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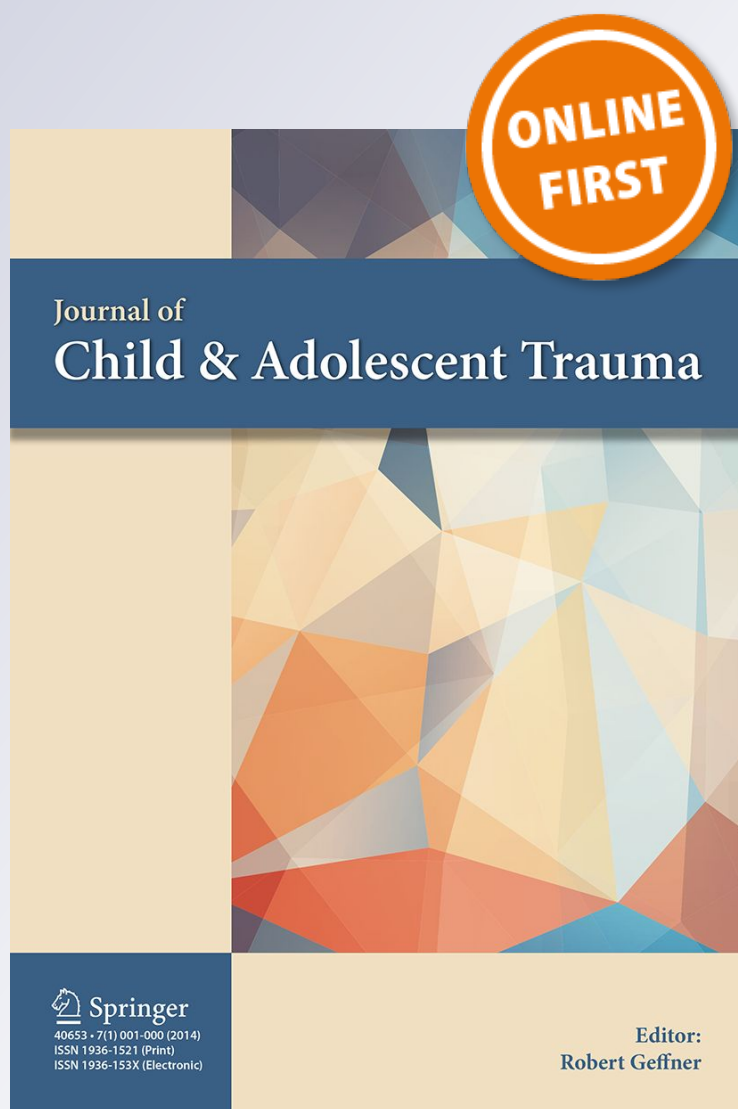
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# Mothers and Toddlers Exposed to Political Violence: Severity of Exposure, Emotional Availability, Parenting Stress, and Toddlers' Behavior Problems

Esther Cohen<sup>1,2</sup> · Cory Shulman<sup>3</sup>

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**Abstract** This study examined the potential risks of maternal and child exposure to traumatic events resulting from political violence, specifically those related to emotional availability, parenting stress and children's behavioral problems. It also evaluated the feasibility of mitigating these effects through a play-based group intervention for conjoint dyads of mothers and toddlers. Results from 54 dyads show that the higher maternal and especially child exposure to political violence and other trauma, the lower their emotional availability in dyadic interactions ( $r = .40, p < .01$ ). Emotional availability was associated with the mother's parenting stress, and both parenting stress and emotional availability were associated with the mother's perceptions of her child's behavior problems. Comparisons of observed emotional availability, child behavior problems as perceived by the mother, and reported stress in 28 dyads before and after participating in the intervention suggest that it may be possible to bolster emotional availability and to reduce child's behavior problems.

**Keywords** Political violence · Trauma exposure · Toddlers · Mother–child interaction · Preventive intervention

## Introduction

Following a long period of neglect in the trauma literature, the need to focus on young children has become unquestionable. Lieberman concludes her review of the relevant research stating compellingly: "...children's mental health in the first 5 years of life can be profoundly and lastingly affected by the impact of traumatic stressors, such as domestic violence, child abuse, community violence, and war..." (Lieberman 2011, p. 640). The effects of traumatic exposure on young children appear to be widespread, and are not limited to posttraumatic symptoms. Such events may negatively affect their biological, emotional, social, and cognitive functioning and manifest in problems in physiological and emotional regulation and various behavior problems (Chemtob et al. 2010; Conway et al. 2013; Lieberman and Van Horn 2008; Pat-Horenczyk et al. 2015).

Studies suggest that these effects may be more pronounced in young children who are exposed to recurrent, or prolonged, or ongoing situations of political violence (PV), such as war and terrorism, in comparison to those who have been exposed to past or single traumatic incidents (Conway et al. 2013; Pat-Horenczyk et al. 2012). Explanations for the added risk under such circumstances underscore the specific characteristics of terror events, such as their unpredictability and indefinite nature, which contribute to a continual state of stress and anxiety with no clear endpoint. Thus, in PV, the combination of terrorist attacks and ensuing terrorist threats confound the boundaries between direct and distant trauma (Conway et al. 2013). The cumulative costs of the repeated efforts to adjust to these stressful events may result in increased allostatic load, or even overload, that is, a state in which serious pathophysiology can occur in the brain as well as in the body (McEwen 1998). It may thus manifest in the exacerbation of emotional distress, rather

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than in habituation to stress or resilience (Pat-Horenczyk et al. 2013).

Slone and Mann (2016) reviewed 35 studies, which focused on the relationship between PV and the mental health of young children, aged 0–6 years. Their review shows that children who were exposed to PV exhibited increased post-traumatic stress disorder (PTSD) and post-traumatic stress (PTS) symptoms; behavioral and emotional symptoms; psychosomatic symptoms; sleep problems and disturbed play. It appears that children may be affected not only by direct exposure to PV, but also through the deleterious effects of traumatic events related to PV on their caregivers and communities (Dyregrov and Regel 2012; Conway et al. 2013; Feldman and Vengrober 2011; Pat-Horenczyk et al. 2013). Also, Slone and Mann's (2016) review reveals significant correlations between parental and child psychopathology and, that family environment and parental functioning may serve as moderators of the exposure–outcome association for children.

Several mechanisms have been suggested to explain how maternal stress, quality of caregiving, and environmental support factors can ameliorate or aggravate the impact of traumatic events, and impact the onset of behavioral problems and pathological symptoms in children. Evidence from the risk and resilience literature suggests that PTS symptoms in caregivers increase parenting stress and may hinder their ability to provide adequate care to their children (Masten 2001) during a time when it is most needed (Salmon and Bryant 2002). Attachment theory (Bowlby 1988) also suggests that parents' symptoms of PTS may prevent their children from feeling emotionally connected to them, leaving children to feel unsafe, insecure, and distressed. Feldman and Vengrober's findings (2011) regarding young children and mothers exposed to war further support the tenets of attachment theory. They suggest that child avoidance behavior, which emerged as the most notable risk pathway for war-exposed young children, may indicate that the attachment system has not been able to contain the child's anxieties, and that initial attempts to recruit the maternal supportive presence have failed, leading the child to shut down mentally and behaviorally. Recently Pat-Horenczyk and her colleagues (2015) examined *relational emotion regulation* as part of their attempt to explain intergenerational transmission of trauma. Their findings highlight the central role of mothers' emotion regulation skills in the aftermath of PV and its association with their children's emotion regulation skills.

However, Scheeringa et al. (2015) underscored that among the several dozen studies that implicate parenting practices in children's post-trauma adaptation only a few employed observational measures of actual parenting (e.g., Feldman and Vengrober 2011; Gewirtz et al. 2011). They further claimed that the dearth of observational measures of parenting limits our ability to conclude whether parental and

family characteristics translate into actual parenting practices, and how they influence children's outcomes. Their own findings, based on multi-method assessments of parenting constructs, including observational measures, did not support the traditional notions about the mediating role of maternal sensitivity in children's post-traumatic adaptation. They therefore caution against the assumption that caregiver insensitivity is associated with more severe PTSD in children, who are exposed to personal, life-threatening trauma. Of note is that their study as well as the observational study by Gewirtz and her colleagues (2011) did not address exposure to PV.

In a recent study, which included observational measures of mother's emotional availability, Shachar-Dadon, Gueron-Sela, Weintraub, Maayan-Metzger & Leshem (2017) found that retrospective accounts of women's higher exposure to war-related experiences (mostly missile attacks in northern Israel) was related to elevated emotional distress. In turn, mothers' emotional distress was related to higher levels of maternal separation anxiety, lower emotional availability in parent–child interactions and lower levels of child adaptive behavior. These associations were found for three-year old children conceived at least a month prior to the exposure. The researchers claim that their findings of transgenerational implications of pre-conception war experience may be similar to the effects of concurrent exposure to war on the mother–child relationship in early childhood. Our study attempts to address these issues by employing a combination of methods including observational methods and information from self-report measurements, in a population with a high probability of past, intermittent or recent exposure to PV.

The present study focuses on mothers and toddlers exposed to varying degrees of PV. We chose to focus on toddlers (ages 1–3 years) since this may be a particularly sensitive developmental stage, when the child depends on mutual regulation of emotion and arousal with his/her caregiver, including limit-setting with normative exploratory, instrumental, and hostile aggression (Lieberman 1996). When caregiver psychopathology interferes with maternal availability, there is a greater risk for subsequent development of conduct disorders and other psychopathology (Schechter et al. 2015). Conway and her colleagues (2013) examined stress-related changes in toddlers and their mothers following the attack of September 11 in the United States and found that toddlers were severely impacted by this event even when they were not physically close to the place of terror. Furthermore, the mothers of toddlers showed more negative mental health symptoms than the general population that experienced the same level of PV exposure.

The first part of this paper examines the links between maternal and toddler exposure to traumatic events, especially PV, and their associations with observed emotional

availability and with self-reported parenting stress. Additionally we examine the associations between exposure to PV, emotional availability in the mother-toddler dyad, reported parenting stress and toddler behavior problems. The second part of this paper evaluates the efficacy of a preventive intervention program with PV exposed mothers and toddlers, and the possibility of mitigating some of the aforementioned possible deleterious effects. This is performed using a “before-after” design, aimed to examine whether such an intervention would produce improvement in dyadic emotional availability, a decrease in parenting stress and in toddlers’ problematic behavior.

Research on the negative effects of exposure of young children to traumatic events related to PV often includes recommendations to address these effects through preventive interventions (Conway 2013; Chemtob et al. 2010; Slone and Mann 2016; Shachar-Dadon et al. 2017). These recommendations involve suggestions for the use of dyadic interventions as well as mother-oriented or family-based interventions. However, no specific accounts of such interventions are provided. The authors of two recent reviews of the effects of war, terrorism and armed conflict on young children (Slone and Mann 2016; Wolmer et al. 2017) point out that in contrast to the rapidly growing literature on school-based interventions for children living in protracted conflict and war, evidence-based interventions for preschool children are lacking.

We identified only three programs, which addressed the needs of families with young children exposed to PV in our literature survey. Two reports addressed caregivers (Dybdahl 2001; Wieling et al. 2017) and one focused directly on children (Sadeh et al. 2008). Sadeh et al. (2008) evaluated a brief, group intervention with preschool children named the “Huggy-Puppy intervention”, which encouraged children to care for a needy Huggy-Puppy doll that was given to them as a gift. The intervention was associated with significant reductions in stress reactions in the postwar assessment when compared with a matched comparison group. Dybdahl (2001) reported on a psychosocial intervention with groups of war-exposed mothers of young children in Bosnia and Herzegovina. The aim of the program was to promote the development and well-being of young children through parental involvement, support, and education, and by focusing on the importance of mother–child interaction for the child’s development and healing. The program consisted of weekly group meetings of mothers for five months, and had positive effects on mothers’ mental health, children’s weight gain, and aspects of children’s psychosocial functioning and mental health. Specifically, the children in the intervention group were rated by interviewers as more intelligent and active than the children in the comparison group. Mothers involved in the intervention rated their children as happier, less restless, less distractible, less clingy, and exhibiting

less drastic mood changes in comparison to mothers in the control group. Wieling et al. (2017) reported on a process of adaptation of the “Parent Management Training Oregon Model” to the needs of war-affected mothers in Northern Uganda. However, the authors do not present evaluation data of this project.

The research on the effects of PV on children’s adaptation and the paucity of interventions with families affected by PV underscores the need to take a proactive community preventive approach, rather than the more common focus on providing conventional individual therapy for severely affected individuals. The shortage of programs also highlights the need to tailor interventions to the needs of each cultural or social group. Reaching many families affected by PV during times of diminished community resources requires prevention programs to be economical, practical and non-stigmatic.

In line with these recommendations, an innovative group intervention (named NAMAL- an acronym in Hebrew for “let’s make room for play”) was created by the first author, designed especially for groups of dyads of mothers and toddlers residing in an area continually exposed to PV (Cohen 2014; Cohen et al. 2014). It was implemented, and following feedback from moderators, further adapted by the Israeli Canter for the Treatment of Psychotrauma, The program is both experiential and educational. It focuses on improving everyday positive parent–child interactions, addresses children’s needs associated with exposure to trauma, and is designed to improve mutual emotional availability. These goals are attained through opportunities for mutual enjoyment in parent–child multi-modal, sensory and expressive interactions; raising caregivers’ awareness to their central role in building the child’s sense of security, uniqueness, trust, and self-reliance; educating caregivers about the importance of supporting the expression and regulation of emotions; and sensitizing parents to their role in supporting their child’s curiosity, creativity and imagination through play and playfulness. Additionally, participation in the program helps parents to develop the knowledge and skills to support their children as they process painful feelings and make sense of the traumatic events. This includes creating a coherent, protective trauma narrative and expanding the children’s range of self-regulation techniques including soothing and relaxation skills. In the spirit of creativity and playfulness the theme and activities of each session are organized around a proverb or saying that impart a developmental and/or a relational message. Such sayings include “*If we look at something with love, it becomes beautiful*” and “*Imagination is one of the best weapons in the struggle against reality*”. These messages are reinforced by providing take-home refrigerator magnets upon which the proverbs appear, and by handouts detailing information about each message.

In part two of this paper we report the findings of a limited evaluation study of this program, using a “before-after”



design, aimed to examine whether such an intervention would produce an improvement in emotional availability, a decrease in parenting stress, and a change in mothers' perceptions of their toddlers' problematic behavior. While this evaluation does not involve a control group, and includes only a small number of participants, it was a potentially valuable preliminary step to more robust evaluation, given the paucity of interventions for families with young children affected by PV reported in the literature. Doing both intervention and evidence-based evaluations are extremely demanding in times of emergency. It requires assessment efforts in parallel to the implementation of clinical relief, and overcoming the resistance of individuals and institutions (Wolmer et al. 2011).

## Method

### Procedure

After receiving approval from the University Ethics Committee, we contacted directors of child-care centers in the areas in which we conducted our study. Together we sent letters to the parents explaining the research protocol. The research team contacted interested mothers and the mothers signed informed consent forms. The research assistants then arranged for a home visit at their convenience. During the home visit, the mother and toddler played for 30 min, using items of their choice from a set of age-appropriate play materials brought by the research assistant. The mother was instructed to play with her child as she typically would. During the play interaction, the mother and her child were alone in the room with one research assistant, while another assistant was responsible for any other children if they were at home. The mother-toddler play session was videotaped and the family later received a DVD of the play session as a gift. Questionnaires were left for mothers to complete and were later collected by the research assistants, or were mailed using a pre-stamped, self-addressed envelope, often following telephone reminders.

### Participants

Participants included 54 mothers, recruited during 2010 with the help of directors of child-care centers for toddlers. We approached centers in five locations, with variable rates of possible exposure to PV. In order to examine a wide range of exposure to PV we drew about a third of our sample ( $n = 21$ ) from an Israeli town (Sderot), near the Gaza Strip known for its high exposure to PV. Throughout the last decade, the population of this town has been exposed to recurrent shelling and rocket fire from Hamas in Gaza, causing loss of lives, damage to property and recurrent disruptions to routine, due

to the need to find shelter when alarms announced a possible missile attack. The remainder of the sample ( $n = 33$ ) was drawn from four small towns around the greater Jerusalem area. The population of these towns had similar socioeconomic characteristics according to the Israeli National Bureau of Statistics. However, the likelihood of exposure to incidents of political violence at the time of data collection in these towns was much lower. Some of these participants, however, had also been exposed in their past to PV incidents, mostly to bomb explosions in public places. The level of exposure to trauma was calculated individually for each participant and rather than dividing the participants into groups based on geographical location, exposure to trauma became a continuous variable.

## Measures

### *Emotional Availability Scales – Fourth Edition*

Emotional availability within the parent–child interaction was assessed by coding videotaped dyadic interactions between the mothers and the toddlers according to the Emotional Availability Scales – fourth edition (EAS; Biringen 2008). Emotional availability refers to the degree to which each partner expresses emotions and is responsive to the emotions of the other. Optimal emotional availability enhances secure attachment behavior (Emde and Easterbrooks 1985; Pipp-Siegel and Biringen 1998). The EAS consist of six dimensions of emotional availability, four relate to the emotional availability of the parent or caregiver toward the child, and two dimensions relate to the child's behavior toward the parent or caregiver. The parental dimensions include sensitivity, structuring, non-intrusiveness, and non-hostility. The child dimensions address the child's responsiveness to the parent and the child's involvement with the parent. On all dimensions, higher values reflect more emotional availability. Each dimension is operationalized in 7 subscales, the first two of which are rated on a 7-point scale, while the next five subscales are rated on a 3-point scale, with the highest possible score being 29 (2 times 7 = 14, and 5 times 3 = 15). One of the co-authors, who attained reliability through the accredited training with Biringen, coded the videotapes. The rater was unaware of the dyads' background information. Recognizing the transactional nature of parent–child relations reflected in the emotional availability construct (McMahon & Meins (2012), our analyses examined the patterns related to each of the six scales, and used a mean total score (following Wiefel et al. 2005) reflecting the mean scores of the four caregivers and the two child scales. Mean scores allow for a conglomerate reflecting the bi-directional nature of emotional availability and not simply the pattern of scores on individual subscales. The mean scores and each subscale were correlated with other variables.

## Questionnaire-Based Data

### *Demographic Information*

A short socioeconomic questionnaire was administered, to collect data concerning the ages of mother and child, education, place of birth, marital status, number of people living in the household, number of rooms in home, and level of family income.

### *The Israeli Trauma Exposure Checklist*

The ITEC (Pat-Horenczyk et al. 2002; Pat Horenczyk et al. 2015) was used to assess the level of maternal lifetime exposure to traumatic events. This scale consists of 19-items, the first seven of which assess traumatic events connected with PV, especially missile and rocket fallings, or detonation of terror-related explosives. They were: “being physically wounded”; “witnessing someone close being wounded or killed”; “seeing or feeling the shockwave of a falling rocket”; “hearing the noise a rocket falling”; “witnessing damage to family property”; “having to temporarily move for at least a week”; and “having to stay in a shelter (reinforced room) for more than 24 consecutive hours”. Mothers also reported on various other types of personal traumatic events (e.g., severe accident, domestic violence, criminal assault and life-threatening disease). Separate scores were computed for exposure to PV and exposure to personal traumatic events unrelated to PV. Each item was scored “yes” or “no”, and then each affirmative response was multiplied by the number of occurrences. A combined summary score of overall lifetime exposure to traumatic events is the sum of these two scales.

### *Children's Exposure to Traumatic Events*

This questionnaire is adapted from the previous one and scored identically. For this questionnaire, mothers reported on their child's exposure to traumatic events. The questionnaire included the same seven items related to PV as described earlier with additional 12 items assessing personal non-PV events, including child-relevant trauma (e.g., being bitten by a dog). The same indices that were computed for the mother's exposure scales, were likewise calculated for children's exposure.

### *Child Behavior Checklist*

The CBCL/1.5–5 (Achenbach and Rescorla 2000) is a measure of child behavior problems across multiple dimensions (e.g., attention problems, aggressive behavior) suitable for preschool children. Mothers were asked to rate the frequency of the manifestations of their child's behavior during the preceding two months on 100 items, related to

seven categories of problem behaviors, using scores from 0 (not true) to 2 (very true or often true). Three broadband scales: Internalizing, Externalizing and Total behavior problems are computed based on the ratings. The standardized t-scores for these broadband scales were employed in our study. Calculation of the scales was done using the ASEBA Ratings-to-Score (RTS) software (Achenbach and Rescorla 2000). Internal reliability reached acceptable rates for all three scales (Internalizing behavior – Cronbach alpha = 0.74; Externalizing behavior- Chronbach alpha = 0.82; Total behavior problems – Cronbach alpha 0.76).

### *The Parenting Stress Index-Short Form*

**The PSI-SF** (Abidin 1995, 2012) is an abbreviated version of the full-length Parenting Stress Index that was designed to evaluate the magnitude of stress in the parent–child system. The complete PSI contains 120 items that focus on three major domains of stress: child characteristics, parent characteristics, and situational or demographic life stress. The Hebrew translation has been previously validated (Bauminger et al. 2010). The short form includes 36 items, divided into three domains: Parental Distress (PD), Parent–Child Dysfunctional Interaction (P-CDI), and Difficult Child (DC), which combine to form a Total Stress scale. Each item is coded on a Likert scale from 1 to 5. The overall parenting stress score in the present study showed good internal reliability (Cronbach Alpha = 0.93).

## Results

### **Preliminary Analysis**

We first examined the socioeconomic characteristics of our sample, which included 54 children (24 males and 30 females). The mean age at the time of the study was 28.2 months (SD = 5.09 months). All children attended regular classes in local preschool programs. All the children and their mothers were Israeli born. Mothers' reported mean age was 32.35 years (SD = 4.22 years). Fifty-two mothers were married; two were divorced. The number of children per mother ranged from 1 to 7, with a mean of 2.63 children per family (SD = 1.36). The education level in this sample was relatively high, with all but four having attained an advanced degree: professional/vocational training (27.8%) and academic studies (64.8%). The range of the reported net income per family was broad. Using comparisons based on data provided by the Israeli National Bureau of Statistics for 2011, about one-third of the sample's family income was above the national income level, about a quarter below average, while 40% reported average income.

We further examined the associations between all the socioeconomic variables and the main dependent variables of the study: emotional availability scales, parenting stress and the child's behavior problems. The socioeconomic variables were not associated with the research variables, except for family income, which correlated significantly with the total score of EAS ( $r = .28$ ;  $p = .05$ ). This mandated, therefore, controlling for family income in all further analyses involving the total EAS score.

Missing data, which ranged from 1.81 to 9.09% across variables, were estimated using the expectation maximization (EM) algorithm in SPSS 20.0. Significance of findings was the same with and without EM.

### Trauma Exposure Characteristics

We calculated separate means for reported events of PV and other types of trauma incidents for the mother and the children. Each exposure score was composed of specific traumatic events weighted by the number of occurrences. As can be seen in Table 1, the level of exposure of mothers to PV was much higher than their exposure to other traumatic events. Findings show that 60% of the participating mothers reported no additional individual traumatic events for themselves beyond PV events and 26% of the exposed mothers reported only one such additional event. A similar pattern was evident for the children's traumatic exposure. Children's level of exposure to PV was lower than that of the mothers. Moreover, children's exposure to individual traumatic events showed a mean of less than one incident per child and for 53% of the children there was not such exposure at all. Accordingly, the total exposure scores for the mother and for the child were used in all analyses. These scores were considered an appropriate measure reflecting mostly exposure to PV, which was occasionally supplemented by additional individual traumatic events.

**Table 1** Exposure events to political violence and to personal traumatic events of mothers and children ( $n = 54$ )

	Mean	Standard deviation
Political violence exposure		
Mothers	4.48	6.61
Children	2.50	5.13
Other traumatic exposure		
Mothers	0.69	1.06
Children	0.74	0.94
Total traumatic exposure		
Mothers	5.17	6.60
Children	3.27	5.60

All data collected from the ITEC

### Data Analyses

In order to examine the link between traumatic exposure to PV of the mother and of the child on their behavior and feelings we computed a series of Pearson correlations with the measures of EA (based on a mean score of the six EA scales), PSI and CBCL (see Table 2). In computing these correlations, we controlled for family income. Additionally we computed inter-correlations between the average score of the PSI scale, and the total t score of behavior problems

**Table 2** Correlations among emotional availability, parenting stress, child behavior problems and traumatic exposure of mother and child ( $n = 54$ )

	Mean	SD	Mother exposure	Child exposure	Parenting stress	Total EA
EA Total	31.04	5.13	-0.32**	-0.40**	-0.29*	--
EA Sensitivity	5.13	0.99	-0.31*	-0.33*	-0.34**	--
EA Structuring	5.00	0.97	-0.34**	-0.44**	-0.29*	--
EA Non-intrusiveness	5.26	1.18	-0.18	-0.29*	-0.16	--
EA Non-hostility	5.87	0.82	0.32*	-0.46**	-0.13	--
EA Child Responsivity	5.00	1.05	-0.28*	-0.30*	-0.25*	--
EA Child Engagement	4.78	0.94	-0.23*	-0.22	-0.23*	--
Parenting Stress	1.80	0.48	0.13	0.01	--	-0.29*
Internalizing Problems	44.40	11.54	0.22	0.12	0.52**	-0.23*
Externalizing Problems	42.74	10.31	0.16	0.00	0.63**	-0.26
Total Problems	43.26	10.50	0.20	0.05	0.64**	-0.23*

Income was controlled for in all analyses with emotional availability

Parenting Stress measured as a mean score

EA Emotional Availability

\* $p < .05$  (1-tailed)

\*\* $p < .01$  (1-tailed)



with all subscales of the CBCL including the two summary scales: Externalizing Problems and Internalizing Problems.

As can be seen in Table 2, both mother's and child's exposure to traumatic events correlated negatively with the total score of the EA scales, so that higher exposure was associated with lower emotional availability. More specifically, traumatic exposure of both child and mother was significantly correlated with mother's sensitivity, appropriate structuring, non-hostility and child's responsiveness. In addition, the child's exposure was associated with mother's non-intrusiveness, although mothers' exposure did not reach significance on this scale. The only scale that did not reflect fully the level of traumatic exposure of the child was the child's involvement although the correlation was in the expected direction. Traumatic exposure of mother did not correlate with parenting stress or with any measure of children's behavior problems

We further examined the inter-correlations between the observational measure of EA and parental reports on their parenting stress and the child's behavior problems. As can be seen in Table 2 all measures of EA except for non-intrusiveness and non-hostility are correlated with parenting stress. Parenting stress also correlated with the measures of children's behavior problems (i.e., externalizing, internalizing and total behavior problems). Emotional availability was significantly associated with the measures of child behavior problems

In order to tease out the contributions of parenting stress and of trauma exposure to predicting the mother's emotional availability we performed a hierarchical simultaneous regression analysis, entering the child's exposure score, maternal reported parenting stress and family income as predictors. A significant regression equation was found ( $F(3,39) = 5.336, p > .004$ ), with an  $R^2 = 0.291$ ). The regression shows that the child's trauma exposure and parental reported parenting stress each contribute significantly to the mother's observed emotional availability to her child ( $p = .012$  and  $p = .046$  respectively) so that the more her child was exposed to PV, and the higher her parenting stress, the less emotionally available she was to her child.

We also examined the predictors of the children's behavior problems to understand more clearly the contributions of parenting stress and emotional availability. As predictors, we used the measures of parenting stress, overall emotional availability and family income. A significant regression equation was found ( $F(3,45) = 22.275, p = .035$ ), with an  $R^2 = 0.406$ ). The most significant contribution was parenting stress ( $p > 0.000$ ).

### Changes Following Intervention

As noted above, the second part of this research focused on evaluating an innovative intervention program. Previous

research (Cohen et al. 2014) examined reported maternal satisfaction with the program, and its perceived benefits. The present research supplements that evaluation with the data from reliable and valid questionnaires and observational data, in order to test for the possibility of mitigating some of the effects of exposure to PV.

Participants were selected for this intervention study from the sample of mother-child dyads from the Sderot area, living with high exposure to PV, who chose to participate in the program. They ( $n = 28$ ) were included if they were present for a minimum of six of the ten sessions (inclusion criteria). The participating mothers were videotaped a second time playing with their children, within three weeks after completing their participation in the intervention program. Only 16 of these mothers also completed the questionnaires the second time after finishing the program. The observational data from this subgroup and the questionnaires were examined for a preliminary assessment of changes in the quality of the mother-child interaction resulting from participation in the intervention.

We used total emotional availability scores derived from videotaped mother-child play interactions before and after the intervention, and carried out paired t-tests. In addition, we examined the changes following the intervention in parenting stress, and the child's behavior problems by using paired samples t-tests of the mothers' reports regarding her parenting stress and her child's behavior problems before and after the intervention. As can be seen in Table 3, significant positive changes emerged in the mothers' reports of the children's behavior problems, both in internalizing, externalizing and total behavior problems. Significant changes were also found in the total EA score. There was no significant change in parenting stress.

### Discussion

In this study, we set out to augment the limited data existent in the trauma literature on the impact of maternal and child exposure to political violence on the quality of mother-child interaction, in young children. We focused on observed emotional availability in mother-toddler dyads

**Table 3** Emotional availability, child behavior problems and parenting stress before and after intervention

	Mean	SD	t	df	p(1-tailed)
Total Emotional Availability	-1.75	4.84	-1.91	27	0.03
Total Behavior Problems	-6.46	6.98	-3.30	12	0.006
Internalizing Problems	-7.92	6.81	4.19	12	0.003
Externalizing Problems	33.61	6.87	1.90	12	0.04
Parenting Stress	-0.70	0.46	-5.80	14	n.s

as a multidimensional construct with scales measuring the affect and behavior of both the child and caregiver. Our findings showed that maternal exposure and child exposure to political violence (supplemented occasionally by personal traumatic events) were significantly and negatively associated with measures of emotional availability in the dyad. Furthermore, the associations indicated a dosage effect: the higher the exposure of the child, or the higher the exposure of the parent, the lower the overall emotional availability observed in the dyad. Five of the six EA scales were significantly and negatively correlated with trauma exposure measures. The sixth scale, the child involvement scale, was not significantly associated with exposure to trauma but was in the expected direction. The strongest correlations were between measures of maternal sensitivity ( $r=-.33$ ), structuring ( $r=-.44$ ) and non-hostility ( $r=-0.46$ ) and child exposure to PV, showing reduced maternal sensitivity, more inadequate structuring and higher hostility with higher PV exposure. These EA scales were also found to be significant in a previous study examining the correlation between maternal PTS symptoms and emotional availability among asylum seekers and refugee mothers (Van Ee et al. 2012).

The emotional availability scales are designed to capture various aspects of the dyadic relationship especially aspects relevant to attachment that are significant in stress-evoking experiences. The scales also reflect emotions, as characterized both by the parent's acceptance of a wide range of emotions from the child, and the congruity and appropriateness of the emotional signals that the parent communicates (Biringen et al. 2014). These aspects seem most relevant to young children's adaptation under conditions of recurrent traumatic events, when the children's attachment needs are activated. Children need support in processing and regulating fear reactions in themselves, which requires caregivers to be emotionally regulated themselves (Cohen 2009). The significant associations of all but one of the EAS with the PV exposure scores of the mother and of the child may testify to the interactional nature of both the construct of emotional availability and the systemic impact of exposure to traumatic events. The fact that children can be affected by maternal exposure alone, without their own exposure was already revealed in earlier studies (Conway et al. 2013; Shachar-Dadon 2017). This seems particularly salient in exposure to PV.

However, while the impact of traumatic exposure was not evident directly in the mothers' reports of their parenting stress, emotional availability was significantly and negatively associated with reported parenting stress. These findings show that both parenting stress and traumatic exposure may contribute significantly to emotional availability in the caregiver-child dyad. McMahon and Meins (2012) reported similar significant associations between parenting stress and emotional availability.

This pattern of results can be understood if we keep in mind that parenting stress is typically defined in terms of whether parents consciously perceive difficulties in their child, their relationship with their child, and/or themselves as parents, rather than with reference to actual experience of stressful events (Abidin 1995). Thus, we can speculate, in accordance with the findings of Crnic, Gaze and Hoffman (2005), that parenting stress reflects the experience of the daily hassles of parenting, and affects the quality of mother-child relationship independently of the significant effect of major life stressful events such as terror attacks. Future studies using causal models would be useful to allow for better clarification of the interrelations between these variables. Having a larger number of participants would also add to the magnitude of the findings.

Our data also show that both caregiver's emotional availability and parenting stress are significantly associated with caregivers' perceptions of children's behavior problems. More behavior problems were reported when higher parenting stress was reported and lower emotional availability was observed in naturalistic play interactions. The bidirectional nature of the link between behavior problems and parenting stress has been previously highlighted: mothers who are more stressed perceive their children's behavior as more negative, and mothers with more difficult children experience more stress (Crnic and Low 2002). The same bidirectional effect may be operating with regard to emotional availability and the child's behavior problems: parents with limited capacities for being emotionally available to their children, due to either daily and/or major traumatic stresses, indeed experience their children as more problematic, and the demands of children's behavior problems take their toll on parents' emotional resources.

Since the mothers in our study are the source of data on parenting stress and also on children's behavior problems, there is reason to be cautious in interpreting the relationship between parenting stress and reported child outcomes. It is important to exercise restraint when interpreting the finding from the hierarchical regression analysis, which shows that parenting stress mediates the link between emotional availability and behavior problems. The relative contributions of parenting stress and parental emotional availability to understanding children's behavior problems is crucial and the inclusion of an independent measure of children's behavior problems in future research would shed light on the developmental trajectory of young children exposed to PV. Such measures could include ratings by preschool teachers, as employed by Chemtob and his colleagues (2010).

Notably, our data show that the level of exposure, without additional measures of caregiver's posttraumatic psychopathology, as is commonly theorized in the trauma literature on the role of the caregiver in child's adaptation, is a satisfactory predictor of caregiver EA, at least when

examining the effects of PV. This finding contributes to the rationale for initiating primary prevention programs for affected populations, without “pathologizing” caregivers by the use of diagnostic tools (Dyregrov and Regel 2012).

The finding emerging from our study that the level of exposure to political violence is negatively associated with reduced emotional availability in mother-toddler interactions has important implications for the field of prevention and intervention. Compromised emotional availability in early childhood has been shown to negatively impact child development and adaptation (Biringen et al. 2014). Although this finding needs support in a larger size study, it never-the-less points to the need for developing, implementing and evaluating preventive interventions with families of young children exposed to PV and other daily life stresses. Reports on such interventions are lacking in the literature.

The evaluation data of the NAMAL program are promising. In spite of the small number of participants in the study, they provide preliminary evidence for the possibility of a positive change in emotional availability of mothers and their toddlers, and in the mothers’ perceptions of their children’s behavior, following participation in a conjoint mother-toddler group program for families living with high exposure to PV. Several aspects of the program and especially the foci of the messages directed at the mothers in the program may inform practice. The program is based theoretically on the principles of attachment theory, emphasizing and strengthening the role of the mother in her child’s adaptation. Such messages may help counteract the reported effects of exposure to war or terror on mothers, including: the emergence of profound insecurities and fears regarding their children and regarding their ability to function as mothers and to provide sensitive guidance, structure and positive affect to their children (Kaitz et al. 2009). Furthermore, such messages may help mothers be more accepting of their children’s behavior problems through normalization of age appropriate toddler behavior and understanding children’s typical reactions to stress.

Examining the evaluation findings in light of earlier reported data from qualitative analyses of participants’ responses to semi-structured questionnaires about their experience in the program (see Cohen et al. 2014), it appears that mothers experienced the benefits of spending “quality time” with their toddlers and developed their skills for instigating more playful, sensitive and enjoyable interactions with them. This emphasis on boosting positive feelings and activities, and creating opportunities for emotional expression and interpersonal engagement are in the spirit of the resilience literature (Cohen 2014). Thus, the use of proverbs and sayings in our program is an example of means that can be employed in future interventions to impart psychoeducation in creative and.

The opportunities created for the toddlers themselves to experience the benefits of free play with attuned, sensitive and engaged mothers and under conditions of reduced maternal intrusiveness, and appropriate protective structuring may be considered as additional sources of the contribution of the intervention to their improved emotional availability. Helping parents to interact with their young children during play and to find joy in these interactions therefore appears to be a key component in future interventions.

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#### Compliance with Ethical Standards

**Conflicts of Interest** On behalf of all authors, the corresponding author states that there is no conflict of interest.

**Ethical Standards and Informed Consent** All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation [institutional and national] and with the Helsinki Declaration of 1975, as revised in 2000. Informed consent was obtained from all participants for being included in the study.

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