorganization in mothers classified as U in pregnancy. *Attachment & Human Development, 8*, 113–122.
- Ionio, C., & Di Blasio, P. (2013). Post-traumatic stress symptoms after childbirth and early mother-child interactions: an exploratory study. *Journal of Reproductive and Infant Psychology, 32*, 163–181.
- Jakupcevic, K. K., & Ajdukovic, M. (2011). Risk factors of child physical abuse by parents with mixed anxiety-depressive disorder or posttraumatic stress disorder. *Croatian Medical Journal, 52*, 25–34.
- Jordan, B. K., Marmar, C. R., Fairbank, J. A., Schlenger, W. E., Kulka, R. A., Hough, R. L., & Weiss, D. S. (1992). Problems in families of male Vietnam veterans with posttraumatic stress disorder. *Journal of Consulting and Clinical Psychology, 60*, 916–926.
- Jovanovic, T., Smith, A., Kamkwala, A., Poole, J., Samples, T., Norrholm, S. D., ... Bradley, B. (2011). Physiological markers of anxiety are increased in children of abused mothers. *Journal of Child Psychology and Psychiatry, 52*, 844–852.
- Kane, P., & Garber, J. (2004). The relations among depression in fathers, children's psychopathology, and father-child conflict: A meta-analysis. *Clinical Psychology Review, 24*, 339–360.
- Khaylis, A., Polusny, M. A., Erbes, C. R., Gewirtz, A., & Rath, M. (2011). Posttraumatic stress, family adjustment, and treatment preferences among national guard soldiers deployed to OEF/OIF. *Military Medicine, 176*, 126–131.
- Koren-Karie, N., Oppenheim, D., & Getzler-Yosef, R. (2008). Shaping children's internal working models through mother-child dialogues:

- The importance of resolving past maternal trauma. *Attachment & Human Development*, 10, 465–483.
- Lambert, J. E., Holzer, J., & Hasbun, A. (2014). Association between parents' PTSD severity and children's psychological distress: A meta-analysis. *Journal of Traumatic Stress*, 27, 9–17.
- Lang, A. J., Gartstein, M. A., Rodgers, C. S., & Lebeck, M. M. (2010). The impact of maternal childhood abuse on parenting and infant temperament. *Journal of Child and Adolescent Psychiatric Nursing*, 23, 100–110.
- Lange, N. E., Bunyavanich, S., Silberg, J. L., Canino, G., Rosner, B. A., & Celedón, J. C. (2011). Parental psychosocial stress and asthma morbidity in Puerto Rican twins. *Journal of Allergy and Clinical Immunology*, 127, 734–740.
- Lauterbach, D., Bak, C., Reiland, S., Mason, S., Lute, M. R., & Earls, L. (2007). Quality of parental relationships among persons with a lifetime history of posttraumatic stress disorder. *Journal of Traumatic Stress*, 20, 161–172.
- Lee, S. J., Taylor, C. A., & Bellamy, J. L. (2012). Paternal depression and risk for child neglect in father-involved families of young children. *Child Abuse & Neglect*, 36, 461–469.
- Leen-Feldner, E. W., Feldner, M. T., Bunaciu, L., & Blumenthal, H. (2011). Associations between parental posttraumatic stress disorder and both offspring internalizing problems and parental aggression within the national comorbidity survey-replication. *Journal of Anxiety Disorders*, 25, 169–175.
- Leifer, M., Kilbane, T., Jacobsen, T., & Grossman, G. (2004). A three-generational study of transmission of risk for sexual abuse. *Journal of Clinical Child and Adolescent Psychology*, 33, 662–672.
- Lester, P., Peterson, K., Reeves, J., Knauss, L., Glover, D., Mogil, C., . . . Beardslee, W. (2010). The long war and parental combat deployment: Effects on military children and at-home spouses. *Journal of the American Academy of Child & Adolescent Psychiatry*, 49, 310–320.
- Lester, P., Stein, J. A., Saltzman, W., Woodward, K., MacDermid, S. W., Milburn, N., . . . Beardslee, W. (2013). Psychological health of military children: Longitudinal evaluation of a family-centered prevention program to enhance family resilience. *Military Medicine*, 178, 838–845.
- Lombardo, K. L., & Motta, R. W. (2008). Secondary trauma in children of parents with mental illness. *Traumatology*, 14, 57–67.
- Lovejoy, M. C., Graczyk, P. A., O'Hare, E., & Neuman, G. (2000). Maternal depression and parenting behavior: A meta-analytic review. *Clinical Psychology Review*, 20, 561–592.
- Low, N. C., Dugas, E., Constantin, E., Karp, I., Rodriguez, D., & O'Loughlin, J. (2012). The association between parental history of diagnosed mood/anxiety disorders and psychiatric symptoms and disorders in young adult offspring. *BMC Psychiatry*, 12, 741–746.
- Lyons-Ruth, K., Bronfman, E., & Parsons, E. (1999). Atypical attachment in infancy and early childhood among children at developmental risk: IV. maternal frightened, frightening, or atypical behavior and disorganized infant attachment patterns. *Monographs of the Society for Research in Child Development*, 64, 67–96.
- Lyons-Ruth, K., & Block, D. (1996). The disturbed caregiving system: Relations among childhood trauma, maternal caregiving, and infant affect and attachment. *Infant Mental Health Journal*, 17, 257–275.
- Madigan, S., Moran, G., & Pederson, D. R. (2006). Unresolved states of mind, disorganized attachment relationships, and disrupted interactions of adolescent mothers and their infants. *Developmental Psychology*, 42, 293–304.
- Main, M., & Hesse, E. (1990). Parents' unresolved traumatic experiences are related to infant disorganized attachment status: Is frightened and/or frightening parental behavior the linking mechanism? In M. T. Greenberg, D. Cicchetti, & E. M. Cummings (Eds.), *Attachment in the preschool years: Theory, research, and intervention* (pp. 161–182). Chicago, IL: University of Chicago Press.
- Manassis, K., Bradley, S., Goldberg, S., Hood, J., & Swinson, R. P. (1994). Attachment in mothers with anxiety disorders and their children. *Journal of the American Academy of Child and Adolescent Psychiatry*, 33, 1106–1113.
- Maršanić, V. B., Margetić, B. A., Jukić, V., Matko, V., & Grgić, V. (2013). Self-reported emotional and behavioral symptoms, parent-adolescent bonding and family functioning in clinically referred adolescent offspring of Croatia PTSD war veterans. *European Journal of Child & Adolescent Psychiatry*, 23, 295–306. doi: 10.1007/s00787-013-0462-2
- McDonald, S., Slade, P., Spiby, H., & Iles, J. (2011). Post-traumatic stress symptoms, parenting stress and mother-child relationships following childbirth and at 2 years postpartum. *Journal of Psychosomatic Obstetrics & Gynecology*, 32, 141–146.
- Moehler, E., Brunner, R., Wiebel, A., Reck, C., & Resch, F. (2006). Maternal depressive symptoms in the postnatal period are associated with long-term impairment of mother-child bonding. *Archives of Women's Mental Health*, 9, 273–278.
- Murray, L., Cooper, P., Creswell, C., Schofield, E., & Sack, C. (2007). The effects of maternal social phobia on mother-infant interactions and infant social responsiveness. *Journal of Child Psychology and Psychiatry*, 48, 45–52.
- Muzik, M., Bocknek, E. L., Broderick, A., Richardson, P., Rosenblum, K. L., Thelen, K., & Seng, J. S. (2013). Mother-infant bonding impairment across the first 6 months postpartum: The primacy of psychopathology in women with childhood abuse and neglect histories. *Archives of Women's Mental Health*, 16, 29–38.
- Najman, J. M., Williams, G. M., Nikles, J., Spence, S., Bor, W., O'Callaghan, M., . . . Andersen, M. J. (2000). Mothers' mental illness and child behavior problems: Cause-effect association or observation bias? *Journal of the American Academy of Child & Adolescent Psychiatry*, 39, 592–602.
- Nicholls, K., & Ayers, S. (2007). Childbirth related posttraumatic stress disorder in couples: A qualitative study. *British Journal of Health Psychology*, 12, 491–509.
- Nicol-Harper, R., Harvey, A. G., & Stein, A. (2007). Interactions between mothers and infants: Impact of maternal anxiety. *Infant Behavior & Development*, 30, 161–167.
- Nöthling, J., Martin, C. L., Laughton, B., Cotton, M. F., & Seedat, S. (2013). Maternal post-traumatic stress disorder, depression and alcohol dependence and child behavior outcomes in mother-child dyads infected with HIV: A longitudinal study. *BMJ Open*, 3, e00363. doi:10.1136/bmjopen-2013-003638
- Parfitt, Y., & Ayers, S. (2012). Postnatal mental health and parenting: The importance of parental anger. *Infant Mental Health Journal*, 33, 400–410.

- Parfitt, Y. M., & Ayers, S. (2009). The effect of post-natal symptoms of post-traumatic stress and depression on the couple's relationship and parent-baby bond. *Journal of Reproductive and Infant Psychology, 27*, 127–142.
- Parfitt, Y., Pike, A., & Ayers, S. (2013). The impact of parents' mental health on parent-baby interaction: A prospective study. *Infant Behavior and Development, 36*, 599–608.
- Pears, K. C., & Capaldi, D. M. (2001). Intergenerational transmission of abuse: A two-generational prospective study of an at-risk sample. *Child Abuse & Neglect, 25*, 1439–1461.
- Roberts, A. L., Galea, S., Austin, S. B., Cerda, M., Wright, R. J., Rich-Edwards, J. W., & Koenen, K. C. (2012). Posttraumatic stress disorder across two generations: Concordance and mechanisms in a population-based sample. *Biological Psychiatry, 72*, 505–511.
- Roberts, A. L., Lyall, K., Rich-Edwards, J. W., Ascherio, A., & Weisskopf, M. G. (2013). Associations of maternal exposure to childhood abuse with elevated risk for autism in offspring. *Jama Psychiatry, 70*, 508–515.
- Rosenheck, R. A., & Fontana, A. (1998). Transgenerational effects of abusive violence on the children of Vietnam combat veterans. *Journal of Traumatic Stress, 11*, 731–742.
- Ruscio, A. M., Weathers, F. W., King, L. A., & King, D. W. (2002). Male war-zone veterans' perceived relationships with their children: The importance of emotional numbing. *Journal of Traumatic Stress, 15*, 351–357.
- Sameroff, A. (2009). *The transactional model of development. How children and contexts shape each other*. Washington, DC: American Psychological Association.
- Samper, R. E., Casey, T. T., King, D. W., & King, L. A. (2004). Post-traumatic stress disorder symptoms and parenting satisfaction among a national sample of male Vietnam veterans. *Journal of Traumatic Stress, 17*, 311–315.
- Schechter, D. S., Coates, S. W., Kaminer, T., Coots, T., Zeanah, C. H., Davies, M., . . . Myers, M. M. (2008). Distorted maternal mental representations and atypical behavior in a clinical sample of violence-exposed mothers and their toddlers. *Journal of Trauma & Dissociation, 9*, 123–147.
- Schechter, D. S., Coots, T., Zeanah, C. H., Davies, M., Coates, S. W., Trabka, K. A., . . . Myers, M. M. (2005). Maternal mental representations of the child in an inner-city clinical sample: Violence-related posttraumatic stress and reflective functioning. *Attachment & Human Development, 7*, 313–331.
- Schechter, D. S., Gross, A., Willheim, E., McCaw, J., Turner, J. B., Myers, M. M., . . . Zeanah, C. H. (2009). Is maternal PTSD associated with greater exposure of very young children to violent media? *Journal of Traumatic Stress, 22*, 658–662.
- Schechter, D. S., Moser, D. A., Wang, Z., Marsh, R., Hao, X., Duan, Y., . . . Peterson, B.S. (2012). An fMRI study of the brain responses of traumatized mothers to viewing their toddlers during separation and play. *Social Cognitive and Affective Neuroscience, 7*, 969–979.
- Schechter, D. S., Zygumnt, A., Coates, S. W., Davies, M., Trabka, K. A., McCaw, J., . . . Robinson, J. (2007). Caregiver traumatization adversely impacts young children's mental representations on the MacArthur story stem battery. *Attachment & Human Development, 9*, 187–205.
- Schechter, D. S., Zygumnt, A., Trabka, K. A., Davies, M. P. H., Colon, B. A., Kolodji, A., & McCaw, B. A. (2007). Child mental representations of attachment when mothers are traumatized: The relationship of family-drawings to story-stem completion. *Journal of Early Child & Infant Psychology, 3*, 119–141.
- Schechter, D. S., Willheim, E., Hinojosa, C., Scholfield-Kleinman, K., Turner, J. B., McCaw, J., . . . Myers, M. M. (2010). Subjective and objective measures of parent-child relationship dysfunction, child separation distress, and joint attention. *Psychiatry: Interpersonal and Biological Processes, 73*, 130–144.
- Scheeringa, M. S., & Zeanah, C. H. (2001). A relational perspective on PTSD in early childhood. *Journal of Traumatic Stress, 14*, 799–815.
- Schwerdtfeger, K. L., & Goff, B. S. (2007). Intergenerational transmission of trauma: Exploring mother-infant prenatal attachment. *Journal of Traumatic Stress, 20*, 39–51.
- Seckl, J. R. (2004). Prenatal glucocorticoids and long-term programming. *European Journal of Endocrinology, 151*, U49–U62.
- Selimbasic, Z. (2010). PW01-65-Family risk factors and behavioral disturbances in children of parents with posttraumatic stress disorder. *European Psychiatry, 25*, 1481.
- Spangler, G., & Grossmann, K. (1993). Biobehavioral organization in securely and insecurely attached infants. *Child Development, 64*, 1439–1450.
- Stacks, A. M., Muzik, M., Wong, K., Beeghly, M., Huth-Bocks, A., Irwin, J. L., & Rosenblum, K. L. (2014). Maternal reflective functioning among mothers with childhood maltreatment histories: links to sensitive parenting and infant attachment security. *Attachment & Human Development, 16*, 515–533. doi:10.1080/14616734.2014.935452
- Stover, C. S., Hall, C., McMahon, T. J., & Easton, C. J. (2012). Fathers entering substance abuse treatment: An examination of substance abuse, trauma symptoms and parenting behaviors. *Journal of Substance Abuse Treatment, 43*, 335–343.
- Sullivan, B., Gotman, N., Yonkers, K., Mayes, L., Lutyen, P., Nix, K., . . . Smith, M. V. (2011). Effects of trauma and PTSD on parenting in mothers with preschool age children. *Comprehensive Psychiatry, 52*, e15.
- Tees, M. T., Harville, E. W., Xiong, X., Buekens, P., Pridjian, G., & Elkind-Hirsch, K. (2010). Hurricane Katrina-related maternal stress, maternal mental health, and early infant temperament. *Maternal and Child Health Journal, 14*, 511–518.
- Turton, P., Hughes, P., Fonagy, P., & Fainman, D. (2004). An investigation into the possible overlap between PTSD and unresolved responses following stillbirth: An absence of linkage with only unresolved status predicting infant disorganization. *Attachment & Human Development, 6*, 241–253.
- Vaage, A. B., Thomsen, P. H., Rousseau, C., Wentzel-Larsen, T., Ta, T. V., & Hauff, E. (2011). Paternal predictors of the mental health of children of Vietnamese refugees. *Child and Adolescent Psychiatry and Mental Health, 5*, 1–11.
- Van Ee, E., Kleber, R. J., & Mooren, T. T. M. (2012). War trauma lingers on: Associations between maternal posttraumatic stress disorder, parent-child interaction, and child development. *Infant Mental Health Journal, 33*, 459–468.

- Van Ee, E., Sleijpen, M., Kleber, R. J., & Jongmans, M. J. (2013). Father-involvement in a refugee sample: Relations between posttraumatic stress and caregiving. *Family Process, 52*, 723–735.
- Weinberg, M. K., & Tronick, E. Z. (1998). The impact of maternal psychiatric illness on infant development. *Journal of Clinical Psychiatry, 59*, 53–61.
- Whiffen, V. E., & Gotlib, I. H. (1989). Infants of postpartum depressed mothers: Temperament and cognitive status. *Journal of Abnormal Psychology, 98*, 274–279.
- Woodruff-Borden, J., Morrow, C., Bourland, S., & Cambron, S. (2002). The behaviour of anxious parents: Examining mechanisms of transmission of anxiety from parent to child. *Journal of Clinical Child and Adolescent Psychology, 31*, 364–374.
- Yehuda, R., Engel, S. M., Brand, S. R., Seckl, J., Marcus, S. M., & Berkowitz, G. S. (2005). Transgenerational effects of posttraumatic stress disorder in babies of mothers exposed to the world trade center attacks during pregnancy. *Journal of Clinical Endocrinology & Metabolism, 90*, 4115–4118.

Author Biographies

Elisa van Ee is a clinical psychologist/psychotherapist and senior researcher affiliated with Psychotraumacentrum Zuid Nederland

(Reinier van Arkel), an expert research, treatment, and knowledge institute working with severe traumatization caused by war, violence, torture, and abuse. As a clinical psychologist, she has worked with various groups of traumatized people, but her main focus has been traumatized asylum seekers and refugee families. Her research interests is in the effect of (complex) trauma on families, the development of interventions for these families, and more specifically children born of sexual violence.

Rolf J. Kleber is a Professor of Psychotraumatology, Department of Clinical & Health Psychology, Utrecht University and he is Head of Arq Research Program. His research and teaching fields are conceptual issues concerning traumatic stress; general processes of coping with traumatic experiences; work-related trauma and brief interventions, (late) sequelae of war and disasters; and cross-cultural aspects of health, trauma, and illness. Prof. Kleber has published many scientific and professional articles and books on stress, coping with trauma, and cross-cultural psychology.

Marian Jongmans is a Professor of Special Education at the Department of Child, Family & Education Studies, Utrecht University. Her research focuses on developmental trajectories of young children with (or at risk of) a physical and/or cognitive disability or chronic illness with special attention to how the interaction between child characteristics and parenting practices influence these trajectories.