

The Relationship Between Posttraumatic Stress Disorder Symptoms and Paternal Parenting of Adult Children Among Ex-Prisoners of War: A Longitudinal Study

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The aversive impact of combat and combat-induced posttraumatic stress disorder (PTSD) on parenting of young children has been examined in a few studies. Nevertheless, the toll of war captivity on parenting and the long-term relations between posttraumatic symptoms and paternal parenting of adult children remains unknown. This longitudinal study examined paternal parenting of adult children among war veterans, some of whom were held in captivity. Furthermore, we examined the mediating role of PTSD symptoms in the association between captivity and parenting. The sample included two groups of male Israeli veterans from the 1973 Yom Kippur War: ex-prisoners of war (ex-POWs) and comparable veterans who had not been held captive. Both groups were assessed via self-report measures of PTSD at three time points: Time 1 (18 after the war), Time 2 (30 after the war), and Time 3 (35 after the war) years after the war. Results shows that ex-POWs reported lower levels of positive parenting compared to comparison group veterans at Time 3. Furthermore, PTSD symptoms at Time 1, Time 2, and Time 3 mediated the association between captivity experience and parenting at Time 3. In addition, it was found that increases in the levels of PTSD symptom clusters over time were associated with lower levels of positive parenting at Time 3.

Keywords: parenting, ex-POWs, posttraumatic stress disorder, PTSD, war, captivity

War captivity is one of the most severe human-inflicted traumatic experiences and is recognized as a potent pathogen for psychiatric illness (e.g., Herman, 1992). Over the years, theoretical models and empirical studies have also pointed to the implication of traumatic stress in family relations (Taft, Schumm, Panuzio, & Proctor, 2008). However, studies on the impact of war captivity on parenting are scarce, and, to our knowledge, there have been no previous longitudinal studies on paternal parenting of adult children among ex-prisoners of war (ex-POWs). Given the high salience of war, this is a crucial issue to address because of the possible negative impact of war and captivity, not only on ex-POWs' parenting, but also on the psychological well-being of their children throughout their life cycle. This longitudinal study aims to fill this void by examining the long-term relations between posttraumatic stress disorder (PTSD) symptoms and paternal parenting patterns of Israeli ex-POWs from the 1973 Yom Kippur War.

Parenting

Midlife parenting of young-adult children creates some unique challenges in the family cycle, which differentiate it from other phases of development (Aquilino, 2006). The literature points to the fact that over the years the mental and emotional parent-child bonds tend to remain. Earlier patterns of interaction have an effect on later relations, but in this phase the adult children are more mature, and are likely on the road to self-sufficiency, autonomy, and independence from parents (Dubas & Petersen, 1996). The parent-child relationship changes and moves toward a relationship between two adults, characterized by mutuality and reciprocity of care, as opposed to one based on the dependence of the child on parents (Aquilino, 2006). However, the concept of closeness between parents and their children changes over the years and within the maturation of the children and the aging of the parents (Troll & Fingerman, 1996).

In this phase, parents continue to serve in their parent role and provide sensitive affection, support, and nurturance to their adult children (Fingerman, Hay, Kamp Dush, Cichy, & Hosterman, 2007). In Bowlby's (1988) attachment theory terms, parents have a role in providing a "secure base" for their adult children in order that adulthood will facilitate identity, exploration, and commitment (Bartle-Haring, Brucker, & Hock, 2002). For example, research that has shown that parents whose hopes and goals include that their adult children be healthy and happy, have a satisfying family life, and achieve educational and career success no matter

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what their children's age (Ryff, Lee, Essex, & Schmutte, 1994). In exchange, children's achievements influence parental well-being (Ryff et al., 1994) and worries (Pickett, Greenley, & Greenberg, 1995).

Relationships between adult children and their parents are also characterized simultaneously by a variety of positive and negative emotional experiences (Willson, Shuey, Elder, & Wickrama, 2006). One such experience is worry, especially thoughts about possible future events (Scott, Eng, & Heimberg, 2002). Indeed, a small number of studies have suggested that adults and their parents commonly worry about one another (e.g., Hay, Fingerma, & Lefkowitz, 2007) and that their worries are associated with their positive and negative perceptions of the relationship (Spitze & Gallant, 2004). Paternal worries might also be related to their traumatic experience in their histories such as war and captivity.

Captivity

It has been widely documented that war captivity is highly traumatogenic (e.g., Rintamaki, Weaver, Elbaum, Klama, & Miskevics, 2009). POWs usually experience intentional, systematic and repeated torture, humiliation, and deprivation intended to damage their psyche and to break down their psychological defenses (e.g., Hunter, 1993). Moreover, unlike many other traumatic events, the extreme experiences of war captivity are recurrent, often persist for a long time, and are of an interpersonal nature.

The specific characteristics of captivity have been hypothesized to render the ex-POW particularly vulnerable, among other things, to alterations of the perception of others and interpersonal relationships (Solomon, Dekel, & Mikulincer, 2008). It is therefore conceivable that captivity has a direct effect on aspects of parenting. For example, the literature about Holocaust survivors' parenting style has documented direct manifestations of intrusive memories and numbing responsiveness as well as indirect manifestations of loneliness experiences among their offspring as a result of an inability to provide emotional care and protection (Weisman, 2008). Furthermore, similar to Holocaust survivors, ex-POWs have been known to alternate between fear of intimacy and the need to compensate and be overprotective in their relations with their children (Cohen, Dekel, Solomon, & Lavie, 2003). Those patterns are sometimes transferred through nonverbal communication (Wiseman et al., 2002).

Posttraumatic Stress Disorder

The empirical literature has documented many long-term negative consequences among ex-POWs, the most common of which is PTSD (e.g., Dekel, Ein-Dor, & Solomon, 2012; Kang, Bullman, & Taylor, 2006). PTSD is a highly debilitating anxiety disorder that can consolidate into a chronic disorder that negatively impacts on the individual's well-being and functioning.

PTSD not only affects trauma survivors, but also has an indirect effect on those surrounding them, particularly their family members. Many studies have shown that traumatized combat veterans have problematic family relations (for review see Dekel & Monson, 2010), and have suggested that the PTSD symptoms largely account for the relationship between combat exposure and captivity and difficulties in family adjustment (e.g., Sayers, Farrow, Ross, & Oslin, 2009). Family studies have mainly focused on

marital relations, with research suggesting that combat veterans experience difficulties in intimacy and communication (e.g., Cook, Thompson, Riggs, Coyne, & Sheikh, 2004), outbursts of rage and aggression (O'Donnell, Cook, Thompson, Riley, & Neria, 2006), lower marital satisfaction (Goff, Crow, Reisbig, & Hamilton, 2007), and higher divorce rates (Kulka et al., 1990). What is interesting is that parenting of traumatized veterans has received limited empirical attention. Most studies on this topic have been based on clinical observations that suggest that posttraumatic symptoms compromise the veteran's ability to function as father (Berz, Taft, Watkins, & Monson, 2008).

Over the years, several explanations have been suggested for the impact of war and PTSD on the veterans and children relationship. The family stress theory, for example, assumes that family members witness the veterans' difficulties in regaining their prewar family roles at homecoming and often react with resentment and destabilization of familial borders. This, in turn, may further undermine the traumatized fathers' perception of their parental functioning (Boss & Couden, 2002). It has also been suggested that the relationship between the traumatized combat veterans and their children is characterized by entanglement, control, excessive closeness, and over protectiveness (Davidson & Mellor, 2001). Rosenheck (1986) suggested that traumatized veterans may find it difficult to control their aggressive impulses, which could lead to emotional outbursts and contribute to an atmosphere of fear, guilt, and caution in their home. Beyond the theoretical explanations, it is now well documented that although the traumatic experience initiates a serial mental and behavioral coping mechanisms, it is the debilitating PTSD symptoms that serve as a mediator between trauma and negative outcomes (Weierich & Nock, 2008).

There has been little empirical research on the impact of war trauma on paternal parenting across the life span. A few studies have found negative relations between PTSD severity and parent-child relationship (e.g., Ruscio, Weathers, King, & King, 2002), as well as parenting satisfaction (e.g., Samper, Taft, King, & King, 2004), among Vietnam War veterans and their young children. Two recent studies have replicated this pattern of results, indicating that veterans who suffer from combat-induced stress reaction have negative self-perceptions of their parental abilities and reduced satisfaction from their parental role in their relation with their adult children (Cohen, Zerach, & Solomon, 2011; Solomon, Debby-Aharon, Zerach, & Horesh, 2011).

PTSD Symptoms and Parenting

The *Diagnostic and Statistical Manual of Mental Disorders, 4th Edition, Text Revision* (American Psychiatric Association, 2000) breaks PTSD down into three symptom clusters: intrusion (e.g., nightmares and flashbacks of the traumatic event), avoidance (e.g., emotional withdrawal and detachment), and hyperarousal (e.g., startle reaction and irritability). Many factor analytic studies (e.g., Elhai, Ford, Ruggiero, & Frueh, 2009), however, have questioned this division into three symptom clusters and have suggested a fourth symptom cluster of emotional numbing (e.g., emotional detachment) that differs from the active avoidance symptoms.

Longitudinal research on PTSD symptom clusters has suggested that PTSD is neither a monolithic nor a stable disorder, but is made up of different symptom clusters that often follow separate trajec-

tories (e.g., Solomon, Horesh, & Ein-Dor, 2009). Each of these symptom clusters may impact aspects of the parent–child relationship in different ways. Intrusive symptoms are implicated in the parent’s preoccupation with him- or herself; avoidance symptoms undermine interpersonal relationships and intimacy; numbing reduces emotional engagements; and hyperarousal symptoms can increase the likelihood of conflict (Cook et al., 2004).

Most research on PTSD symptom clusters and parental functioning of traumatized veterans has focused on the role of avoidance (e.g., Solomon et al., 2011), hyperarousal, and particularly on emotional numbing, finding the latter to be the best predictor of interpersonal problems in parenting (e.g., Cohen et al., 2011; Cook et al., 2004; Ruscio et al., 2002; Samper et al., 2004; Taft et al., 2008). Ruscio et al. (2002), in a study on Vietnam veterans, suggested that the emotional disinterest and detachment that characterize numbing can decrease the ability or willingness of combat veterans to engage and interact with their young children.

Although empirical studies have documented the relation between PTSD and parenting and the significant role of emotional numbing symptoms, those studies are mostly cross-sectional and, therefore, might be of limited value. Because of the dynamic nature of family relations and the child development, on the one hand, and lability of PTSD over time, on the other hand, there is a dire need for longitudinal studies that reflect family relations across the life span. To our knowledge to date, no longitudinal study has been conducted on the impact of war captivity on paternal parenting. Furthermore, this study focuses on the interaction between ex-POWs in their midlife phase and reporting about their parenting to their adult children who are in their 20s, a population that has not been investigated before. Only longitudinal research can elucidate the understanding of the relationship between posttraumatic symptoms clusters and parenting in this period in the life cycle with its specific needs and demands.

Therefore we hypothesized that (a) ex-POWs will report lower levels of positive parenting as compared to war veterans who were not held in captivity; (b) PTSD symptoms will mediate the relations between captivity experience and parenting; and (c) negative associations between the longitudinal trajectories of PTSD symptom clusters and parenting would be found.

Methods

Participants

The present study used data from a longitudinal study on the psychological implications of war (Dekel et al., 2012). Specifically, we assessed the paternal parenting of adult children among ex-POWs. The sample consisted of two groups of Israeli veterans of the 1973 Yom Kippur War. One group included former Israeli combat soldiers who had been held captive during the war (the ex-POW group). According to Israel’s Ministry of Defense, 240 POWs were taken from Israel’s land forces during the Yom Kippur War. The ex-POW group consisted of veterans who had been captured and imprisoned by Egypt or Syria. The group included 158 participants at Time 1 (in 1991), 120 participants at Time 2 (2003), and 156 participants at Time 3 (2008).

The second group (the control group) included former Israeli combat soldiers who fought in the Yom Kippur War but were never held captive. They were drawn from a pool of combat

soldiers who fought on the same fronts as the ex-POWs. Control participants were selected on the basis of their similarity to the ex-POWs in terms of relevant military and personal variables such as age, combat exposure, and rank. The control group included 163 participants at Time 1 (1991), 106 participants at Time 2 (2003), and 115 participants at Time 3 (2008).

To assess whether the attrition was missing completely at random (MCAR), we conducted Little’s MACR test. The analysis revealed that the data was not MCAR, $\chi^2(72) = 102.72, p < .01$. Supplementary analyses revealed that veterans with missing data at Time 2 or Time 3 endorsed significantly fewer PTSD symptoms of emotional numbing, active avoidance, intrusion, and hyperarousal ($ps < .001$). Other differences were not significant.

The two groups did not differ on sociodemographic variables such as age ($M = 57.91$ years, $SD = 3.52$ for ex-POWs, $M = 57.89$ years, $SD = 3.57$ for controls), length of marriage ($M = 28.48$ years, $SD = 6.86$ for ex-POWs, $M = 26.44$ years, $SD = 6.41$ for controls), divorce rate (5.5% of ex-POWs, 5% of controls had divorced), number of children ($M = 3.27$, $SD = 1.12$ for ex-POWs, $M = 3.24$, $SD = 1.33$ for controls), or the proportion of the sample who had children (94.5% of ex-POWs, 100% of controls). The groups also did not differ on the mean age of the adult children ($M = 19.78$ years, $SD = 5.45$ for ex-POWs, $M = 20.25$ years, $SD = 5.21$ for controls) or the age of their oldest child at Time 3 ($M = 24.80$ years, $SD = 7.71$ for ex-POWs, $M = 27.00$ years, $SD = 23.25$ for controls).

Procedure

All participants had taken part in a study by Solomon, Dekel, and Mukulincer (2008). Approval for this study was given by both Israel Defense Forces (IDF) and Tel Aviv University human subjects committees. The names of ex-POWs were passed on by IDF authorities as part of the periodic examination of veterans after their military service. We contacted participants by telephone and, after explaining the purpose of our study, asked them to take part in it. Questionnaires were administered in participants’ homes or in other locations of their choice. Before filling out the questionnaires, participants signed an informed consent agreement.

Measures

Parenting. Parenting was assessed with a questionnaire tapping parental caregiving practices in the parent–child relationship. Positive parental caregiving reflects the parent as a caregiver and the child as worthy of being helped—all contribute to the provision of effective care, alleviation of child distress, and promotion of their welfare. This questionnaire is adapted from the Caregiving Questionnaire (Kunce & Shaver, 1994). The parenting practices questionnaire consisted of 32 items. We adapted the questions to refer to participants children instead of his partners. Participants were asked to read each item and to rate the extent to which each was descriptive of their general attitudes, feelings, beliefs, and motives in their relations with their adult children. Ratings were on a 7-point scale, ranging from 1 (*not at all*) to 7 (*very much*). It comprises of four factors (nine items for each factor): *proximity to the children* (both physical and emotional; e.g., “When my children are troubled or upset, I get closer to them to provide support or comfort”), *sensitivity to children’s needs* (e.g., “I am very

attentive to my children nonverbal signals for help and support”), *cooperative pattern of caring* (e.g., “When I help my children, I tend to do things my way”), and *overinvolvement parenting* (e.g., “I frequently get too “wrapped up” in my children problems and needs”). The index of each factor was calculated as the average of the items. Positive parenting was defined as high levels of proximity, sensitivity, and cooperation and lower levels of over involvement.

Kunce and Shaver (1994) found that scores on these dimensions were stable over a 1-month period in a sample of young couples and that a person’s self-description of caregiving behavior was validated by his or her partner’s independent reports. The Adapted Parenting Practices Questionnaire was only administered in 2008. Reliability values for subscale scores were high at all assessments (Cronbach’s alpha for proximity = .86, sensitivity = .84, cooperation = .75, and overinvolvement = .63).

Posttraumatic stress symptoms. The PTSD Inventory (Solomon, 1993) was used for the assessment of combat-related PTSD symptomatology. The questionnaire consists of 17 statements describing PTSD symptoms. Respondents were required to rate the frequency of each statement (ranging from *never* to *very often*) that they experienced during the last month. The number of positively endorsed symptoms was calculated by counting the items in which respondents answered “very often.”

The clinical validity of the PTSD Inventory was assessed by concurrent clinical interviews with a sample of 114 soldiers, 1 year after the Lebanon War. Clinicians experienced in the diagnosis and treatment of PTSD assessed the existence of each symptom in the Inventory. Concordance percentages calculated for each symptom ranged from 68.75–80%, indicating considerable agreement between the self-report and the clinical diagnosis of PTSD. The PTSD Inventory was administered twice within a 1-week interval to 20 soldiers. Percent agreement was 82.3%, indicating high test–retest reliability (Solomon et al., 1993). At Time 1, the PTSD Inventory was also found to correlate with the Impact of Event Scale (Horowitz, Wilner, & Alvarez, 1979), a measure designed specifically to assess the impact of traumatic experiences.

To examine our last hypothesis, we followed the majority of past research (e.g., McDonald et al., 2008) pointing to a four-factor model of PTSD symptom clusters consisting of re-experiencing (five items), active avoidance (three items), emotional numbing (four items), and hyperarousal (five items). The PTSD Inventory was administered in all three waves: 1991, 2003, and 2008. Reliability values for total and subscale scores were moderate to high at all assessments (Cronbach’s alpha range: .89–.95 for the total sample; .80–.93 for intrusion; .53–.70 for active avoidance; .78–.90 for emotional numbing; .85–.90 for hyperarousal).

Results

Differences Between Ex-POWs and Control Group Veterans in PTSD Symptoms

To examine whether ex-POWs and controls differed in the number of PTSD symptoms they endorsed (i.e., emotional numbing, active avoidance, intrusion, and hyperarousal), we conducted discriminant function analyses. The study group (ex-POWs vs. control group) served as the grouping variable and PTSD symptoms measures served as the independent measures (we conducted separate analysis for Times 1, 2, and 3). Discriminant function

analysis enables an examination not only of whether groups differ in several domains, but also of which domain most differentiates between the groups.

The analyses revealed one significant canonical discriminant function that differentiated between ex-POWs and control veterans in PTSD dimensions at Time 2 (Wilks’s $\Lambda = .55$, $\chi^2(4) = 131.19$, $p < .001$, $cr = .67$) and Time 3 (Wilks’s $\Lambda = .62$, $\chi^2(4) = 139.28$, $p < .001$, $cr = .62$), but not at Time 1 (Wilks’s $\Lambda = .99$, $\chi^2(4) = 3.45$, $p = .49$, $cr = .10$)¹. Canonical function loadings and standardized canonical discriminant coefficients are presented in Table 1.

As in Table 1, veterans’ hyperarousal differentiated most between ex-POWs and controls at Times 2 and 3, followed by veterans’ emotional numbing, intrusion, and active avoidance (with the latter differentiating the least).

Next, we conducted a series of chi-square tests for independence of measures to examine whether ex-POWs and control veterans differed in the number of veterans who were classified as suffering from PTSD. The analyses revealed that at all time points, more ex-POWs (8.7% at Time 1, 29.9% at Time 2, and 34.7% at Time 3) suffered from PTSD than controls (3.0% at Time 1, 1.9% at Time 2, and 2.5% at Time 3), $\chi^2(1) = 4.78$, $p < .05$ at Time 1, $\chi^2(1) = 31.57$, $p < .001$ at Time 2, and $\chi^2(1) = 42.58$, $p < .001$ at Time 3.

Differences Between Ex-POWs and Control Group Veterans in Parenting

To examine whether ex-POWs and control veterans differed in their parenting dimensions (sense of closeness to the children, sensitivity to children’s needs, cooperation with the children, and overinvolvement), we conducted a discriminant function analysis. Study group (ex-POWs vs. controls) served as the grouping variable and parenting measures served as the independent measures. Discriminant function analysis enables an examination not only of whether groups differ in several domains, but also of which domain most differentiates between the groups.

The analysis revealed one significant canonical discriminant function that differentiated between ex-POWs and control veterans in parenting dimensions, Wilks’s $\Lambda = .87$, $\chi^2(4) = 36.62$, $p < .001$, $cr^1 = .37$. Canonical function loadings and standardized canonical discriminant coefficients are presented in Table 2.

As in Table 2, veterans’ sense of closeness to their children differentiated most between ex-POWs and control veterans, followed by veterans’ sensitivity to their children’s needs. Veterans’ cooperation with their children differentiated least between ex-POWs and controls, and veterans’ overinvolvement with their children lives did not significantly differentiate between ex-POWs and controls.

Do PTSD Symptoms Mediate the Link Between War Captivity and Parenting?

To examine whether PTSD symptoms at Times 1, 2, and 3 mediated the link between war captivity and parenting, we used Hayes, Preacher, and Myers’s (2011) multiple step mediation

¹ cr refers to a canonical correlation value, which serves as the effect size for the analysis.

Table 1
Means, Standard Deviations, and Standardized Canonical Discriminant Function Coefficients for Relative Differences Between Ex-POWs and Controls in PTSD

Measure	Ex-POWs		Controls		Loadings	B
	M	SD	M	SD		
Emotional numbing in T1	0.13	0.51	0.14	0.55	-.09	-0.53
Active avoidance in T1	0.23	0.63	0.19	0.52	.39	0.16
Intrusion in T1	0.50	1.10	0.33	0.85	.84	1.14
Hyperarousal in T1	0.56	1.14	0.48	1.14	.31	-0.23
Emotional numbing in T2	2.25	1.58	0.41	0.96	.78*	0.32
Active avoidance in T2	1.39	0.96	0.32	0.74	.69*	0.21
Intrusion in T2	2.72	1.95	0.51	1.07	.78*	0.29
Hyperarousal in T2	3.58	1.74	1.06	1.46	.87*	0.43
Emotional numbing in T3	2.26	1.55	0.43	1.00	.84*	0.35
Active avoidance in T3	1.35	0.99	0.34	0.60	.73*	0.27
Intrusion in T3	2.64	1.98	0.42	1.09	.82*	0.31
Hyperarousal in T3	3.30	1.70	1.08	1.59	.84*	0.30

Note. Higher significant loading values refer to heighten differences between classification groups. POW = prisoner of war; PTSD = posttraumatic stress disorder.

* $p < .001$.

methodology. Specifically, we used structural equation modeling (SEM) to examine: (a) whether war captivity (ex-POWs, controls) directly affected parenting at Time 3, controlling for PTSD symptoms at Times 1, 2, and 3 (path c'); (b) whether war captivity indirectly affected parenting via PTSD symptoms at any of the time point (i.e., Time 1 to Time 3 separately); (c) whether war captivity indirectly affected parenting via a two-step mediation process (i.e., via PTSD symptoms at Time 1 – Time 2, Time 1 – Time 3, and/or Time 2 – Time 3); and (d) whether war captivity indirectly affected parenting via a three-step mediation process (i.e., via PTSD symptoms at Times 1, 2, and 3). To examine whether these indirect paths were significant, we employed accelerated bias-corrected bootstrap analyses. Veterans' PTSD symptoms levels at Times 1, 2, and 3 were estimated using three latent factors on which PTSD symptom clusters of emotional numbing, active avoidance, intrusion, and hyperarousal were loaded. Also, in keeping with the discriminant function analysis, parenting was estimated using the following measures: (a) latent factor assessing veterans' level of sense of closeness to the children, sensitivity to children's needs, and cooperation with the children, and (b) veterans' level of overinvolvement. Finally, we included veterans' negative life events prior to Time 1 in the model to control for the

possibility that these negative events accounted for the association between PTSD symptoms and parenting. To estimate the model, we used MPlus, Version 6.1 (Muthén & Muthén, 2010). A model has high fit to the observed data if the comparative fit index (CFI) and the Tucker–Lewis index (TLI) are greater than .95 and the root mean square error of approximation (RMSEA) and the standardized root mean square residual (SRMR) are lower than .05. A model had adequate fit to the observed data if the CFI and TLI were greater than .90 and the RMSEA and SRMR were lower than .10. Missing data were handled with the case-wise maximum likelihood estimation. Unstandardized coefficients and bootstrap solutions are presented in Table 2, and summed standardized results are presented in Figure 1.

The analysis revealed that the multiple step mediation model had adequate fit to the observed data, $\chi^2(122, N = 376) = 327.95$, $p < .01$, CFI = .92, TLI = .90, RMSEA = .06, 90% confidence interval [.05, .07], SRMR = .05. As in Table 3 and Figure 1, the analysis revealed that war captivity had no direct effect on parenting. War captivity, however, had indirect influence on the parenting latent factor (capturing veterans' sense of closeness to their children, sensitivity to children's needs, and cooperation with their children) and on overinvolvement. First, war captivity indirectly

Table 2
Means, Standard Deviations, and Standardized Canonical Discriminant Function Coefficients for Relative Differences Between Ex-POWs and Controls in Parenting

Measure	Ex-POWs		Controls		Loadings	B
	M	SD	M	SD		
Proximity to the children	5.29	1.32	6.08	0.92	.83**	.66
Sensitivity to children's needs	4.45	1.28	5.23	0.96	.83**	.52
Cooperation with the children	4.76	1.13	5.19	0.88	.52*	.12
Overinvolvement	4.30	1.03	4.14	1.00	-.19	-.41

Note. Higher significant loading values refer to heighten differences between classification groups. POW = prisoner of war.

* $p < .01$. ** $p < .001$.

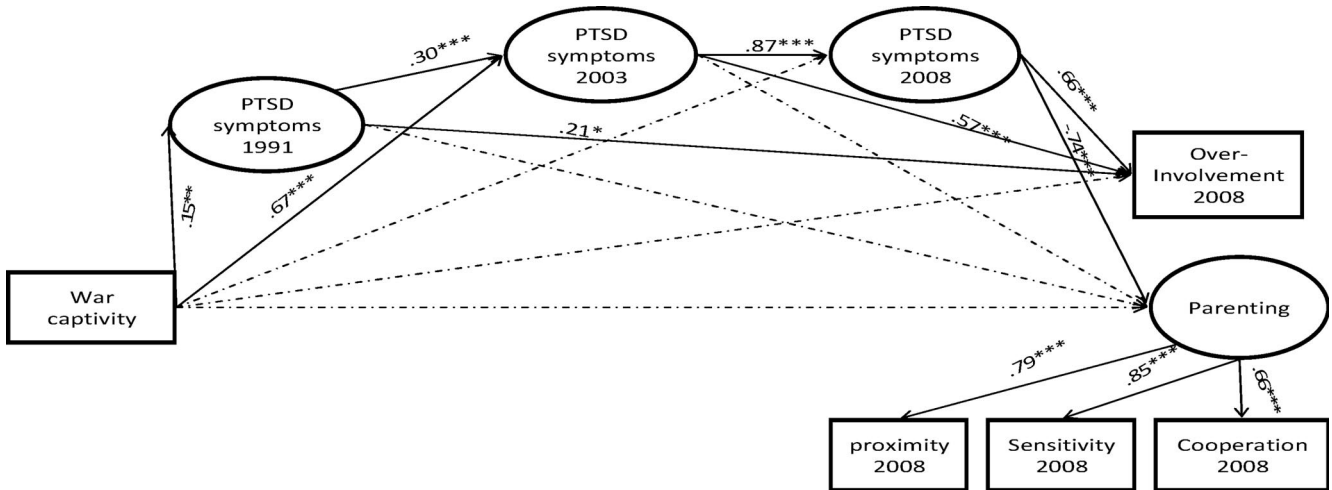


Figure 1. Results of the multiple-step mediation model assessing whether posttraumatic stress disorder severity mediates the effects of captivity on parental caregiving and overinvolvement. Dashed lines represent nonsignificant paths; solid lines represent significant paths. Circles represent latent factors on which predictors are loaded; rectangles represent external predictors. The model also included veterans' negative life events as a covariate. PTSD = posttraumatic stress disorder. * $p < .05$. ** $p < .01$. *** $p < .001$.

influenced veterans' overinvolvement via four routes: (a) ex-POWs endorsed significantly more PTSD symptoms at Time 1 than control veterans, and PTSD symptoms level at Time 1 was associated with higher levels of overinvolvement at Time 3; (b) ex-POWs endorsed significantly more PTSD symptoms at Time 2 than control veterans, and PTSD level at Time 2 was associated with higher levels of overinvolvement at Time 3; (c) ex-POWs endorsed significantly more PTSD symptoms at Time 2 than control veterans, and more PTSD symptoms at Time 2 predicted an increase in PTSD between Time 2 and Time 3, and PTSD at Time 3 was associated with higher levels of overinvolvement at Time 3; and (d) ex-POWs endorsed significantly more PTSD symptoms at Time 1 than controls. More PTSD symptoms at Time 1 predicted an increase in PTSD symptoms between Time 1 and Time 2, and PTSD symptoms at Time 2 predicted an increase in PTSD between Time 2 and Time 3. Next, PTSD at Time 3 was associated with higher levels of overinvolvement at Time 3. Second, war captivity indirectly influenced veterans' parenting via two routes: (a) ex-

POWs endorsed significantly more PTSD symptoms at Time 2 than controls. More PTSD at Time 2 predicted an increase in PTSD symptoms between Time 2 and Time 3, and PTSD at Time 3 was associated with lower levels of parenting at Time 3; and (b) ex-POWs endorsed significantly more PTSD symptoms at Time 1 than controls. More PTSD symptoms at Time 1 predicted an increase in PTSD symptoms between Time 1 and Time 2, and PTSD symptoms at Time 2 predicted an increase in PTSD between Time 2 and Time 3. Next, PTSD symptoms at Time 3 were associated with lower levels of parenting at Time 3. These indirect effects were significant while controlling for veterans' negative life events. All other indirect effects were not significant.

Associations Between PTSD Symptom Clusters Trajectories and Parenting

We examined the association between the trajectories of change in PTSD symptoms over time (Times 1, 2, and 3) and veterans'

Table 3
Unstandardized Regression Coefficients and Bootstrap 95% Confidence Intervals for Predicting Parenting by War Captivity Through PTSD in 1991, 2003, and 2008

Measure	Parenting factor	Overinvolvement
Direct effect	-.17	.01
Indirect through PTSD in 1991	[-0.01, 0.08]	[0.01, 0.12]*
Indirect through PTSD in 2003	[-0.17, 1.12]	[-1.43, -0.13]*
Indirect through PTSD in 2008	[-0.26, 0.09]	[-0.08, 0.24]
Indirect through PTSD in 1991 and 2003	[-0.02, 0.08]	[-0.10, 0.001]
Indirect through PTSD in 1991 and 2008	[-0.01, 0.03]	[-0.03, 0.01]
Indirect through PTSD in 2003 and 2008	[-1.36, -0.34]*	[0.28, 1.30]*
Indirect through PTSD in 1991, 2003, and 2008	[-0.10, -0.01]*	[0.01, 0.10]*

Note. 95% Confidence Intervals are presented in brackets. Confidence intervals that do not include 0 (null association) are significant.
* Significant at .05.

parenting dimensions at Time 3. To this end, we conducted a series of latent trajectories modeling (LTM; see Bollen & Curran, 2006), wherein we estimated the trajectories of change in PTSD symptom clusters of emotional numbing, active avoidance, intrusion, and hyperarousal. Two latent factors were estimated: one to define the initial levels of the PTSD symptoms clusters (i.e., intercept), and one to explore whether the trajectory of change (i.e., slope) in PTSD was constant over time (i.e., linear; time was coded as 0, 12, and 17) or took any other shape (by assessing which type of trajectory fits most with our observed data). The LTM intercept and slope coefficients served as predictors of veterans' parenting at Time 3. In keeping with the discriminant function analysis, we predicted: (a) the latent factor assessing veterans' level of sense of closeness to their children, sensitivity to children's needs, and cooperation with their children, and (b) veterans' level of overinvolvement. Also, we assessed whether the LTMs differed for ex-POWs and controls by using a multigroup SEM procedure. We ran separate LTMs for each PTSD cluster because of extensive overlap among the PTSD constructs (i.e., multicollinearity; tolerance as low as .02). We estimated the appropriateness of the model using EQS, Version 6.1, SEM software (Bentler & Wu, 1995). The model's fit was assessed by the CFI, Bentler–Bonett nonnormed fit index (NNFI) and the RMSEA. A model is judged as reasonably fitting the data when the CFI and NNFI are higher than .95 and the RMSEA is lower than .05 (see Bollen & Curran, 2006). It is judged as fairly fitting the data when the CFI and NNFI are higher than .90 and the RMSEA is lower than .10. Missing data were handled with the case-wise maximum likelihood estimation (see Figure 2 for schematic representation).

The LTM estimating the veterans' PTSD emotional numbing trajectory showed adequate fit to the observed data, Yuan–Bentler scaled $\chi^2(19) = 110.45$, $p < .01$, CFI = .96, NNFI = .93, RMSEA = .06. The analysis revealed that controls' initial level of emotional numbing was .15, and that it has increased linearly by

.02 points since 1993. Ex-POWs' initial level of emotional numbing was significantly higher than controls' initial level, $M = .30$, $t(513) = 2.35$, $p < .05$. This was also true for ex-POWs' trajectory of change in emotional numbing over time: they showed a significantly greater increase in their level of emotional numbing than did the control group, $M = .11$, $t(513) = 12.30$, $p < .001$.

The LTM also revealed that veterans' (ex-POWs' and controls') parenting (i.e., the latent factor of parenting) was related to their trajectory of change in emotional numbing: The greater a veteran's increase in emotional numbing, the lower his parenting at Time 3, $\beta = -.61$, $t(513) = -7.26$, $p < .001$. Also, the higher the veteran's initial level of emotional numbing, the greater his overinvolvement in his children's lives, $\beta = .30$, $t(513) = 2.20$, $p < .05$. All other effects were not significant.

The LTM estimating the veterans' PTSD active avoidance trajectory showed adequate fit to the observed data, Yuan–Bentler scaled $\chi^2(19) = 69.32$, $p < .01$, CFI = .97, NNFI = .95, RMSEA = .04. The analysis revealed that controls' initial level of active avoidance was .24, and that it had not change significantly since Time 1. Ex-POWs' initial level of active avoidance was significantly higher than controls' initial level, $M = .36$, $t(513) = 2.19$, $p < .05$. In contrast to the control group, ex-POWs showed linear increase in their active avoidance level over time of .06 points, $t(513) = 9.73$, $p < .001$.

The LTM also revealed that veterans' (ex-POWs' and controls') parenting (i.e., the latent factor of parenting) was related to their trajectory of change in active avoidance: The greater a veteran's increase in active avoidance, the lower his parenting at Time 3, $\beta = -.53$, $t(513) = -5.36$, $p < .001$. Also, the higher the veteran's initial level of active avoidance, the greater his overinvolvement in his children's lives, $\beta = .26$, $t(513) = 2.04$, $p < .05$. All other effects were not significant.

The LTM estimating the veterans' PTSD intrusive symptoms trajectory showed adequate fit to the observed data, Yuan–Bentler

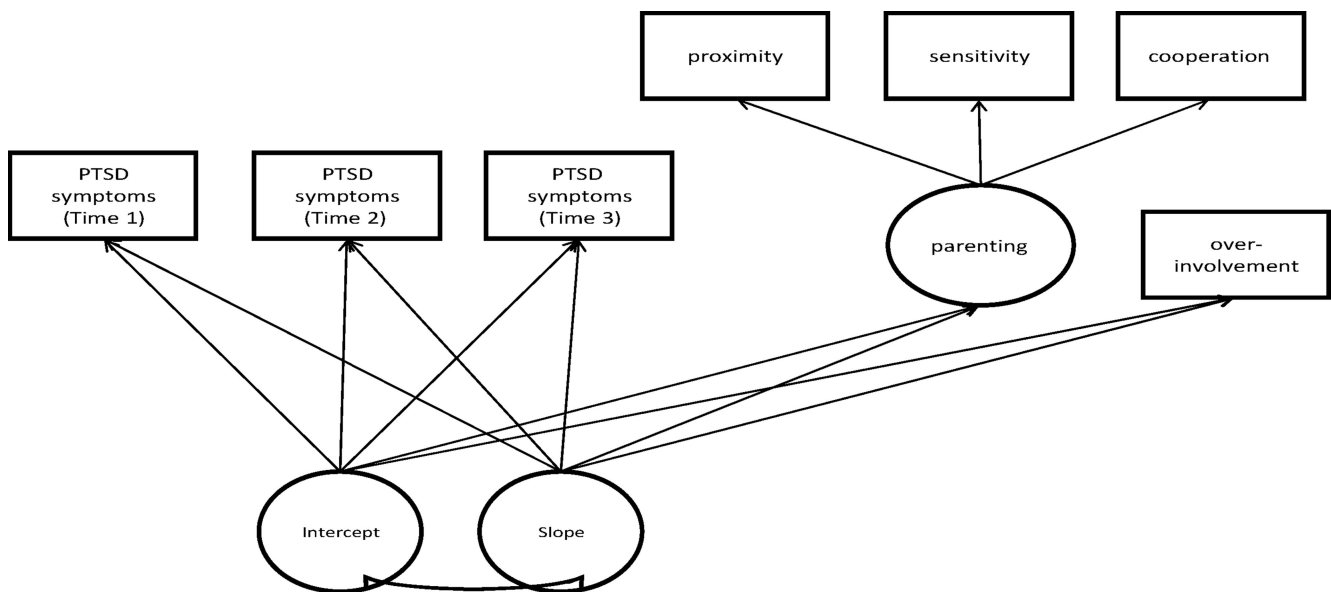


Figure 2. Schematic representation of the relations between posttraumatic symptom cluster trajectories and parenting caregiving dimensions among war veterans. PTSD = posttraumatic stress disorder.

scaled $\chi^2(19) = 93.21, p < .01, CFI = .97, NNFI = .94, RMSEA = .05$. The analysis revealed that controls' initial level of intrusive symptoms was .47, and that it had not changed significantly since Time 1. Ex-POWs' initial level of intrusive symptoms was significantly higher than controls' initial level, $M = .74, t(513) = 2.47, p < .05$. In contrast to the control group, ex-POWs showed a .13-point linear increase in their intrusive symptoms level over time, $t(513) = 11.74, p < .001$.

The LTM also revealed that veterans' (ex-POWs' and controls') parenting (i.e., the latent factor of parenting) was related to their trajectory of change in intrusive symptoms: The greater a veteran's increase in intrusive symptoms, the lower his parenting at Time 3, $\beta = -.57, t(513) = -5.86, p < .001$. Also, the higher the veteran's initial level of intrusive symptoms, the higher his overinvolvement with his children lives, $\beta = .26, t(513) = 2.36, p < .05$. All other effects were not significant.

Finally, the LTM estimating the veterans' PTSD hyperarousal symptoms trajectory showed adequate fit to the observed data, Yuan–Bentler scaled $\chi^2(19) = 118.33, p < .01, CFI = .96, NNFI = .93, RMSEA = .05$. The analysis revealed that controls' initial level of hyperarousal symptoms was .61, and that it had linearly increased by .03 points since Time 1. Ex-POWs' initial level of arousal symptoms was significantly higher than controls' initial level, $M = .91, t(513) = 2.41, p < .05$. This was also true for ex-POWs trajectory of change in arousal symptoms over time: They showed significantly greater increase in their level of arousal symptoms than did the control group, $M = .16, t(513) = 11.09, p < .001$.

The LTM also revealed that veterans' (ex-POWs' and controls') parenting (i.e., the latent factor of parenting) was related to their trajectory of change in hyperarousal symptoms: The greater a veteran's linear increase in hyperarousal symptoms, the lower his parenting at Time 3, $\beta = -.60, t(513) = -5.93, p < .001$. Also, the higher the veteran's initial level of hyperarousal symptoms, the greater his overinvolvement in his children's lives, $\beta = .25, t(513) = 2.23, p < .05$. All other effects were not significant.

Discussion

The main findings of this study show that veterans who were held in captivity during the 1973 Yom Kippur War reported lower levels of parental positive parenting compared to war veterans who were not held in captivity. The parenting dimensions that differentiated the groups most were proximity to children and sensitivity to the children's needs. Furthermore, war captivity had an indirect influence on the parenting through the mediation of PTSD symptoms level at Time 2. In addition, ex-POWs had higher levels of posttraumatic symptoms at Time 1, which were more likely to increase over time, than matched controls. Most important, it was found that the increase in the levels of posttraumatic symptom clusters over time was associated with lower levels of parenting patterns.

Our results regarding the impact of war captivity on parenting are consistent with the theoretical models and empirical studies that have pointed to the implications of traumatic stress in family relations across the life span (e.g., Taft et al., 2008). However, to our knowledge, no other study has been conducted on the negative impact of war captivity on paternal parenting of adult children. The results emphasize that, even 35 years after the end of war and

captivity, ex-POWs still report lower levels of abilities to care for and relate to their children.

This pattern of results reflects the unique interaction between ex-POWs who were in their late 50s during the study and their adult children, who were in their 20s and some at the same age as their fathers were during the war. For the ex-POWs, the midlife phase entails some reduction in activity and a shift from planning to reminisce and from occupation with current events to the review and rethinking of one's life. For ex-POWs' adult children, this phase is generally characterized by stabilization of couples' relations and career choices and, for some, the beginning of parenting. It is known that the concept of parenting undergoes several changes throughout the life cycle (e.g., Lye, 1996). At this specific life period, ex-POWs reported that they found it difficult to get closer to their children, to be sensitive to their specific needs, and to reduce their controlling tendencies over their lives, resembling experiences documented by Holocaust survivor's adult children (Weisman, 2008).

How can one explain the effect of the captivity experience on paternal parenting many years after the war? Compared to other parents in the wake of different traumas, the harsh, intensive, and continuous man-made trauma, such as war captivity, may alter individuals' basic trust in others in a way that undermines their ability to maintain secure attachments to their children (Solomon, Dekel, & Mikulincer, 2008). The fundamental changes in the parent–child relationship throughout the life cycle might make the ex-POWs vulnerable to stress and require them to reestablish basic trust with their children again and again in order to provide empathic and positive parenting.

Another explanation is rooted in the interpersonal nature of the captivity experience. Most ex-POWs were dependent on the same captors who subsequently brutally tortured them. Events that occurred on a daily basis (i.e., controlling access to toilet use) might cause the prisoner to identify dependency with violence (Herman, 1992). It is conceivable that the ex-POW may suffer from difficulties associated with intimacy, dependency, and control that may emerge in their relationships with their children because parenting naturally triggers these issues. Like Holocaust survivors who experienced an offensive, yet close, relationship with their captors, ex-POWs can also move between fear of intimacy and the need to compensate in their relations with their children (Cohen et al., 2003).

The results also show that war captivity had indirect influence on parenting through the mediation of PTSD symptoms level at Time 2. These results are consistent with studies that have found negative relations between PTSD severity and parent–child relationship (Ruscio et al., 2002), as well as parenting satisfaction (Samper et al., 2004) among veterans. Two more recent studies have replicated this pattern of results and concluded that veterans who suffered from both combat-induced stress reaction and PTSD have a negative self-perception of their parental abilities and reduced satisfaction from their parent role (Cohen et al., 2011; Solomon et al., 2011). Furthermore, a few studies have found that PTSD mediates the relations between trauma exposure and physical health outcomes (e.g., Weierich & Nock, 2008). Yet, as noted, this is the first study to document the longitudinal mediation role of PTSD in the relations between captivity and parenting.

Above and beyond the mediation role of PTSD symptoms in parenting, we further shed light on the nature of the longitudinal

relations between PTSD symptom clusters and paternal parenting across the life span. Our findings demonstrate that, in contrast to the control group, ex-POWs showed an annual increase in all four PTSD symptom clusters. This annual increase over 35 years was found to relate to lower levels of parenting. As compared to cross-sectional studies, our longitudinal study, which spans a long period of time, may indicate the direction of the effect of PTSD on parenting.

Of note, our results demonstrate that it was not the initial level of PTSD symptoms at Time 1 that predicted parenting difficulties, but the changes in those symptoms over the years. One explanation for this pattern of results is the self-disclosure of parenting problems. In their late 50s, many of the ex-POWs underwent a process of reflection on their lives in the shadow of captivity, which was aided by the increasing social legitimacy in Israel to disclose their unspoken captivity experiences and residues. Over the years, some of the ex-POWs denied the impact of these experiences on their families. Some have only recently started to understand the impact on their adult children through the latter's own stories, feedback, and observations on their parenting. Furthermore, the initiation of empirical studies focused on "secondary traumatization" of ex-POWs may have created a climate for reflection (Lombardo & Motta, 2008). It is possible that the long-term relations between PTSD symptoms and parenting might only have been reported during this period because the change in the symptoms also reflects the change in the ex-POWs acknowledgment of their children's experience of them as parents.

Our findings on the relationship between PTSD symptom cluster trajectories and parenting dimensions are similar to those of earlier studies. These studies documented difficulties experienced by the traumatized veterans in parental functioning, which stem from hyperarousal, avoidance, and, specifically, emotional numbing PTSD symptoms (e.g., Ruscio et al., 2002). However, this is the first study to document the long-term relations between PTSD symptom cluster trajectories and parenting over many years after the war.

Avoidance entails reduced involvement of the traumatized veteran in his children's life or even disengagement and disconnection (Marshall et al., 2006). Emotional numbness can be expressed in the limited ability to be emotionally available and involved. In this sense, these symptoms tend to severely undermine the father's ability to create and maintain close, meaningful, and supportive interactions with his children. It is known that fathers tend to express their affection through actions and joint activities (Floyd, 1997). Thus, symptoms of avoidance, which are characterized by a loss of interest in activities and people, may impact on the father-child relationship. The veteran's avoidance may also initiate a vicious cycle, in which withdrawal and reluctance to discuss the past serve to strengthen feelings of uncertainty and loneliness. This, in turn, reinforces the children's apprehension, which leads to further withdrawal on the veteran's part (Galovski & Lyons, 2004). Hence, this result might be considered as an interpersonal demonstration of the view of PTSD as an imbalance state involving the dynamical adjustment of both approach and avoidance system (Stein & Paulus, 2009).

Studies have consistently documented a positive correlation between hyperarousal symptoms and aggression (Solomon, Dekel, & Zerach, 2008) and high levels of anger and aggression among traumatized veterans (e.g., Taft et al., 2008). Where traumatized

fathers reported rejecting, controlling and aggressive behaviors toward their children, they also reported less satisfaction with their own parenting (Dekel, Solomon, & Bleich, 2002). Furthermore, it has been suggested that the traumatized veteran's self-destructive "survival mode" damages his capacity for self-control and self-monitoring and results in paranoid orientation of events and augmented hostile responses toward their children (Chemtob, Novaco, Hamada, Gross, & Smith, 1997).

More surprising is the reported long-term relationship between intrusion symptoms and parenting. One explanation for this finding is that intrusion symptoms may be important in the "working through" of traumatic experiences (Horowitz, 1997). It seems that intrusion symptoms function as an "engine" that sets in motion avoidance and hyperarousal symptoms, thus affecting various aspects of family functioning. Therefore, an increase in intrusion levels over the years may be related to an increase in other posttraumatic symptoms and consequently to parenting problems.

Study Limitations and Findings

This study has several limitations. First, due to the attrition of participants between measurements, the sample may be somewhat selective. Second, the use of self-report measures, although very common in trauma studies, entails the risk of reporting bias. Future studies should consider gathering data from multiple family members, including spouses and children, and make use of objective measures, such as observation of fathers' actual functioning. Third, the lack of precombat assessment of parenting strongly limits our ability to infer causality. It is possible that parenting is related to early deficits in the attachment relationship with the young child that contributes to the results, above and beyond captivity experiences and PTSD. Fourth, our measurements did not cover the entire span of 35 years since the war. Therefore, we were unable to monitor changes in the course of posttraumatic symptoms and changes in parenting during the gap between the war and later measurement periods. Finally, our Adapted Parenting Practices Questionnaire should be treated with some caution, even though this questionnaire is an empirically validated adaptation of a known and validated questionnaire (Kunce & Shaver, 1994).

Despite these limitations, this study yielded several important findings. This is the first study to report long-term and enduring paternal parenting problems among former POWs. Furthermore, this longitudinal study sheds light on the long-term relations between posttraumatic stress symptom clusters and parenting across the life span. In addition, the findings of this study have important clinical implications. They reveal that veterans with a history of captivity, particularly those who also suffered from posttraumatic symptoms, may be at increased risk not only for mental distress and various psychological difficulties, but also for future parenting problems with their adult children.

Treatment strategies are encouraged to assist family members in identifying and understanding the specific interpersonal nature of captivity trauma and its possible relations to posttraumatic symptoms, such as nightmares and flashbacks (Sherman, Zanotti, & Jones, 2005). In this way, ex-POWs' children can reduce their ambiguity about the relation between the impact of war captivity and posttraumatic symptoms on parenting behaviors, such as avoidance and overprotection. In addition, family therapy may help traumatized fathers and adult children develop constructive

means of communication and coping that can help resolve problematic patterns of relations, such as overidentification or withdrawal from one another.

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