

# World Assumptions Among Wives of Former Prisoners of War

Journal of Family Issues

1–22

© The Author(s) 2015

Reprints and permissions:

sagepub.com/journalsPermissions.nav

DOI: 10.1177/0192513X14565702

jfi.sagepub.com



**Israel Bronstein<sup>1</sup>, Yafit Levin<sup>1</sup>, Yael Lahav<sup>1</sup>,  
and Zahava Solomon<sup>1</sup>**

## Abstract

This study examines (a) secondary trauma by evaluating World Assumptions (World Assumptions Scale scores) among spouses of Israeli ex-prisoners of war (ex-POWs) and (b) the relationship between the husbands' current posttraumatic stress disorder (PTSD) symptoms and PTSD trajectory and the wives' world assumptions. Data were prospectively collected thrice for ex-POWs and comparable veterans, and twice for their spouses. This study extends current research as it links trauma, beyond PTSD symptoms, to more negative world assumptions among spouses of traumatized ex-POWs. Spouses of ex-POWs with PTSD symptoms reported lower benevolence of the people and self-worth and higher randomness compared with spouses of ex-POWs without PTSD symptoms. Spouses of ex-POWs who endorsed chronic PTSD symptoms also reported greater levels of self-control compared with the delayed PTSD symptoms group. Results suggest that the relationship between husbands' PTSD symptoms and wives' world assumptions may be mediated by wives' PTSD symptoms. The implications of the findings are discussed.

## Keywords

world assumptions, posttraumatic symptoms, secondary traumatization

---

<sup>1</sup>Tel Aviv University, Tel Aviv, Israel

### Corresponding Author:

Yafit Levin, Bob Shapell School of Social Work, Tel Aviv University, Tel Aviv 6997801, Israel.  
Email: ohanayaf@gmail.com

## Background

Symptoms of posttraumatic stress disorder (PTSD) result, in great part, in an inability to cognitively integrate the traumatic event (McCann & Pearlman, 1990). The impact of traumatic stress can expand to significant others (e.g., spouses and offspring) that have intimate bonds with the traumatized person (Figley, 1995). To date, research on secondary traumatization (ST) has been mainly focused on posttraumatic symptoms (e.g., Dekel & Solomon, 2006). A growing body of knowledge suggests that traumatic events often challenge cognitive schemata of loved ones, but this knowledge is limited to professional circles of therapists (e.g., Beck, 2011). The current study prospectively examines cognitive assumptions among two populations at risk for ST: spouses of (a) ex-POWs and (b) comparable combat veterans.

### World Assumptions

It has been postulated that individuals interpret their world through cognitive schemata or basic, established assumptions about what to expect in the world (e.g., Janoff-Bulman, 1989). These assumptions afford an explanation for how we perceive ourselves, others, and events. In other words, these cognitions may provide lenses through which we see and understand our world. Several similar, yet distinct cognitive models describing and explaining these assumptions were offered (e.g., Janoff-Bulman, 1989; McCann & Pearlman, 1990). The Janoff-Bulman (1989) model comprises three chief categories of assumptions: world benevolence (i.e., expectations of other people and events), world meaningfulness (i.e., attribution of outcomes), and self-worth (i.e., perceptions of oneself within the world). Specifically, *World Benevolence* refers to perceptions of other people and events in the world. Hence, more positive assumptions of people and events would indicate that the person expects that other people are good, kind, and so on, and that good things will occur. *World Meaningfulness* reflects outcome attribution or why things happen. It is composed of the following components: (a) *justice*, the extent to which individuals think that people get what they deserve; (b) *controllability*, the extent to which individuals think that people have control over their own behaviors and actions; and (c) *randomness*, the extent to which individuals think that what happens to people is merely the result of chance. *Self-Worth* concerns self-perceptions about (a) goodness, decency, and morality (*self-worth*); (b) activity or behaviors that would limit vulnerability to negative outcomes (*self-controllability*); and (c) being protected from adverse circumstances and events without a logical explanation (*luck*).

## *Trauma, PTSD, and World Assumptions*

Several scholars proposed that world assumptions may be challenged by formative events in people's lives, particularly by stressful events (e.g., Janoff-Bulman, 1989). Traumatic events are powerful, undesirable, and unexpected experiences that entail threat to life, limb, and social order. In essence, world assumptions can be seen as illusions that protect us from feelings of vulnerability (Janoff-Bulman, 1989). However, it has been suggested that traumatic events may undermine these preconceived world assumptions, since such events are outside the realm of ordinary expectations and, as such, are incongruent with the parameters of pretraumatic cognitive schemata (McCann & Pearlman, 1990). There is some research to suggest that the mere exposure to trauma is sufficient to challenge and, in some cases, to negatively affect previously held positive assumption (e.g., Lilly, Valdez, & Graham-Bermann, 2011). However, not all those who experience a traumatic event report shifts in their cognitive assumptions (e.g., Solomon, Iancu, & Tyano, 1997). To explain this observed variability, it has been argued that the psychological responses of trauma survivors, rather than the mere exposure to traumatic events, is responsible for the negative shift in world assumptions (Foa, Ehlers, Clark, Tolin, & Orsillo, 1999). In other words, such change is caused not by the traumatic exposure per se, but rather by the traumatic psychological injury that accompanies negative cognitions.

One of the most common and conspicuous sequelae of traumatic events is PTSD symptoms. According to some theoreticians, PTSD symptoms largely result from an individual's inability to process and integrate a traumatic experience (McCann & Pearlman, 1990). Indeed, a considerable body of research has supported this contention. For example, Ginzburg (2004) reported that PTSD symptoms were associated with more negative perceptions of self-worth, a more random world, and decreased luck in a sample of myocardial infarction patients. Similarly, Dekel, Solomon, Elklit, and Ginzburg (2004) reported more negative beliefs about the benevolence of people and perceptions of self-worth in Israeli combat veterans with PTSD.

## *Secondary Trauma and World Assumptions*

As noted above, the detrimental impact of traumatic stress not only affects direct survivors but can also ripple to their significant others, with whom they maintain intimate relationships (Figley, 1995). Two similar concepts, with growing evidence based on this ripple effect, include vicarious trauma (McCann & Pearlman, 1990) and ST (Figley, 1995). The former refers predominantly to mental health professionals who internalize the trauma of their

patients and whose reactions refer specifically to assumption shifts (e.g., Beck, 2011; Cohen & Collens, 2013; Saakvitne, 2002). One explanation regarding the mechanisms underlying this phenomenon is an inability to disengage from identification with the patient (Harrison & Westwood, 2009). Indeed, vicarious trauma has frequently been shown to cause shifts in cognitive schema (e.g., Bride, 2004; Dunkley & Whelan, 2006). ST, however, has been consistently operationalized as posttraumatic distress symptoms, but not as shifts in cognitive schema, mostly among family members of traumatized individuals (particularly spouses and offspring; e.g., Dekel, 2010; Dekel & Solomon, 2006; Ein-Dor, Doron, Solomon, Mikulincer, & Shaver, 2010; Lyons, 2001). Thus, while the role of cognitive schema in the vicarious trauma among therapists of traumatized populations is well-established, the research on ST and world assumptions remains limited.

ST is a term that has been used to label the manifestations of distress reported by those who are in close proximity to victims of traumatic events (Figley, 1995; Rosenheck & Nathan, 1985). For the most part, those reports usually include physical and psychological symptoms, but do not specifically address relevant cognitive changes. In light of current knowledge regarding vicarious trauma and the shattering of therapists' world assumptions, caused by their closeness and/or identification with direct trauma victims, we can hypothesize that those closest to victims—their family members—may also be at risk for changes in world assumptions. At present, research approaches to ST have either been narrowly concerned with posttraumatic symptoms or more broadly focused on various manifestations of distress. However, to the best of our knowledge, the element of cognitive schema has not yet been studied in the context of ST among families of trauma victims.

The present study aims to fill this gap in the literature by examining world assumptions of spouses of traumatized ex-POWs and comparable veterans. This study examines the impact of war, war captivity, and ensuing PTSD symptoms in male veterans on their spouses, specifically, on the latter's world assumptions.

Of psychiatric disorders, PTSD symptoms is most prominent among ex-POWs as a result of their traumatic experiences. Captivity is one of the most traumatic experiences caused by humans and represents an extreme example of repeated stress and harsh physical conditions. In many cases, it is experienced after a battle, thereby inflicting an additional trauma to that caused by the combat itself. In various stages of captivity, prisoners are exposed to threats against their lives and physical integrity. Most of prisoners are incarcerated in solitary confinement, overcrowded cells, and unsanitary conditions. Nevertheless, not all ex-POWs suffer from the same pattern of PTSD symptoms.

## PTSD Trajectories

PTSD symptoms may vary across time with symptomology fluctuating in frequency and intensity. The onset of PTSD symptoms may occur any time, following exposure to stressful events further along the life course of an individual (American Psychiatric Association, 1994). There are four possible trajectories for the longitudinal course of PTSD symptoms. According to the “recovery” course, time is a healer and ex-POWs can be expected to recover partially or completely with the passage of time (e.g., Solomon & Dekel, 2005). In the “chronic” trajectory, PTSD symptoms are stable or worsen with time, due to the declining physical and psychological state of the individual, particularly during midlife.

According to the “delayed” trajectory, there were no PTSD symptoms in the aftermath of trauma but with time, an onset of PTSD symptoms occurs, reflecting worsening of the psychological state of the individual. This view stresses the lability of PTSD symptomatology and the possibility that life events, developmental transitions, and psychological changes can intensify symptoms. There is also a “resilient” course, in which there are no symptoms in the aftermath of captivity neither in the long term (Bonanno, 2004). We hypothesize that this observed variability is implicated in wives’ distress and wives’ world assumptions. The different duration and intensity may have a different effect on spouses. Specifically, longer duration and greater PTSD symptoms of husbands is hypothesized to undermine wives world assumptions.

Little is known about the determining factors of the world assumptions of ex-POWs’ wives. However, it has been suggested that such assumptions may be affected by wives’ closeness and identification with their traumatized ex-POW husbands who have been shown to hold negative world assumptions (Dekel, Peleg, & Solomon, 2013). It is possible that wives’ perception of their husbands’ posttraumatic symptoms may lead to the development of PTS among the wives. Therefore, wives’ distress may mediate the association between the wives’ perception of husbands’ posttraumatic symptoms and negative assumptions.

We hypothesize that:

**Hypothesis 1:** Compared with spouses of combatants, spouses of ex-POWs will report more negative world assumptions.

**Hypothesis 2:** Spouses of ex-POWs with PTSD symptoms will report more negative world assumptions in comparison with spouses of ex-POWs without PTSD symptoms and to spouses of veterans who had not been incarcerated.

**Hypothesis 3:** Spouses of ex-POWs with chronic PTSD symptoms will report higher levels of negative world assumptions in comparison with spouses of ex-POWs with delayed PTSD symptoms, spouses of resilient ex-POWs, and spouses of the veterans group.

**Hypothesis 4:** Negative correlations will be found between the wives' ST symptoms and world assumptions. Moreover, a mediation model is expected, in which the PTS of ex-POWs' wives mediates the association between the husbands' PTS and the wives' total World Assumptions Scale (WAS) score.

## Method

### Participants

This study is part of a multicohort longitudinal study of Israeli combat veterans of the 1973 Yom Kippur War and their spouses. Two groups took part: ex-POWs captured and held by Syrians or Egyptians and comparable veterans who had not been in captivity. The veterans of both groups were matched for personal, military, and combat background.

Data were collected from ex-POWs and combat veterans thrice over the course of 35 years: 18, 30, and 35 years after the war (for details, see Solomon & Dekel, 2005; Solomon, Neria, Ohry, Waysman, & Ginzburg, 1994). Data were also collected from the veterans' spouses twice: 30 and 36 years after the war. This group consisted of 115 wives of ex-POWs and 56 wives of controls. In the current study, the data regarding the PTSD trajectories of husbands were collected from ex-POWs and veterans at all three measurement waves; this was done for the wives at the second measurement wave, between 2010 and 2011. The data about the posttraumatic symptoms of husbands were taken from the last wave, as well as from wives' reports on their husbands' state.

No significant group differences were found for the demographic variables of age, years of marriage/cohabitation, number of children, and employment status. Spouses' ages ranged from 36 to 79 years ( $M = 57.90$ ,  $SD = 5.87$ ), marriage/cohabitation ranged from 3 to 53 years ( $M = 27.82$ ,  $SD = 6.54$ ), and couples had an average of 3.13 children ( $SD = 1.18$ ). Fifty-two percent of women in both groups were working full-time jobs, 26% had part-time jobs, and 22% were unemployed. Significant differences were found for religiosity and level of education, with spouses of ex-POWs more often defining themselves as religious (32.5% vs. 12.5%) than as secular (56% vs. 71.4%), compared with control spouses. Spouses of ex-POWs also had less education (14.16 years,  $SD = 3.20$ ) compared with control spouses ( $M = 15.50$ ,  $SD = 2.92$ ).

## Procedure

Tel Aviv University and Israel Defense Forces ethics committees approved this research. Ex-POWs, veterans, and spouses were explained the purpose of the study and asked to sign an informed consent form before participating. Spouses' questionnaire batteries were completed either at home or at a location preferred by the individual.

## Questionnaires

*Posttraumatic Stress Disorder Inventory (PTSD-I)*. PTS symptoms were assessed via the PTSD-I (Solomon et al., 1993). This is a widely used and well-validated self-report screening tool. Respondents indicate the frequency of items reflecting the *DSM-IV* symptoms of PTSD, which correspond to intrusion, numbing/avoidance, and hyperarousal symptoms (American Psychiatric Association, 1994). Items are scored on a 4-point rating scale, ranging from a frequency of (1) *least* to (4) *greatest*. The PTSD-I has strong reliability and convergent validity when compared with diagnoses based on structured clinical interviews (Solomon et al., 1993). It has been frequently used in Israel with high internal consistency ( $\alpha = .86$ ; Ein-Dor et al., 2010). In this study, the internal consistency was high ( $\alpha = .86$ ). Former POWs and veterans were considered to have PTSD symptoms if they met the *DSM-IV-TR* criteria by endorsing at least one symptom of intrusion, at least three symptoms of numbing/avoidance, and at least two hyperarousal symptoms and criterion F (American Psychiatric Association, 2000). Based on data from the three waves of assessment, PTSD trajectories were determined to be one of the following: (a) "chronic PTSD," in which PTSD symptoms have been reported continuously from the time of traumatic exposure (ex-POWs who reported PTSD symptoms at all three waves of measurement); (b) "delayed PTSD," defined as onset at any point in time after a period without reporting PTSD symptoms (ex-POWs who did not report PTSD symptoms in the first wave of measurement, but did suffer from the disorder at the second and/or third measurements); (c) "recovery," defined as remission of PTSD symptoms (ex-POWs who reported PTSD symptoms in the first or second waves of measurement, but not in the third wave); and (d) "resilience," or those who never reported PTSD symptoms at any of the three waves of measurement (Solomon, Horesh, Ein-Dor, & Ohry, 2012).

## World Assumptions

World assumptions were measured using the WAS (Janoff-Bulman, 1989). This is a 32-item, self-report rating scale comprising three world assumption

categories (world benevolence, world meaningfulness, and self-worth) and eight factors (benevolence of the world, world benevolence of people, justice, controllability, randomness, self-worth, self-controllability, and luck). Respondents indicate their agreement to statements concerning their assumptions, from (1) *strongly disagree* to (6) *strongly agree*. This scale has been previously applied within the Israeli context and translated into Hebrew (Dekel et al., 2004). Cronbach's  $\alpha$  for the English version ranged from .68 to .86 (Elklit, Shevlin, Solomon, & Dekel, 2007). In this study, Cronbach's  $\alpha$  for the three subscales were .764, .722, and .769 for world benevolence, world meaningfulness, and self-worth, respectively, and .737, .698, .638, .745, .465, .700, .663, and .723, respectively, for the eight factors of world benevolence of the world, world benevolence of people, justice, controllability, randomness, self-worth, self-controllability, and luck. The Cronbach's  $\alpha$  for the general WAS was .818.

### Statistical Analyses

Descriptive analyses were performed to check for demographic differences between study groups using  $\chi^2$  and Mann–Whitney ( $U$ ). Multivariate analysis of variance (MANOVA) and Analysis of variance (ANOVA) compared the effect of grouping on world assumptions.

## Results

### *Do Spouses of Ex-POWs Differ in WAS From Spouses of Veterans?*

Scores on world assumptions of spouses of ex-POWs were compared with spouses of veterans (see Table 1). MANOVA returned a nonsignificant effect of grouping (ex-POW, veteran), *Pillai's trace*  $F(8, 162) = 1.31$ , n.s., partial  $\eta^2 = .06$ . Separate univariate ANOVA revealed nonsignificant effects for all subscales apart from self-worth,  $F(1, 169) = 4.38$ ,  $p < .05$ , partial  $\eta^2 = .03$ , where the spouses of ex-POWs group reported significantly lower scores than the spouses of veterans.

### *Are Husbands' PTSD Symptoms Implicated in Wives' WAS Score?*

The impact of husbands' PTSD symptoms on spouses' world assumptions was assessed by dividing the current sample into the following groups: (a) spouses of ex-POWs who met the criteria for PTSD symptoms (as reported

**Table 1.** Means, Standard Deviations, and Univariate *F* Results of Outcome Variables for Ex-POW Spouses and Control Spouses.

	POW spouses	Control spouses	<i>F</i>	$\eta_p^2$
	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )		
World assumptions—total score	4.03 (0.50)	4.04 (0.49)	0.02	.00
Factors				
Benevolence of the world	4.02 (0.96)	4.03 (0.95)	0.01	.00
Benevolence of the people	4.40 (0.83)	4.58 (0.67)	1.93	.01
Justice	2.95 (1.06)	2.74 (1.06)	1.42	.01
Controllability	3.64 (1.05)	3.72 (0.86)	0.23	.00
Randomness	3.77 (0.86)	3.62 (0.92)	1.03	.01
Self-worth	4.89 (0.85)	5.15 (0.62)	4.38*	.03
Self-controllability	4.46 (0.87)	4.41 (0.77)	0.10	.00
Luck	4.07 (0.88)	4.04 (0.91)	0.04	.00

Note. POW = prisoners of war;  $\eta_p$  = partial  $\eta$ .

\* $p < .05$ . \*\* $p < .01$ .

by the wives;  $n = 52$ ), (b) spouses of ex-POWs without PTSD symptoms (as reported by the spouse;  $n = 50$ ), and (c) spouses of veterans ( $n = 48$ ). Only one spouse of the veteran group endorsed PTSD symptoms and was therefore omitted from the analyses.

MANOVA returned a significant effect of grouping (ex-POWs with PTSD symptoms, ex-POWs without PTSD symptoms, veterans) on the WAS, *Pillai's trace*  $F(16, 282) = 2.06, p < .05$ , partial  $\eta^2 = .11$ . Spouses of ex-POWs with PTSD symptoms reported lower scores compared with spouses of ex-POWs without PTSD symptoms in the benevolence of the people subscale,  $F(2, 147) = 3.99, p < .05$ , partial  $\eta^2 = .05$ , and higher scores in the randomness,  $F(2, 147) = 4.47, p < .05$ , partial  $\eta^2 = .06$ . Spouses of ex-POWs with PTSD symptoms reported lower on the self-worth subscale,  $F(2, 147) = 3.31, p < .05$ , partial  $\eta^2 = .04$ , compared with controls wives. No significant differences on any of the measures were found between the ex-POWs' wives without PTSD symptoms and the control group. Results are summarized in Table 2.

### *Is Husbands' PTSD Trajectory Implicated in Spouses' WAS Score?*

The relationship between husbands' PTSD trajectories (i.e., 18% chronic, 42% delayed, 3% recovered, and 37% resilient) and spouses' world assumptions were assessed. Due to its small sample size, the recovered group was

**Table 2.** Means, Standard Deviations, and Univariate *F* Results of Outcome Variables for Spouses of Ex-POWs With PTSD, Ex-POWs Without PTSD, and Control Group.

	POWs spouses with PTSD	POW spouses without PTSD	Control spouses	<i>F</i>	$\eta_p^2$	Group comparisons
	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )			
Benevolence of the world	4.02 (1.02)	4.08 (0.86)	3.97 (0.92)	0.15	.00	
Benevolence of the people	4.20 (0.89)	4.60 (0.79)	4.58 (0.65)	3.99*	.05	a < b
Justice	3.11 (1.11)	2.82 (1.01)	2.7 (1.08)	1.80	.02	
Controllability	3.76 (1.06)	3.54 (1.06)	3.75 (0.83)	0.77	.01	
Randomness	3.96 (0.84)	3.46 (0.79)	3.63 (0.96)	4.47*	.06	a > b
Self-worth	4.75 (0.97)	5.05 (0.68)	5.12 (0.61)	3.31*	.04	a < c
Self-controllability	4.60 (0.89)	4.33 (0.89)	4.43 (0.75)	1.29	.02	
Luck	3.92 (0.89)	4.28 (0.71)	4.01 (0.95)	2.40	.03	

Note. POW = prisoners of war;  $\eta_p$  = partial  $\eta$ ; PTSD = posttraumatic stress disorder; a = POW spouses with PTSD; b = POW spouses without PTSD; c = control group. The PTS symptoms as reported by the spouses. The group comparisons column compares the mean level of the variable in each group.

\* $p < .05$ . \*\* $p < .01$ .

omitted. MANOVA indicated nonsignificant effect for the four groupings *Pillai's trace*  $F(24, 210) = 1.32$ , n.s., partial  $\eta^2 = .13$ . Separate univariate ANOVAs on the outcome variables revealed a significant effect for the husbands' PTSD trajectories with the subscale of self-control,  $F(3, 75) = 3.81$ ,  $p < .05$ , partial  $\eta^2 = .13$ . Spouses of ex-POWs who experienced chronic PTSD symptoms reported greater levels of self-control compared with the delayed PTSD symptoms group (see Table 3).

### Associations Between ST Symptoms and World Assumptions Among Ex-POWs' Wives

We hypothesized that there would be a negative correlation between the wives' ST symptoms and their world assumptions. Table 4 presents bivariate associations between the ST symptom variables (general score, intrusion, avoidance, and hyperarousal) and the world assumption variables (general score and eight factors: benevolence of the world, benevolence of the people, justice, controllability, randomness, self-worth, self-controllability, and luck).

As seen in Table 4, the correlation analysis indicated that, for ex-POWs' wives, the ST symptoms general score, avoidance symptoms, and hyperarousal symptoms were negatively associated with general world assumptions. In other

**Table 3.** Means, SD, and Univariate *F* results of Outcome Variables for Spouses of Ex-POWs With Chronic PTSD, Ex-POWs With Delayed PTSD, Resilient Ex-POWs, and Control Group.

WAS subscales	Ex-POWs who suffered from chronic PTSD	Ex-POWs who suffered from delayed PTSD	Ex-POWs with no PTSD	Control group	<i>F</i>	$\eta_p^2$	Group comparisons
	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )			
Benevolence of the world	4.06 (.86)	3.93 (.95)	4.25 (1.10)	3.61 (.83)	1.22	.05	
Benevolence of the people	4.26 (1.05)	4.48 (.66)	5.20 (.48)	4.37 (.58)	2.23	.08	
Justice	3.06 (1.20)	2.76 (.99)	3.15 (1.60)	2.65 (1.09)	0.62	.02	
Controllability	3.60 (1.12)	3.44 (.98)	3.80 (1.11)	3.62 (.93)	0.29	.01	
Randomness	4.11 (.96)	3.74 (.74)	3.33 (1.08)	3.83 (.82)	1.38	.05	
Self-worth	5.06 (.73)	4.76 (.90)	5.45 (.41)	5.17 (.62)	0.112	.08	
Self-controllability	4.88 (.84)	4.20 (.94)	5.10 (.58)	4.39 (.62)	3.81*	.13	a > b
Luck	4.20 (.88)	3.98 (.86)	4.90 (.68)	4.06 (.68)	1.99	.07	

Note. WAS = World Assumptions Scale; Ex-POW = ex-prisoners of war; PTSD = posttraumatic stress disorder; a = ex-POWs who suffered from chronic PTSD; b = ex-POWs who suffered from delayed PTSD. The group comparisons column compares the mean level of the variable in each group.

\* $p < .05$ . \*\* $p < .01$ .

words, the more an ex-POW's wife reported ST symptoms, avoidance, and hyperarousal, the more she reported negative world assumptions. Moreover, the analyses revealed that the world assumptions factors were strongly related to the ST general score and its variables.

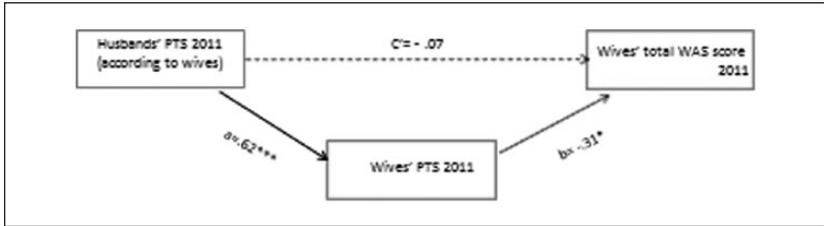
### *The Wives' PTS as Mediator Between the Husbands' PTS and the Wives' Total WAS Score*

The fourth aim of this study dealt with the possible mediation of the wives' PTS in the association between the husbands' PTS and the wives' total WAS score. To examine this mediation, we used Hayes's (2012) serial multiple mediation model and multistep methodology, based on Baron and Kenny (1986; see Figure 1). This procedure includes five criteria for inferring a mediating relationship. First, the relationship between the outcome variable and the predictor variable must be statistically significant. In the present study, analysis of the relation between the husbands' PTS (as reported by the wives) and the wives' total WAS score was significant ( $\beta = -.26$ ,  $SE = .01$ ,  $t = -2.31$ ,  $p < .05$ ). Second, the relationship between the mediator and the predictor variable must be statistically significant. This significance was demonstrated in our analysis of the relation between the wives' PTS and the

**Table 4.** Bivariate Pearson Correlations Between the Study Variables.

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. World assumptions general	1	.687**	.328**	.639**	.593**	.209**	.515**	.653**	.510**	-.173*	.020	-.259**	-.178**
2. Benevolence of the world		1	.391**	.345**	.328**	-.131	.243**	.296**	.458**	-.186*	-.119	-.175**	-.169*
3. Benevolence of the people			1	-.019	-.069	-.188*	.241**	.038	.104	-.433**	-.365**	-.374**	-.351**
4. Justice				1	.548**	.049	.140	.316**	.108	.090	.208**	.008	.026
5. Controllability					1	.064	.131	.341**	.067	.078	.125	.048	.031
6. Randomness						1	-.062	.204**	-.046	.118	.167*	-.014	.144
7. Self-worth							1	.338**	.254**	.374**	-.128	-.418**	-.372**
8. Self-controllability								1	.220**	.018	.147	-.084	-.005
9. Luck									1	-.151	-.026	-.190*	-.151
10. Posttraumatic symptoms										1	.798**	.849**	.864**
11. Intrusion											1	.514**	.514**
12. Avoidance												1	.610**
13. Hyperarousal													1

\* $p < .05$ . \*\* $p < .01$ .



**Figure 1.** The wives' PTS as mediator between the husbands' PTS and the wives' total WAS score.

husbands' PTS, as reported by the wives ( $\beta = .62$ ,  $SE = .05$ ,  $t = 9.66$ ,  $p < .001$ ). Third, the regression of the outcome variable on both the predictor variable and the mediator variable must be statistically significant, the mediator must exert a significant effect on the dependent variable, and the variance in the dependent variable accounted for by the independent variable must be reduced. This was shown in our analyses, which indicated that wives' PTS significantly predicts their total WAS score, after controlling for the husbands' PTS (according to the wives;  $\beta = -.31$ ,  $SE = .02$ ,  $t = -2.25$ ,  $p < .05$ ).

The fourth criterion, that the significant accelerated corrected-bias bootstrap analysis indicates that the indirect path is significant, was met using the mediation model. This model showed that the role of the wives' PTS was significant in mediating the pathway from husbands' PTS to wives' total WAS score (bias-corrected bootstrap 95% confidence interval  $[-.034, -.002]$ ). Last, Hayes's (2012) model identifies the criteria for determining the presence of either partial or full mediation. Partial mediation is present when the variance in the dependent variable accounted for by the independent variable is significant, while the outcome variable is regressed on both the predictor variable and the mediator. If it is nonsignificant, then full mediation is present.

The analyses performed in our study indicated that the variance in the wives' total WAS score was not significantly accounted for by the husbands' PTS, when the wives' total WAS score was regressed on both the husbands' PTS and the wives' PTS ( $\beta = -.07$ ,  $SE = .01$ ,  $t = -.53$ , n.s.). Hence, the relationship between the husbands' PTS and the wives' total WAS score was fully mediated by the wives' PTS.

## Discussion

The aim of the present study was to examine the cognitive assumptions of spouses married to ex-POWs and comparable combat veterans who were not POWs 35 years after the Yom Kippur War. Overall, the study demonstrated

that ST is associated with negative world assumptions. More specifically, the results revealed more negative assumptions of self-worth among wives whose husbands were in captivity and reported PTSD symptoms compared with control wives. Wives of ex-POWs with PTSD symptoms also reported lower benevolence of people and higher randomness compared with wives of ex-POWs without PTSD symptoms. No significant differences were found in benevolence of the world, justice, controllability, self-control, and luck. Moreover, spouses of ex-POWs who experienced chronic PTSD symptoms endorsed greater levels of self-control compared with the delayed PTSD symptoms group. Finally, the results supported the mediating role of the wives' PTS in the association between husbands' PTS and wives' total WAS score.

The first hypothesis, that spouses of ex-POWs will report more negative world assumptions than spouses of combatants, was partially supported. This was confirmed in the area of self-worth, for which spouses of ex-POWs reported significantly lower scores compared with spouses of veterans. However, no significant differences were found between the two groups in all the other subscales.

Research has consistently documented the relationship between traumatic exposure and negative world assumptions in diverse populations who were directly exposed to a traumatic event. These populations include, among others, Israeli veterans (Dekel et al., 2004), survivors of sexual assault (Ullman, Starzynski, Long, Mason, & Long, 2008), and PTSD myocardial infarction patients (Ginzburg, 2004). To date, the current literature demonstrates the impact of secondary trauma on the cognitive schemas of helping professionals, but no such evidence has yet been found with regard to lowered self-esteem. For example, Tehrani (2007) conducted research among 430 care workers and found that over 60% experience some negative changes, particularly feelings and beliefs about the world being dangerous and lacking justice. Furthermore, to the best of our knowledge, no studies specifically examined cognitive assumptions of indirect, or "second hand," survivors, such as spouses of ex-POWs, a population recognized to be vulnerable to secondary trauma (Dekel & Solomon, 2006). A previous 7-year longitudinal study, which used information collected from families of POWs during the Vietnam War, suggested that the post-reunion period was extremely difficult for family members on the POWs' return from captivity. Specifically, wives emphasized the importance they placed on husbands' recognition of the redefined roles and responsibilities the wives took within the families. Lack of recognition may potentially damage women's self-esteem (Hunter, 1993). This is consistent with current findings regarding the impairment of self-worth among wives of ex-POWs.

Several explanations may be proposed to understand the present finding, some of which relate to the nature of the Israeli society. For example, expectations for women to wait faithfully for their husband during his captivity may damage the wives' sense of self by emphasizing the importance of their husbands' lives, rather than that of their own. With the return from captivity, a wife often feels responsible for her husband's well-being (Dekel, Goldblatt, & Solomon, 2006) and obliged to abandon her own needs in order to focus on those of her husband. This may gradually diminish her sense of worth. Such negative feelings or self-expression toward the husband can be negatively received and may not be perceived to be legitimate (Dekel, Enoch, & Solomon, 2008). In addition, the husband's renewed presence in the family structure on his return may challenge the wife's dominance in the family and, as a result, may lead to dependence on the husband and undermine the woman's self-worth (Hunter, 1993). Similarly, Lieblich (1997) described the way in which the Israeli soldier's wife was expected to perform the supportive role for her husband, while he was regarded as the hero. Dekel et al. (2006) quote one wife of a former POW who dismissed her own needs at any time to serve those of her husband. After several years of caring for her husband within a society that stresses her supportive role, a wife may begin to consider herself to be less worthy. In the Israeli context, the military is held in high esteem and is seen as a major component of national security. It follows that soldiers' and veterans' wives are expected to stand by their man and support them in their military role at all cost (Eran-Jona, 2011). This prioritization of the homeland ideal and husband's needs over those of the wife may explain, at least in part, the lower self-worth of wives noted in this study. Another explanation for our finding is that wives' self-worth may have been fractured by the knowledge that their loved ones faced life threats and abuse during captivity. In addition, close relationships with ex-POWs may arouse feelings of guilt or helplessness and thereby gradually reduce sense of self-worth. In the marital relationship, these difficulties may precede the sense of loss, which leads to a deterioration of self-worth. Nevertheless, the nonsignificant results in the first analysis are surprising as no significant differences were observed in all other subscales but self-worth. Witnessing the ramifications of trauma in intimate relations predominantly activates negative self-images in the spouses, who frequently see themselves as weak and needy, mostly incapable of helping their husband (Lyons, 2001). This helplessness can serve as catalyst for revision of one's self-concept, leading to a persistent loss of self-esteem. This study conducted many years after homecoming from captivity. Thus, while the impact on other world assumptions fades over time, this cycle of influence on self-worth can potentially persist, leaving a substantial impression on oneself.

The second hypothesis was partially confirmed, with spouses of ex-POWs without PTSD symptoms reporting higher benevolence of the people and self-worth and lower randomness compared with spouses of ex-POWs with PTSD symptoms. These results may be partly explained by a parallel process described in the literature regarding negative self-worth perceptions arising from direct exposure to a traumatic event (Magwaza, 1999). Studies have increasingly shown that negative self-worth perceptions are attributed to mental impairment resulting from a traumatic event within a traumatized group (e.g., Dekel et al., 2004; Ginzburg 2004). However, such studies assessed world assumptions of individuals who directly experienced the trauma or had PTSD symptoms, while the current study is unique in its examination of secondary trauma and world assumption among the family, and specifically the romantic partner, of direct trauma victims.

One explanation for this result concerns caring for the husband. Three decades after the event of captivity, the wives reported its continued effects on their husband, namely the symptoms of PTSD that pervade his life, the family's life, and their social network (Dekel & Solomon, 2006). The husband suffering from PTSD symptoms actually relives the trauma and is basically a living testimony to the illusionary nature of the world assumptions. His suffering makes negative schemas more available and reminds the wives of evil and danger in the world, so living alongside an injured spouse may lead to low self-worth.

The association we found between the husband's posttraumatic symptoms and the wife's benevolence of the people can be explained by the profound impact of the husband's symptoms on the wife's social and personal life. These symptoms of the husband include emotional numbness and loss of interest in the outside world and may impair interpersonal communication and engagement between the couple (Bramsen, van der Ploeg, & Twisk, 2002; Dekel & Monson, 2010). Moreover, Dutch and Israeli wives of traumatized veterans reported negative social support (Dirkzwager, Bramsen, Ader, & van der Ploeg, 2005) and low self-esteem (Solomon et al., 1992), respectively. Moreover, wives of ex-POWs with PTSD symptoms reported impairment in their marital and social relationships (Dekel et al., 2008). These negative experiences may, in turn, testify to and reinforce the notion that people are not good, thereby further damaging their world assumption about the benevolence of the people. As to the nonsignificant results observed in the other subscales, one cannot negate habituation effect or even potential resiliency in wives long time living alongside ex-POWs. This study was conducted many years after captivity. It is possible that wives who had lived for long years with traumatized ex-POWs habituated and no longer exhibit negative cognitive schema. The relationship we found between the intensity of the husband's posttraumatic symptoms and

the damage to the wife's world assumptions about randomness suggests that the husband's posttraumatic symptoms draw attention to the randomness of the world. The wives may ask themselves "why did it happen to me?" or suddenly pay more attention to possible negative events that can happen to loved ones without any option to foresee or predict it in advance. Moreover they tend to perceive themselves as helpless in the face of negative events that are beyond their control (Peterson & Seligman, 1983). In addition, as a result of the symptoms, unpredictable reactions of the husband such as temper tantrums or outbursts of anger may increase the wife's sense of the randomness of the world (Dekel & Monson, 2010).

One approach to understanding the lower self-worth of wives of ex-POWs with PTSD symptoms compared with those of ex-POWs without PTSD symptoms and veterans follows directly from the description of the self-worth attribution factor, that is, that the captivity and subsequent illness of the husband are a result of the wife being unworthy. Assuming responsibility for the condition of another is often employed as a functional coping mechanism, through which individuals may regain a sense of control in an ambiguous and stressful situation (Wortman, Panciera, Shusterman, & Hibscher, 1976). Another possible explanation is that wife's feelings of failure arise because the husband is not healthy nor has he returned to "being himself." As mentioned, spouses of veterans with PTSD symptoms are at risk for developing a sense of failure, low self-esteem, or of having to bear a heavy burden (Solomon et al., 1992). Given that captivity-induced psychopathology is deeply entrenched and long-lasting, it is likely that spouses of ex-POWs may feel useless or helpless in improving their husbands' condition and may therefore feel unworthy (Ein-Dor et al., 2010).

The third hypothesis predicted that spouses of ex-POWs with chronic PTSD symptoms would endorse more negative world assumptions in comparison with spouses of ex-POWs with delayed PTSD symptoms, spouses of resilient ex-POWs, and spouses of the veteran group. Our findings partially supported this hypothesis and indicated that the wives of ex-POWs with chronic PTSD symptoms reported significantly higher self-controllability than spouses whose husbands suffered from less intense and less enduring delayed posttraumatic psychological injury.

One explanation for the higher self-controllability reported among wives of ex-POWs with chronic PTSD symptoms, compared with wives of ex-POWs with delayed PTSD symptoms relates to the stability of their husbands' symptoms. The exposure to later onset of symptoms with delayed PTSD symptoms husbands may undermine the self-controllability of the wives, who may feel intense helplessness considering the unpredictable and sudden onset of symptoms after a long normal period in which there were no

symptoms. Although chronic symptoms may have caused the wives to feel helpless, it may also have allowed habituation to these chronic symptoms which lasted for three decades in our study.

Finally, we assessed and confirmed the mediating role of the wives' PTS in the association between the husbands' PTS and the wives' total WAS score. In other words, the association between the wives' perception of the husbands' posttraumatic symptoms and the wives' world assumptions exists through the wives' own ST symptoms. One explanation for the mediating role of wives' PTS relates to the "contagion model" of trauma, which suggests that wives relive the trauma that they never experienced directly via identification with their traumatized husbands. This may have led wives to adopt not only their husbands' posttraumatic symptoms but also his world assumptions. It draws a possible conclusion that the cognitions are secondary to symptoms and are acquired. According to this model, the more the husband is traumatized by his experience, the more contagious and severe the trauma will be to the wife. Although the damage to the wives' world assumptions may be less severe than that of their husbands', it may nevertheless have occurred, since living with these men may serve as a daily reminder of the danger and evil in the world.

To the best of our knowledge, no other studies predicted world assumptions among "second hand" family members of victims of trauma. The mechanism of identifying with a directly traumatized person is well-established among therapists, who have been shown to identify with their patients, sometimes endorse posttraumatic symptoms, and regard the world to be unjust and random (Figley, 2005). However, the current study is unique in its focus on the wives' world assumptions and provides some of the first insights into the potential influence of husbands' trauma exposure and subsequent PTSD on the internal cognitive assumptions of their wives.

There are several limitations to the current study. First, the use of self-report measures, although very common in trauma studies, entails the risk of a reporting bias, particularly through wives' report of husbands' symptoms which could be biased by the wives' own current symptoms. Second, the lack of precaptivity assessment of world assumptions limits our ability to infer causality. Furthermore, this research did not assess changes or fluctuations in world assumptions since homecoming. In this regard, Janoff-Bulman (1989) asserts that the cognitive shifts following a traumatic event evolve over time and therefore require a prospective study. Third, measurements were not collected immediately after the POWs were repatriated, so we cannot know whether the wives' distress is a manifestation of PTSD caused by their husbands' capture, or if it reflects a more general effect of living with a husband who suffers from PTS. Not only that we did not control direct impacts of husbands on their individual wives but focused on the differences between

groups. Finally, the generalizability of our findings may be limited due to the unique context of our study, which represents Israeli ex-POWs and their wives. However, as with any contextual research, caution must be used when applying findings to other settings. Nevertheless, it is important to mention that the sample in the current study was a difficult population to access and represents an important addition to the current body of knowledge.

To conclude, the findings of this study suggest that wives of former POWs are susceptible not only to mental health problems but also to negative world assumptions and that wives' ST was associated with their world assumptions. These symptoms and cognitions may reflect prolonged exposure to a stressful situation of living with a traumatized husband. Therefore, the concept of ST among spouses is expanded to include not only posttraumatic symptoms but also negative world assumptions.

Although we cannot change the terrible fact of captivity suffered by former POWs, we can and should identify modifiable variables in the post-captivity period to help mitigate the adverse effects of trauma. In this way, we can attempt to develop and provide helpful interventions to victims. Our finding that wives' PTS mediates between the husbands' PTS and the wives' total WAS score suggests possible targets for interventions (Sherman, Zanotti, & Jones, 2005). There may be several contributors that can be recognized and treated. Spouses of persons with PTSD symptoms may benefit from interventions to target their own PTS symptoms and maladaptive beliefs. The possible outcome would be to strengthen the wives' well-being and enable them to increase their cognitive flexibility and thereby reduce their distress. Moreover, these findings can enhance cognitive couple therapy as we can point out paths of influence in which what happens to ex-POWs affects the wives, and could be vice versa. Future studies could consider bidirectional paths of influence of the PTS symptoms and WAS among husbands and their wives.

### **Declaration of Conflicting Interests**

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

### **Funding**

The author(s) received no financial support for the research, authorship, and/or publication of this article.

### **References**

American Psychiatric Association. (1994). *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.). Washington, DC: Author.

- American Psychiatric Association. (2000). *Diagnostic and Statistical Manual of Mental Disorders: Text revision (DSM-IV-TR*; 4th ed.). Washington, DC: Author.
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*, 1173-1182. doi:10.1037/0022-3514.51.6.1173
- Beck, C. T. (2011). Secondary traumatic stress in nurses: A systematic review. *Archives of Psychiatric Nursing*, *25*, 1-10.
- Bonanno, G. E. (2004). Loss, trauma, and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events. *American Psychologist*, *59*, 20-28. doi:10.1037/0003-066x.59.1.20
- Bramsen, I., van der Ploeg, H. M., & Twisk, J. W. R. (2002). Secondary traumatization in Dutch couples of World War II survivors. *Journal of Consulting and Clinical Psychology*, *70*, 241-245.
- Bride, B. (2004). The impact of providing psychosocial services to traumatized populations. *Stress, Trauma, and Crisis*, *7*, 29-46.
- Cohen, K. C., & Collens, P. (2013). The impact of trauma work on trauma workers: A metanalysis on vicarious trauma and vicarious posttraumatic growth. *Psychological Trauma: Theory, Research, Practice, and Policy*, *5*, 570-580.
- Dekel, R. (2010). Couple forgiveness, self-differentiation and secondary traumatization among wives of former POWs. *Journal of Social and Personal Relationships*, *27*, 924-937. doi:10.1177/0265407510377216
- Dekel, R., Enoch, G., & Solomon, Z. (2008). The contribution of captivity and post-traumatic stress disorder to marital adjustment of Israeli couples. *Journal of Social and Personal Relationship*, *25*, 495-510. doi:10.1177/0265407508090870
- Dekel, R., Goldblatt, H., & Solomon, Z. (2006). Trapped in captivity: Marital perceptions of wives of former prisoners of war. *Women and Health*, *42*(3), 1-18.
- Dekel, R., & Monson, C. M. (2010). Military related post-traumatic stress disorder and family relations: Current knowledge and future directions. *Aggression and Violent Behavior*, *15*, 303-309. doi:10.1016/j.avb.2010.03.001
- Dekel, S., Peleg, T., & Solomon, Z. (2013). The relationship of PTSD to negative cognitions: A 17-year longitudinal study. *Psychiatry*, *76*, 241-255.
- Dekel, R., & Solomon, Z. (2006). Secondary traumatization among wives of Israeli POWs: The role of POWs' distress. *Social Psychiatry and Psychiatric Epidemiology*, *41*, 27-33.
- Dekel, R., Solomon, Z., Elklit, A., & Ginzburg, K. (2004). World assumptions and combat-related posttraumatic stress disorder. *Journal of Social Psychology*, *144*, 407-420. doi:10.3200/SOCP.144.4.407-420
- Dirkzwager, A. J. E., Bramsen, I., Ader, H., & van der Ploeg, H. M. (2005). Secondary traumatization in partners and parents of Dutch peacekeeping soldiers. *Journal of Family Psychology*, *19*, 217-226. doi:10.1037/0893-3200.19.2.217
- Dunkley, J., & Whelan, T. A. (2006). Vicarious traumatisation: Current status and future directions. *British Journal of Guidance & Counselling*, *34*, 107-116.

- Ein-Dor, T., Doron, G., Solomon, Z., Mikulincer, M., & Shaver, P. R. (2010). Together in pain: Attachment-related dyadic processes and posttraumatic stress disorder. *Journal of Counseling Psychology, 57*, 317-327.
- Elklit, A., Shevlin, M., Solomon, Z., & Dekel, R. (2007). Factor structure and concurrent validity of the world assumptions scale. *Journal of Traumatic Stress, 20*, 291-301. doi:10.1007/BF02294359
- Eran-Jona, M. (2011). Married to the military: Military-family relations in the Israel defense forces. *Armed Forces & Society, 37*, 19-41. doi:10.1177/0095327-X10379729
- Figley, C. R. (1995). Compassion fatigue: Toward a new understanding of the costs of caring. In B. H. Stamm (Ed.), *Secondary traumatic stress: Self-care issues for clinicians, researchers, and educators* (pp. 3-28). Baltimore, MD: Sidran Press.
- Figley, C. R. (2005). Strangers at Home: Comment on Dirkzwager, Bramsen, Adèr, and van der Ploeg (2005). *Family Psychology, 19*(2), 227-229. doi: 10.1037/0893-3200.19.2.227
- Foa, E. B., Ehlers, A., Clark, D. M., Tolin, D. F., & Orsillo, S. M. (1999). The Posttraumatic Cognitions Inventory (PTCI): Development and validation. *Psychological Assessment, 11*, 303-314. doi:10.1037/1040-3590.11.3.303
- Ginzburg, K. (2004). PTSD and world assumptions following myocardial infarction: A longitudinal study. *American Journal of Orthopsychiatry, 74*, 286-292. doi:10.1348/014466599163015
- Harrison, R. L., & Westwood, M. J. (2009). Preventing vicarious traumatization of mental health therapists: Identifying protective practices. *Psychotherapy, 46*, 203-219. doi:10.1037/a0016081
- Hayes, A. F. (2012). PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling. Manuscript submitted for publication.
- Hunter, E. J. (1993). The Vietnam prisoner of war experience. In J. P. Wilson & B. Raphael (Eds.), *International handbook of traumatic stress syndromes* (pp. 297-303). New York, NY: Plenum Press.
- Janoff-Bulman, R. (1989). Assumptive worlds and the stress of traumatic events: Applications of the schema construct. *Social Cognition, 7*, 113-136. doi:10.1521/soco.1989.7.2.113
- Lieblich, A. (1997). The POW wife—Another perspective on heroism. *Women's Studies International Forum, 20*, 621-630.
- Lilly, M. M., Valdez, C. E., & Graham-Bermann, S. A. (2011). The mediating effect of world assumptions on the relationship between trauma exposure and depression. *Journal of Interpersonal Violence, 26*, 2499-2516. doi:10.1177/0886260510-383033
- Lyons, M. A. (2001). Living with post-traumatic stress disorder: The wives'/female partners' perspective. *Journal of Advanced Nursing, 34*, 69-77. doi:10.1046/j.1365-2648.2001.3411732.x
- Magwaza, A. S. (1999). Assumptive world of traumatized South African adults. *Journal of Social Psychology, 139*, 622-630.

- McCann, L., & Pearlman, L. (1990). Vicarious traumatization: A framework for understanding the psychological effects of working with victims. *Journal of Traumatic Stress, 3*, 131-149.
- Peterson, C., & Seligman, M. E. B. (1983). Learned helplessness and victimization. *Journal of Social Issues, 39*, 105-118.
- Rosenheck, M., & Nathan, P. (1985). Secondary traumatization in children of Vietnam veterans. *Hospital & Community Psychiatry, 36*, 538-539.
- Saakvitne, K. (2002). Shared trauma: The therapist's increased vulnerability. *Psychoanalytic Dialogues, 12*, 443-449.
- Sherman, M. D., Zanotti, D. K., & Jones, D. E. (2005). Key elements in couples therapy with veterans with combat-related posttraumatic stress disorder. *Professional Psychology, 36*, 626-633. doi:10.1037/0735-7028.36.6.626
- Solomon, Z., Benbenishty, R., Neria, Y., Abramowitz, M., Ginzburg, K., & Ohry, A. (1993). Assessment of PTSD: Validation of the revised PTSD inventory. *Israel Journal of Psychiatry and Related Sciences, 30*, 110-115.
- Solomon, Z., & Dekel, R. (2005). Posttraumatic stress disorder among Israeli ex-prisoners of war 18 and 30 years after release. *Journal of Clinical Psychiatry, 66*, 1031-1037.
- Solomon, Z., Horesh, D., Ein-Dor, T., & Ohry, A. (2012). Predictors of PTSD trajectories following captivity: A 35-year longitudinal study. *Psychiatry Research, 199*, 188-194. doi:10.1016/j.psychres.2012.03.035
- Solomon, Z., Iancu, I., & Tyano, S. (1997). World assumptions following disaster. *Journal of Applied Social Psychology, 27*, 1785-1798.
- Solomon, Z., Neria, Y., Ohry, A., Waysman, M., & Ginzburg, K. (1994). PTSD among Israeli former prisoners of war and soldiers with combat stress reaction: A longitudinal study. *American Journal of Psychiatry, 151*, 554-559.
- Solomon, Z., Waysman, M., Levy, G., Fried, B., Mikulincer, M., Benbenishty, R., . . . Bleich, A. (1992). From front line to home front: A study of secondary traumatization. *Family Process, 31*, 289-302. doi:10.1111/j.1545-5300.1992.00289.x
- Tehrani, N. (2007). The cost of caring: The impact of secondary trauma on assumptions, values and beliefs. *Counselling Psychology Quarterly, 20*, 325-339. doi:10.1080/09515070701690069
- Ullman, S. E., Starzynski, L. L., Long, S. M., Mason, G. E., & Long, L. M. (2008). Exploring the relationships of women's sexual assault disclosure, social reactions, and problem drinking. *Journal of Interpersonal Violence, 23*, 1235-1257.
- Wortman, C. B., Panciera, L., Shusterman, L., & Hibscher, J. (1976). Attributions of causality and reactions to uncontrollable outcomes. *Journal of Experimental Social Psychology, 12*, 301-316.