

Posttraumatic Distress and Growth Among Wives of Prisoners of War: The Contribution of Husbands' Posttraumatic Stress Disorder and Wives' Own Attachment

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This study examined distress and growth among wives of former combat veterans and prisoners of war (POWs), and the contribution of their husband's posttraumatic stress disorder (PTSD) and the wives' own attachment style to these outcomes. Two groups of wives participated in the study: 87 wives of former POWs, and 74 wives of control veterans. The wives of POWs reported significantly higher levels of distress and growth than did the wives of the controls. Husbands' PTSD symptomatology, as well as higher levels of avoidance and anxiety dimensions of attachment, contributed positively to distress and to growth. Further studies on the unique predictors of growth are needed.

Keywords: POWs, distress, posttraumatic growth, spouse, attachment

Clinical observations and empirical studies indicate that traumatic events may have long-term implications not only for the direct victims of those events, but also for their significant others. A wide range of emotional distress symptoms have been identified among family members of victims of traumatic experiences as well as among significant others, including family members of Holocaust survivors (Danieli, 1986; Lev-Wiesel & Amir, 2001), children of combat soldiers (Rosenheck & Nathan, 1985), and therapists of violence victims (e.g., Azar, 2000; Iliffe & Steed, 2000; Schauben & Frazier, 1995). The various labels used in reference to these repercussions include secondary traumatization (Figley, 1986), vicarious traumatization (McCann & Pearlman, 1990), and compassion fatigue (Figley, 1995).

In recent years, a few studies have also examined the positive outcomes of traumatic events among significant others. Interest in this issue has been sparked by extensive findings suggesting that exposure to traumatic events might also yield positive outcomes, which have been variously termed as *salutogenic outcomes* (Antonovsky, 1987), resilience (Lindstrom, 2001), and posttraumatic growth (PTG; Tedeschi & Calhoun, 1996). Such outcomes have been documented in a variety of traumatic situations such as illness (Weiss, 2002), different types of disasters (Maercker & Herrle, 2003; McMillen, Smith, & Fisher, 1997), Holocaust child survivors (Lev-Wiesel & Amir, 2003), sexual assault (e.g., Frazier, Conlon, & Glaser, 2001; Lev-Wiesel & Amir, 2005), combat veterans (e.g., Aldwin, Levenson, & Spiro, 1994; Elder & Clipp, 1989; Fontana & Rosenheck, 1998), and former POWs (Sledge, Boydsun, & Rabe, 1980; Waysman, Schwarzwald, & Solomon, 2001).

A few studies on PTG in indirect victims of trauma were conducted among family members of cancer patients. Weiss (2004) found that husbands of early stage breast cancer survivors

reported PTG and positive benefits three or more years after diagnosis. Similarly, Manne et al. (2004) found evidence of PTG among husbands of breast cancer survivors. In addition, Barakat, Alderfer, and Kazak (2005) found that the majority of adolescent cancer survivors and their parents reported PTG.

The present study examined distress and growth among wives of former combat veterans and prisoners of war (POWs), as well as the contribution of the husband's posttraumatic stress disorder (PTSD) and the wives' own attachment style to their distress and PTG.

Distress Among Wives of Former POWs

Military combat (e.g., Solomon, 1993) and war captivity (e.g., Hunter, 1993) have both been identified as highly *traumatogenic* experiences. Combatants face the danger of physical injury and loss of life, and POWs usually experience the additional trauma of intentional torture, systematic humiliation, and deprivation aimed at breaking their spirit (Herman, 1992). The most common psychological outcome of both experiences, like other traumatic experiences is PTSD (in combat veterans: Reeves, Parker, & Konkle-Parker, 2005; in POWs: Dikel, Engdahl, & Eberly, 2005).

PTSD is a chronic disorder marked by intrusive recollections of the traumatic event, as well as avoidance manifested in behaviors such as withdrawal, psychic numbing, and loss of interest in previously enjoyed activities, in addition to a range of hyperarousal symptoms such as concentration and sleep difficulties, startle reactions, irritability, hostility, and outbursts of rage. These symptoms deeply impair the casualties' capacities for intimacy, and potentially leave their wives feeling isolated and alone. These feelings may be compounded when the husband's sexual drive and functioning diminish, as is the case with some PTSD casualties. Moreover, some men with PTSD have difficulty holding regular jobs, and many also function poorly as fathers. Thus, their wives may be left with the burden of supporting the husband and children, both economically and emotionally (Beckham, Lytle, & Feldman, 1996). Notably, research has consistently shown higher

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rates of PTSD among POWs than among combat soldiers who have not been in captivity (Solomon & Dekel, 2005).

In numerous studies, wives of combat veterans with PTSD have reported the following symptoms: tension (Jordan et al., 1992; Verbosky & Ryan, 1988); somatic complaints, anxiety, and depression (Solomon et al., 1992); low self-esteem (Verbosky & Ryan, 1988); loneliness (Matsakis, 1988); confusion, loss of control, and self-blame (Matsakis, 1988); and feelings of heavy burden (Beckham et al., 1996; Calhoun, Beckham, & Bosworth, 2002). Various studies have found a positive relationship between husbands' symptomatology and wives' distress (Beckham et al., 1996; Dekel, Solomon, & Bleich, 2005).

Notwithstanding the above-mentioned research studies, only a handful of studies have been conducted among wives of former POWs, and even fewer have focused specifically on the role of PTSD. In a clinical sample of wives of POWs, Hall and Williams (1973) found that they had experienced feelings of abandonment, role ambiguity, suppressed anger, and severe psychosomatic symptoms. Based on interviews with World War II POWs and their wives, Bernstein (1998) found that both spouses experienced emotional distance. In a study of Australian combat veterans and Vietnam POWs and their wives, Dent et al. (1998) found a significant association between wives and husbands with regard to depression: the association was stronger for such couples than for non-POW couples.

As noted, to the best of our knowledge no studies have focused on PTG among wives of combatants or POWs, with or without PTSD. Specifically, it is important to examine growth among these women in light of the finding that most of them continue to cope and stay with their husbands despite the difficulties. In an earlier qualitative study conducted among a group of POWs' wives (Dekel, Goldblatt, Keidar, Solomon, & Polliack, 2005), the women attributed their ability to cope with the difficulties arising from their husbands' PTSD to several factors. First, they maintained a reservoir of good feelings from the period prior to their husbands' mental injury. Moreover, the experience of watching their husband struggle with PTSD day in and day out deepened their appreciation of his courage and determination, and enhanced their love for him. Their husbands' struggle also served as an example, which facilitated their own coping. A third source of strength, reported by a few of the women was their husbands' increased sensitivity. These women reported that their husbands' difficulties and vulnerabilities enhanced his awareness of the emotional difficulties that she and their children experienced. Finally, most of the women indicated that they had gained a sense of strength and empowerment from their own struggle to help their husbands and keep the family together. These initial observations suggest that there is some compensation or redress for the difficulties and burdens of living with a PTSD husband. This evidence supports the need for further empirical examination of the concept of PTG among the women of POWs.

Attachment

In recent years, adult-attachment investigators have suggested the existence of two fundamental dimensions regarding adult attachment styles (Brennan, Clark, & Shaver, 1998). Individuals who are characterized by *attachment-related avoidance* prefer not to rely on or open up to others, feel uncomfortable with intimacy,

and are less secure with depending on others and having others depend on them. Individuals characterized by the second style, *attachment-related anxiety*, tend to worry about whether their partner is available to them and responsive. In contrast, a typically secure adult is capable of feeling comfortable with intimate relationships and perceiving his partner as being responsive (Brennan et al., 1998).

Moreover, the nature of a person's attachment affects the way of coping with stress. Secure attachment, it has been argued, is an inner resource that facilitates adjustment and improves well-being in adverse situations. Findings show that people with secure attachments perceive themselves in a positive and coherent way, possess good problem-solving skills, tend to view stressful situations optimistically, and believe that others will help them in time of need. These qualities enable them to confront stress with a sense of mastery, to choose effective coping strategies, and to use social support in stressful situations (Mikulincer & Florian, 1998). Several studies provide evidence that secure attachment buffers the detrimental psychological effects of traumatic stressors, such as missile attacks (Mikulincer, Florian, & Weller, 1993), extreme life-endangering conditions (Mikulincer, Horesh, Eilati, & Kotler, 1999), captivity (Solomon, Ginzburg, Mikulincer, Neria, & Ohry, 1998), and September 11th (Fraley, Fazzari, Bonanno, & Dekel, 2006).

In contrast, insecure attachment is viewed as a risk factor that may detract from the individual's resilience in times of stress. Findings have shown that individuals with an insecure attachment style are less confident in their ability to cope with difficulty, have poorer problem-solving skills, view difficult situations as less controllable and more threatening, and tend to distrust others. As a result, they also tend to be more anxious, hostile, and distressed in stressful situations (Huter, Davis, & Tunstall, 2005; Kobak & Sceery, 1988; Shaver & Hazan, 1993).

Three studies demonstrate the relationship between attachment style and adjustment to captivity. A study of Israeli POWs revealed that avoidant and anxious-ambivalent ex-POWs showed higher levels of posttraumatic symptoms, anxiety, depression, obsessive symptoms, somatization, hostility, and phobia than did POWs with a secure attachment style (Solomon et al., 1998). A study of World War II POWs found that those with a secure attachment style scored significantly lower on measures of PTSD than did those with an insecure style (Dieperink, Leskela, Thuras, & Engdahl, 2001).

A recent study examined the relationships between attachment, distress, and growth among Palestinian men imprisoned in a political context (Salo, Qouta, & Punamaki, 2005). The main effects showed that men with a secure attachment style generally reported more PTG, that is, personal strength, positive affiliation with others and spiritual change, whereas men with an insecure-preoccupied attachment style was associated with negative emotions. The results also show that a high level of torture was associated with a low level of PTG and a high level of negative emotions. However, adult attachment style moderated that association: among men with a secure attachment style, exposure to torture was associated with a high PTG, whereas exposure to torture was associated with a higher level of negative emotions among men with an insecure-avoidant attachment style.

Recent attachment theory has suggested focusing on two dimensions of attachment, namely anxiety and avoidance, rather than

focusing exclusively on defined attachment styles (Brennan et al., 1998). The rationale for this approach is that anxiety and avoidance exist to various degrees in all persons, and that the nature of their attachment can be determined by the extent to which they manifest each of those two dimensions. To the extent that people manifest *attachment-related avoidance*, they feel uncomfortable with intimacy and dependence. To the extent that they manifest *attachment-related anxiety*, they worry about their partner's availability and responsiveness. The lower their levels of attachment-related anxiety and avoidance, the more secure their attachment is viewed as being: the more comfortable they are with intimate relationships, the more they perceive their partner as responsive (Brennan et al., 1998).

This study examined the contribution of attachment to husbands' PTSD and to distress and PTG among their wives, as measured in terms of the dimensions described in the literature review. Based on this review, we hypothesized that high levels of attachment-related avoidance and attachment-related anxiety will be associated with high levels of distress and low levels of growth.

Method

This study is part of a larger research project that examines the mental health repercussions of war captivity on the former captives and their wives.

Procedure and Participants

Data was collected in 2003 from two groups of wives or cohabiting girlfriends of veterans of the 1973 Yom Kippur War: wives of former Yom Kippur War POWs were matched with a group of wives of Yom Kippur War veterans who had not been captured. Both groups were located through their husbands, who had participated in a previous study conducted by our research group (Solomon, Neria, Ohry, Waysman, & Ginzburg, 1994). Using updated Israel Defense Forces (IDF) files, we phoned the participants and their spouses. After receiving an explanation of the aim of the present study, the wives who agreed to participate were offered the option of filling out research questionnaires either in their homes or at a location of their choice. Before filling out the questionnaires, each participant signed an informed consent form (further details on the procedures of this study are provided in other publications, e.g., Solomon & Dekel, 2005).

POWs' wives. This group consisted of 240 wives of veterans who had been captured from the Israeli army land forces during the Yom Kippur War. Of the former POWs, 37 could not be located, 9 had died, and 10 could not participate due to serious psychological impairment. Of the remaining 184 former POWs, 124 participated in the current study (response rate: 67%). One hundred and 11 of the former POWs were married or had a partner at the time of the study. Of the 111 women, 87 participated in the study. Data on all of the variables examined in this study were provided by 79 of the participants.

Control group. A control group of 280 combat veterans of the same war was sampled from the Israel Defense Forces computerized data banks and matched to the POWs for personal and military background characteristics. Of those, we tried to contact 185 of the veterans who had served as a control group in the earlier study by our research team. Forty-one could not be located, and

one had died. Of the remaining 143 controls, 106 participated in the current study (response rate: 74%); 102 of whom were married or had a partner at the time of the present study, and 74 agreed to be interviewed.

No significant group differences were found in age, education, years of marriage/cohabitation, number of children, or work status. The women's ages ranged from 22 to 72 years ($M = 50.51$, $SD = 6.29$). Their mean education was 14.18 years. They had been married/together from 3 to 53 years ($M = 27.82$, $SD = 6.54$) and had a mean of 3.13 children ($SD = 1.18$). Fifty-two percent of the women in both groups were working in full-time jobs, 26% had part-time jobs, and 22% were not working.

Measures

The Brief Symptom Inventory (BSI). The BSI is a self-report measure that inquires about 53 psychiatric symptoms during the two weeks preceding the assessment (Derogatis, 1977). This scale allows for the assessment of both overall distress (General Severity Index [GSI]) and nine symptoms' categories. Each symptom is rated on a 5-point scale, ranging from 1 (*not at all*) to 5 (*to a great extent*). The scale has been widely used among various Israeli population groups (e.g., Mikulincer et al., 1999). Internal consistency for the current sample was 0.97 for the GSI, and ranged from 0.86 to 0.94 for the subscales.

The Posttraumatic Growth Inventory (PTGI). The PTGI was used to assess the salutogenic impact of living with a veteran (Tedeschi & Calhoun, 1996). The self-report inventory taps 21 positive changes resulting from traumatic experiences, based on five subscales: Relating to Others (improved interpersonal relations), New Possibilities (changes in aspirations and goals), Personal Strength (increased inner strength), Spiritual Change (increased spirituality), and Appreciation of Life (greater appreciation). In the current study, the term "my crisis" was used to refer to living with a combat veteran or former POW. Each item was scored on a 4-point scale ranging from 1 = *I didn't experience this change as a result of my crisis* to 4 = *I experienced this change to a very large degree as a result of my crisis*. An overall total growth score was calculated as the mean of all responses. Scores on each of the 5 subscales were calculated as the mean of items on each subscale. The reliability of the total scale was 0.94.

Attachment. Attachment was measured by an instrument based on Hazan and Shaver's (1987) descriptions of how people typically feel in close relationships (Mikulincer, Florian, & Tolmacz, 1990). Participants were asked to respond to 10 statements, five for each dimension of attachment (anxiety and avoidance). On a 7-point scale ranging from 1 = *not at all* to 7 = *very much*, they rated the degree to which each statement described them. In previous studies among Israeli samples, the scale was found to have good internal consistency as well as high construct and predictive validity (Mikulincer & Erev, 1991). Cronbach's alphas showed reasonable reliability: 0.64 for avoidance, and 0.61 for anxiety.

Husbands' PTSD symptomatology scores were drawn from another part of the research project, which included this study (Solomon & Dekel, 2005). The symptoms were assessed using by the *PTSD Inventory*, a self-report scale consisting of 17 statements, which each correspond to one of the 17 core PTSD symptoms listed in the *Diagnostic and Statistical Manual of Mental Disor-*

ders, *Fourth Edition* (American Psychiatric Association, 1994). For each statement, the men in the sample were asked to indicate whether they had experienced the symptom during the previous month, on a 4-point scale ranging from 1 = *not at all* to 4 = *usually yes*. PTSD symptomatology was calculated as the sum of the responses on the scale. The Cronbach's alpha value for internal consistency among the 17 items was very high, and the scale was found to have high convergent validity compared with diagnoses based on structured clinical interviews (Solomon et al., 1993).

Results

Group Comparisons

General psychiatric symptoms. To compare the wives' distress an analysis of variance was conducted with the GSI total score as the dependent variable, and a multivariate analysis of variance was conducted with the nine subscales as the dependent variables. Table 1 presents means, standard deviations and *F* values for these analyses.

As can be seen, the wives of POWs showed significantly higher levels of general distress than did the controls. A similar pattern was revealed in six of the nine subscales. Wives of POWs reported more obsessive-compulsive, depressive and anxiety, hostility, phobia, and paranoia symptoms than did wives of the controls.

PTG. The analysis of variance for the total PTG revealed a significant difference between the two groups of wives, $F(144) = 13.18, p < .001$. As can be seen in Table 1, wives of POWs showed higher overall PTG than did wives of controls, as well as greater growth on all five subscales. In both groups, there was a high positive correlation between the GSI and PTG scores, $r = .47, p < .001$.

Attachment. The multivariate analysis of variance with the two attachment dimensions (avoidance and anxiety) revealed no significant difference in either of the attachment dimensions among the wives in the two groups, $F(2, 140) = 0.98$.

The Contribution of Attachment Dimensions to GSI and PTG Among Wives of POWs

Two three-step hierarchical regressions were conducted to examine the contributions of the attachment dimensions to GSI and PTG among the wives of POWs. In the first step, we entered the level of the husband's PTSD symptomatology. In the second step, we entered the two attachment dimensions: anxiety and avoidance. Husbands' PTSD and wives' attachment dimensions were centered and entered as *Z* scores. In the third step, we entered three interactions: between the two attachment dimensions, and between each attachment dimension and the husbands' PTSD symptomatology. Table 2 presents the beta coefficients of these regressions.

GSI. Together, the variables explained 52.4% of the variance in the wives' GSI, $F(4, 70) = 20.27, p < .001$. The husbands' PTSD symptomatology explained 11.2% of the variance. The greater the husband's PTSD symptomatology, the higher his wife's GSI. The attachment dimensions added another 38.3% to the explanation of the variance: higher levels of avoidance and anxiety were associated with higher levels of GSI. Finally, the interaction between the two attachment dimensions (the only one of the three interactions that was significant) contributed another 2.9%.

To determine the source of this interaction, we calculated the *B* coefficients of anxiety predicting GSI separately for wives with low and high avoidance. Findings show that while the *B* coefficients for anxiety and GSI were positive for women with high ($B = 0.33$) and low avoidance ($B = 0.20$), but the relationship was stronger among wives with high avoidance. In other words, higher avoidance intensified the association between women's attachment anxiety and their overall distress.

PTG. Taken together, the variables explained 31.2% of the variance in the wives' PTG, $F(4, 70) = 8.95, p < .001$. The husbands' PTSD symptomatology explained 6.1% of the variance in the wives' PTG: the greater the husband's symptomatology, the higher his wife's PTG. The attachment dimensions added another

Table 1
Comparison Between the Study Groups

Variables	Wives of controls	Wives of POWs	<i>F</i> values	Power
GSI	0.49 (0.41)	0.74 (0.67)	7.28**	0.76
GSI subscales			$F(9, 135) = 2.30^*$	
Somatization	0.62 (0.62)	0.81 (0.80)	2.88	0.39
Obsessive-compulsive	0.65 (0.61)	0.90 (0.86)	3.94*	0.50
Interpersonal sensitivity	0.57 (0.49)	0.78 (0.76)	3.40	0.45
Depression	0.58 (0.55)	0.92 (0.83)	8.20**	0.81
Anxiety	0.50 (0.55)	0.77 (0.80)	5.50*	0.64
Hostility	0.32 (0.37)	0.57 (0.57)	9.96**	0.88
Phobia	0.27 (0.42)	0.61 (0.77)	10.38**	0.89
Paranoia	0.42 (0.54)	0.71 (0.81)	6.23*	0.70
Psychotic	0.24 (0.34)	0.39 (0.57)	3.61	0.47
Total PTG	1.99 (0.86)	2.48 (0.78)	13.18***	0.95
PTG subscales			$F(5, 139) = 2.90^{**}$	
Relating to others	1.88 (0.83)	2.39 (0.81)	12.89***	0.95
New possibilities	1.94 (0.97)	2.40 (0.92)	7.94**	0.80
Personal strength	2.16 (1.07)	2.75 (1.03)	10.77***	0.90
Spiritual change	1.63 (0.88)	1.97 (0.95)	4.29*	0.54
Appreciation of life	2.31 (1.01)	2.93 (0.98)	12.71***	0.94

Note. POW = prisoner of war; GSI = General Severity Index; PTG = posttraumatic growth.
* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 2
 Contribution of Attachment Dimensions to Wives of Prisoners of War's (POW) GSI and Posttraumatic Growth (PTG)

Variables	GSI			PTG		
	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β
Step 1						
Husband's PTSD	0.31	0.11	0.33**	0.29	0.12	0.27*
Step 2						
Husband's PTSD	0.17	0.08	0.18*	0.17	0.11	0.16
Avoidance	0.19	0.05	0.35***	0.20	0.07	0.32**
Anxiety	0.29	0.06	0.44***			
Step 3						
Husband's PTSD	0.17	0.08	0.18*	0.16	0.11	0.15
Avoidance	0.17	0.05	0.31***	0.36	0.09	0.59***
Anxiety	0.22	0.07	0.32***	0.20	0.08	0.26*
Avoidance \times Husband's PTSD				-0.27	0.10	-0.38**
Anxiety \times Husband's PTSD	—	—	—	—	—	—
Anxiety \times Avoidance	0.13	0.01	0.23*	—	—	—

Note. GSI = General Severity Index; PTSD = posttraumatic stress disorder.
 * $p < .05$. ** $p < .01$. *** $p < .001$.

19.3% to the explanation of the variance: higher levels of avoidance and anxiety were associated with higher levels of PTG. Of the two interactions, the interaction between the avoidance dimension and husbands' PTSD symptomatology was significant, and contributed 5.8% to the variance.

To determine the source of this interaction, we calculated the *b* coefficients for husbands' PTSD symptomatology as a predictor of wives' PTG separately for wives with low and high avoidance. The results revealed that the *b* coefficient correlation between husbands' PTSD symptomatology and wives' PTG among the wives with low levels of avoidance was positive ($b = 0.17$), while that of the wives with the high avoidance was low and negative ($b = -0.09$). In other words, among women with low avoidance (i.e., higher security), a positive correlation was found between their husbands' distress and their own PTG.

Discussion

The findings show that the wives of former POWs reported greater distress as well as more growth than did the wives of non-POW combat soldiers. These findings provide further evidence that wives of former POWs are at particularly high risk for secondary traumatization (Dekel & Solomon, 2006), but they also suggest that they experience substantial growth. The discussion will examine optional sources for the distress and growth among these wives in light of the additional findings of the study and the current literature.

Lev-Wiesel and Amir (2006) suggested that PTG can be viewed as a natural human strength that represents the very life force in the face of adversity that can compensate for the coexisting posttraumatic distress. With regard to the women in our sample, we can assume that besides being a wife of POW they have their own life and aspirations, which they try to continue pursuing despite their difficulties with their partners.

The strong positive relationship between the wives' PTG and their own distress might be an additional source of growth for the wives. This finding is consistent with Tedeschi and Calhoun's (1996) finding that the more traumatic experiences individuals

have, the more positive changes they report. Moreover, this relationship is consistent with the findings of several studies on direct victims of traumatic events, such as Israeli adolescents who were exposed to terror attacks (Laufer & Solomon, 2005), persons who had survived the Holocaust as children (Lev-Wiesel & Amir, 2003), survivors of childhood sexual abuse (Lev-Wiesel & Amir, 2005), and witnesses of the 1995 Oklahoma City bombing (Pargament, Smith, Koenig, & Perez, 1998). These findings indicate that although these women might experience considerable distress, they continue to function and grow. Nonetheless, the positive changes following trauma do not eliminate the persistent suffering caused by the trauma. In the constant struggle with their husbands' difficulties, they recognize that they have experienced agony, and that they are stronger for it. Thus, the challenges they face enable them to discover new personal strengths and learn about new possibilities in their own lives (Calhoun & Tedeschi, 2006; Janoff-Bulman, 2006).

Another source of distress and growth for the wives is their husbands' PTSD symptomatology. The more severe the husband's PTSD symptomatology, the more distress and PTG the wife experiences. The finding that the husband's distress predicted higher distress in his wife is consistent with earlier studies on wives of traumatized war veterans, which show that the more severe the husband's PTSD, the more severe the wife's distress (Beckham, et al., 1996; Riggs, Byrne, Weathers, & Litz, 1998).

A number of explanations can be offered for the association between the level of the wife's distress and the severity of her husband's PTSD symptomatology. One explanation is that identification with her husband's suffering leads her to internalize his symptoms and experience them as her own. Support for this explanation can be found in the similarity in the symptom profiles of PTSD veterans and their wives. Another possible explanation lies in the intense burden that is often borne by wives of PTSD veterans. As noted in the Introduction, in light of the difficulties that traumatized veterans encounter in functioning as breadwinners, husbands, and fathers, it is often necessary for their wives to assume multiple roles. Indeed, studies of wives of war-induced

PTSD casualties have revealed positive correlations between wives' sense of burden and level of distress (Beckham et al., 1996; Ben Arzi, Solomon, & Dekel, 2000; Calhoun et al., 2002). A third possibility is that the wives' distress stems from the ambiguous loss that one experiences when a close person is physically present but psychologically absent (Boss, 1999), as PTSD casualties often are. According to Boss (1999), ambiguous loss may lead to feelings of depression, anxiety, and guilt. These are among the symptoms of the distressed wives in this study.

To the best of our knowledge, no previous studies have examined the relationship between PTG among indirect victims of trauma and levels of distress among the direct victims in their close environment. However, our finding that the wives' PTG is predicted by the severity of their husband's PTSD symptomatology is consistent with the results of studies which reveal that levels of PTG among indirect victims of trauma were proportional to the severity of the direct victim's traumatic exposure (Aldwin et al., 1994; Tedeschi & Calhoun, 1996).

Several explanations can also be offered for the association between wives' PTG and husbands' distress. One explanation is that the challenges of living and raising a family with a distressed husband might bring the wife closer to him and infuse her life with meaning. Furthermore, the wives' apparent success in meeting the challenges over many years of marriage (27 on average) might have enhanced their sense of competence. By translating her anxiety into activities that enable her to help her husband, the wife develops positive feelings of mastery and competence, which enhance her sense of growth (Lev-Wiesel & Amir, 2005). Another possibility is that watching their husbands struggle with their symptoms increased the wives' appreciation and love for them, strengthened their own determination to struggle with the difficulties created by his PTSD, and gave meaning to their struggle (Dekel, Goldblatt et al., 2005). Alternatively, some scholars suggest that reports of positive changes by distressed individuals may not reflect PTG, but are a self-delusion that enables them to cope with their unhappiness (Taylor, 1989). Although this explanation cannot be ruled out, some evidence of the changes has been provided in a study by Park, Cohen, and Murch, (1996) in which participants' self-reports of positive changes were validated by others in their environment.

With respect to attachment, the findings show that the more avoidant and anxious the wife's attachment, the greater her distress and the higher her level of PTG. The association between insecure attachment and distress is consistent with findings of earlier studies on the relationship between the nature of attachment and general well-being and adjustment (Hazan & Shaver, 1990; Priel & Shamai, 1995) as well as adjustment following exposure to traumatic events (Mikulincer & Florian, 1997; Mikulincer et al., 1993; Mikulincer et al., 1999; Solomon et al., 1998).

The findings regarding attachment and PTG were unexpected. In contrast to Salo et al. (2005), who found a positive association between secure attachment and PTG among direct victims of torture, we found that higher levels of anxiety and avoidance were associated with higher levels of PTG. However, the finding that among women with low avoidance (i.e., higher security), the husband's distress correlated with their own PTG is in line with those results. Salo et al. (2005) suggests that among individuals with secure attachment, cruel experiences do not shatter core beliefs in the human virtue; rather, they strengthen those beliefs. In

their study, prisoners with secure attachment were capable of integrating their dangerous experiences and fears into an overall adaptive strategy, which made it possible for them to mature and enjoy beneficial transformation. It is possible that the women with the high secure attachment in our sample experienced the same process and were able to gain more PTG from their husbands' distress.

Limitations

Several limitations of the study need to be mentioned. Notably, the sample did not include divorcees, who may not have withstood the rigors of living with a traumatized husband, nor did it include the most severely disturbed veterans. Therefore, it cannot be ruled out that when distress exceeds a certain level in the husband or the wife, it is not accompanied by growth. In addition, this study was part of a longitudinal research project on adjustment of POWs, in which the wives were reached through their husbands. Therefore, we cannot rule out the possibility that attrition was not random, and that the nature of distress and PTG experienced by wives who did not participate in the study was different than that experienced by the participating wives. Another limitation is the sole use of self-report measures. Validation of the changes reported by the wives would have enabled us to determine whether her PTG was self-imagined, or whether it was an accurate reflection of real changes.

In addition, the assumption underlying this study is that the wives' own attachment contributes to her distress and PTG. However, we cannot rule out the possibility that living with a husband who suffers from PTSD has an impact on the wife's attachment style. Notably, some studies have found changes in attachment styles following stressful life events such as breakup of a romantic relationship (Kirkpatrick & Hazan, 1994), marriage (Davila, Karney, & Bradbury, 1999), or parenthood (Simpson, Rholes, Campbell, & Wilson, 2003). Nonetheless, our assumptions are supported by other studies, which suggest that those relationship-related events are not strongly predictive of attachment style change (Baldwin & Fehr, 1995; Davila, Burge, & Hammen, 1997).

On the whole, the findings show a strong positive relationship between posttraumatic distress and growth among the study participants. They suggest that couples who cope together with trauma not only share the pain but also share the potential benefits that trauma may bring (Weiss, 2004). The findings also suggest that the partner's perceived growth enables him or her to sustain difficulties and to continue on a joint life track. The findings also show associations between the veterans' distress and their wives' distress and growth.

The practical implications of the study highlight the importance of helping the wives as well as the marital dyad. Usually, the sole recipient of services is the veteran himself. It is important to identify the wives who suffer as well as those who experience growth, in an attempt to support them in the constant struggle of their marriage. Moreover, in light of the associations between the emotional state of both partners, marital and family interventions should be viewed as integral investments in the process. Given our unexpected findings on the contribution of attachment to growth, and light of the dearth of research on the predictors of PTG, there is a need for further studies on PTG and its predictors, which should include implications for therapy.

References

- Aldwin, C. M., Levenson, M. R., & Spiro, A. (1994). Vulnerability and resilience to combat exposure: Can stress have lifelong effects? *Psychology and Aging, 9*, 34–44.
- American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.
- Antonovsky, A. (1987). *Unraveling the mystery of health*. San Francisco: Jossey-Bass.
- Azar, S. T. (2000). Preventing burnout in professionals and paraprofessionals who work with child abuse and neglect cases: A cognitive behavioral approach to supervision. *Journal of Clinical Psychology, 56*, 643–663.
- Baldwin, M. W., & Fehr, B. (1995). On the instability of attachment style ratings. *Personal Relationships, 2*, 247–261.
- Barakat, L. P., Alderfer, M. A., & Kazak, A. E. (2006). Posttraumatic growth in adolescent survivors of cancer and their mothers and fathers. *Journal of Pediatric Psychology, 31*, 413–419.
- Beckham, J. C., Lytle, B. L., & Feldman, M. E. (1996). Caregiver burden in partners of Vietnam War veterans with posttraumatic stress disorder. *Journal of Consulting and Clinical Psychology, 64*, 1068–1072.
- Ben Arzi, N., Solomon, Z., & Dekel, R. (2000). Secondary traumatization among wives of PTSD and post-concussion casualties: Distress, caregiver burden and psychological separation. *Society and Welfare, 20*, 585–602.
- Bernstein, M. (1998). Conflicts in adjustment: WW2 prisoners of war and their families. In Y. Danieli (Ed.), *International handbook of multigenerational legacies of trauma* (pp. 119–124). New York: Plenum Press.
- Boss, P. (1999). *Ambiguous loss: Learning to live with unresolved grief*. Cambridge, MA: Harvard University Press.
- Brennan, K. A., Clark, C. L., & Shaver, P. R. (1998). Self-report measurement of adult attachment: An integrative overview. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment theory and close relationships* (pp. 46–76). New York: Guilford Press.
- Calhoun, L. G., & Tedeschi, R. (2006). The foundations of posttraumatic growth: An expanded framework. In L. Calhoun & R. Tedeschi (Eds.), *Handbook of posttraumatic growth: Research and practice* (pp. 1–23). Mahwah, NJ: Erlbaum.
- Calhoun, P. S., Beckham, J. C., & Bosworth, H. B. (2002). Caregiver burden and psychological distress in partners of veterans with chronic posttraumatic stress disorder. *Journal of Traumatic Stress, 15*, 205–212.
- Danieli, Y. (1986). In the treatment and prevention of long-term effects and intergenerational transmission of victimization: A lesson from Holocaust survivors and their children. In C. R. Figley (Ed.), *Trauma and its wake* (pp. 309–313). New York: Basic Books.
- Davila, J., Burge, D., & Hammen, C. (1997). Why does attachment style change? *Journal of Personality and Social Psychology, 73*, 826–838.
- Davila, J., Karney, B. R., & Bradbury, T. N. (1999). Attachment change processes in the early years of marriage. *Journal of Personality and Social Psychology, 76*, 783–802.
- Dekel, R., Goldblatt, H., Keidar, M., Solomon, Z., & Polliack, M. (2005). Being a spouse of a PTSD veteran. *Family Relations, 54*, 24–36.
- 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., & Bleich, A. (2005). Emotional distress and marital adjustment of caregivers: Contribution of the care recipient's level of impairment and of the caregiver's appraised burden. *Stress, Anxiety and Coping, 18*, 71–82.
- Dent, O. F., Tennant, C., Fairley, M. J., Sulway, M., Broe, G. A., Jorm, A., et al. (1998). Prisoner of war experience: Effects on wives. *The Journal of Nervous & Mental Disease, 186*, 231–237.
- Derogatis, R. L. (1977). *The SCL-90 manual F: Scoring, administration and procedures for the SCL-90*. Baltimore, MD: The Johns Hopkins University, School of Medicine, Clinical Psychometrics Unit.
- Dieperink, M., Leskela, J., Thuras, P., & Engdahl, B. (2001). Attachment style classification and posttraumatic stress disorder in former prisoners of war. *American Journal of Orthopsychiatry, 71*, 374–378.
- Dikel, T. N., Engdahl, B., & Eberly, R. (2005). PTSD in former prisoners of war: Prewar, wartime, and postwar factors. *Journal of Traumatic Stress, 18*, 69–77.
- Elder, G. H., & Clipp, E. C. (1989). Combat experience and emotional health: Impairment and resilience in later life. *Journal of Personality, 57*, 311–341.
- Figley, C. R. (1986). Traumatic stress: The role of the family and social support systems. In C. R. Figley (Ed.), *Trauma and its wake: Vol. 2. Traumatic stress, theory, research and intervention* (pp. 39–54). New York: Brunner/Mazel.
- Figley, C. R. (1995). Compassion fatigue as secondary traumatic stress disorder: An overview. In C. R. Figley (Ed.), *Compassion fatigue: Coping with secondary traumatic stress disorder in those who treat the traumatized* (pp. 1–20). New York: Brunner/Mazel.
- Fontana, A., & Rosenheck, R. (1998). Psychological benefits and liabilities of traumatic exposure in the war zone. *Journal of Traumatic Stress, 11*, 485–505.
- Fraleigh, C., Fazzari, D., Bonanno, G., & Dekel, S. (2006). Attachment and psychological adaptation in high exposure survivors of the September 11th attack on the World Trade Center. *Personality and Social Psychology Bulletin, 32*, 538–551.
- Frazier, P., Conlon, A., & Glaser, T. (2001). Positive and negative life changes following sexual assault. *Journal of Consulting and Clinical Psychology, 69*, 1048–1055.
- Hall, L. C., & Williams, S. C. (1973). The POW wife. *Archives of General Psychiatry, 29*, 69–694.
- Hazan, C., & Shaver, P. (1987). Romantic love conceptualized as an attachment process. *Journal of Personality and Social Psychology, 52*, 511–524.
- Hazan, C., & Shaver, P. R. (1990). Love and work: An attachment-theoretical perspective. *Journal of Personality and Social Psychology, 59*, 270–280.
- Herman, J. (1992). *Trauma and recovery*. New York: Basic Books.
- 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: Plenum Press.
- Huter, M., Davis, P., & Tunstall, J. (2005). The influence of attachment emotional support in end-stage cancer. *Psycho-Oncology, 15*, 431–444.
- Iliffe, G., & Steed, L. (2000). Exploring the counselor's experience of working with perpetrators and survivors of domestic violence. *Journal of Interpersonal Violence, 15*, 393–412.
- Janoff-Bulman, R. (2006). Schema-change perspectives on posttraumatic growth. In L. Calhoun & R. Tedeschi (Eds.), *Handbook of posttraumatic growth: Research and practice* (pp. 81–99). Mahwah, NJ: Erlbaum.
- Janoff-Bulman, R. (2006). Schema-change perspectives on posttraumatic growth.
- Jordan, B. K., Marmar, C. R., Fairbank, J. A., Schlenger, W. E., Kulka, R. A., Hough, R. L., et al. (1992). Problems in families of male Vietnam veterans with posttraumatic stress disorder. *Journal of Consulting and Clinical Psychology, 60*, 916–926.
- Kirkpatrick, L. A., & Hazan, C. (1994). Attachment styles and close relationships: A four-year prospective study. *Personal Relationships, 1*, 123–142.
- Kobak, R. R., & Sceery, A. (1988). Attachment in late adolescence: Working models, affect regulation, and representations of self and others. *Child Development, 59*, 135–146.
- Laufer, A., & Solomon, Z. (2005). Posttraumatic symptoms and posttraumatic growth among Israeli youth exposed to terror incidents. *Journal of Social and Clinical Psychology, 25*, 429–447.
- Lev-Wiesel, R., & Amir, M. (2006). Growing out of ashes: Posttraumatic growth among Holocaust child survivors. In L. Calhoun & R. Tedeschi

- (Eds.), *Handbook of posttraumatic growth: Research and practice* (pp. 248–263). Mahwah, NJ: Erlbaum.
- Lev-Wiesel, R., & Amir, M. (2001). Secondary traumatic stress, psychological distress, sharing of traumatic reminiscences, and marital quality among spouses of Holocaust child survivors. *Journal of Marital Family Therapy, 27*, 433–444.
- Lev-Wiesel, R., & Amir, M. (2003). Posttraumatic growth among Holocaust child survivors. *Journal of Loss and Trauma, 8*, 229–237.
- Lev-Wiesel, R., & Amir, M. (2005). Posttraumatic growth among female survivors of childhood sexual abuse in relation to the perpetrator identity. *Journal of Trauma and Loss, 10*, 7–17.
- Lindstrom, B. (2001). The meaning of resilience. *International Journal of Adolescent Medical Health, 13*, 7–12.
- Maercker, A., & Herrle, J. (2003). Long-term effects of the Dresden bombing: Relationships to control beliefs, religious belief, and personal growth. *Journal of Traumatic Stress, 16*, 579–587.
- Manne, S., Ostroff, J., Winkel, G., Goldstein, L., Fox, K., & Grana, G. (2004). Posttraumatic growth after breast cancer: Patient, partner and couple perspectives. *Psychosomatic Medicine, 66*, 442–454.
- Matsakis, A. (1988). *Vietnam wives*. Washington, DC: Woodbine House.
- McCann, I. L., & Pearlman, L. A. (1990). *Psychological trauma and the adult survivor: Theory, therapy and transformation*. New York: Brunner/Mazel.
- McMillen, J. C., Smith, E. M., & Fisher, R. H. (1997). Perceived benefit and mental health after three types of disaster. *Journal of Consulting and Clinical Psychology, 65*, 733–739.
- Mikulincer, M., & Erev, E. (1991). Attachment style and the structure of romantic love. *British Journal of Social Psychology, 30*, 273–291.
- Mikulincer, M., & Florian, V. (1997). Are emotional and instrumental supportive interactions beneficial in times of stress? The impact of attachment style. *Anxiety, Stress and Coping, 10*, 109–127.
- Mikulincer, M., & Florian, V. (1998). The relationship between adult attachment styles and emotional and cognitive reactions to stressful events. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment theory and close relationships* (pp. 143–165). New York: Guilford Press.
- Mikulincer, M., Florian, V., & Tolmacz, R. (1990). Attachment styles and fear of personal death: A case study of affect regulation. *Journal of Personality and Social Psychology, 58*, 273–280.
- Mikulincer, M., Florian, V., & Weller, A. (1993). Attachment styles, coping strategies, and posttraumatic psychological distress: The impact of the Gulf War in Israel. *Journal of Personality and Social Psychology, 64*, 817–826.
- Mikulincer, M., Horesh, N., Eilati, I., & Kotler, M. (1999). The association between adult attachment style and mental health in extreme life-endangering conditions. *Personality and Individual Differences, 27*, 831–842.
- Pargament, K. I., Smith, B. W., Koenig, H. G., & Perez, L. (1998). Patterns of positive and negative coping with major life stressors. *Journal for the Scientific Study of Religion, 37*, 710–723.
- Park, C., Cohen, L. H., & Murch, R. L. (1996). Assessment and prediction of stress-related growth. *Journal of Personality, 64*, 1–35.
- Priel, B., & Shamai, D. (1995). Attachment style and perceived social support: Effects on affect regulation. *Personality and Individual Differences, 19*, 235–241.
- Reeves, R. R., Parker, J. D., & Konkle-Parker, D. (2005). War-related mental health problems of today's veterans: New clinical awareness. *Journal of Psychosocial Nursing Mental Health Services, 43*, 18–28.
- Riggs, D. S., Byrne, C. A., Weathers, F. W., & Litz, B. T. (1998). The quality of the intimate relationships of male Vietnam veterans: Problems associated with posttraumatic stress disorder. *Journal of Traumatic Stress, 11*, 87–101.
- Rosenheck, R., & Nathan, P. (1985). Secondary traumatization in the children of Vietnam veterans with post-traumatic stress disorder. *Hospital and Community Psychiatry, 36*, 538–539.
- Salo, J., Qouta, S., & Punamaki, R. L. (2005). Adult attachment, posttraumatic growth and negative emotions among former political prisoners. *Anxiety, Stress & Coping, 18*, 361–378.
- Schauben, L. J., & Frazier, P. A. (1995). Vicarious trauma: The effects on female counselors of working with sexual violence survivors. *Psychology of Women Quarterly, 19*, 49–64.
- Shaver, P. R., & Hazan, C. (1993). Adult romantic attachment: Theory and evidence. In D. Perlman & W. Jones (Eds.), *Advances in personal relationships* (Vol. 4, pp. 29–70). London: Kingsley.
- Simpson, J. A., Rholes, W. S., Campbell, L., & Wilson, C. L. (2003). Changes in attachment orientations across the transitions to parenthood. *Journal of Experimental Social Psychology, 39*, 317–331.
- Sledge, W. H., Boydston, J. A., & Rahe, A. J. (1980). Self-concept changes related to war captivity. *Archives of General Psychiatry, 37*, 430–443.
- Solomon, Z. (1993). *Combat stress reaction: The enduring toll of war*. New York: Plenum Press.
- 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). PTSD among Israeli Ex-POWs 18 and 30 years after release. *Journal of Clinical Psychiatry, 66*, 1031–1037.
- Solomon, Z., Ginzburg, K., Mikulincer, M., Neria, Y., & Ohry, A. (1998). Coping with war captivity: The role of attachment style. *European Journal of Personality, 12*, 272–285.
- 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., Florian, V., & Bleich, A. (1992a). From frontline to home front: A study of secondary traumatization. *Family Process, 31*, 289–302.
- Taylor, S. E. (1989). *Creative self-deception and the healthy mind*. New York: Basic Books.
- Tedeschi, R. G., & Calhoun, L. G. (1996). The Posttraumatic Growth Inventory: Measuring the positive legacy of trauma. *Journal of Traumatic Stress, 9*, 455–471.
- Verbosky, S. J., & Ryan, D. A. (1988). Female partners of Vietnam veterans: Stress by proximity. *Issues in Mental Health Nursing, 9*, 95–104.
- Waysman, M., Schwarzwald, J., & Solomon, Z. (2001). Hardiness: An examination of its relationship with positive and negative long term changes following trauma. *Journal of Traumatic Stress, 14*, 531–548.
- Weiss, T. (2002). Posttraumatic growth in women with breast cancer and their husbands: An inter-subjective validation study. *Journal of Psychosocial Oncology, 20*, 65–80.
- Weiss, T. (2004). Correlates of posttraumatic growth in husbands of breast cancer survivors. *Psycho-Oncology, 13*, 260–268.

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