



Keeping a healthy distance: Self-differentiation and perceived health among ex-prisoners-of-war's wives



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ABSTRACT

Objective: War captivity may affect spouses of former-prisoners-of-war (ex-POWs) in many ways, including posttraumatic stress symptoms (PTSS) and somatic difficulties manifested in negative perceived health. This is generally known as secondary traumatization. Theory suggests that development of secondary traumatization occurs through the relationship with the primary trauma survivor Figley (1986), thus implying that the ability to keep balanced emotional distance in the relationship may play a pivotal role. Notwithstanding, the contribution of self-differentiation to secondary somatic disturbances remains largely uninvestigated. The current study fills this gap.

Methods: Ex-POWs' wives ($n = 143$) and control former-combatants' wives ($n = 102$), were assessed prospectively 30 (T1) and 38 (T2) years after the 1973 Yom Kippur War. Self-differentiation and PTSS were assessed at both time-points, while perceived health measures were assessed at T2.

Results: Wives of ex-POWs endorsed higher PTSS, lower self-differentiation and negative perceived health, compared to control wives. Indirect exposure to war captivity was related to low self-differentiation and elevated PTSS, which predicted negative perceived health. Furthermore, self-differentiation characterized by fusion-with-others fully mediated the relation between indirect exposure to war captivity and perceived health, beyond the effects of PTSS as a mechanism.

Conclusion: Results suggest that tendencies towards fusion-with-others within the marital relationship, act as a risk factor not only for psychological distress but also for somatic distress among secondary trauma survivors. Hence, clinical interventions may seek to improve indirect trauma survivor's self-differentiation capacities, thus potentially facilitating the prevention of secondary somatic distress.

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1. Introduction

War captivity is one of the most traumatic experiences known to man, as it exposes victims to extensive physical and psychological abuse inflicted by their captors (e.g., [2]). Although some former prisoners-of-war (ex-POWs) exhibit positive adjustment [3], they remain at a high-risk for physical (e.g., [4]) and psychological [5,6] impediments decades thereafter. Many ex-POWs exhibit high rates of morbidity and mortality [7–9], and report worse perceived health (e.g., [4,10,11]). Psychiatric symptoms are common among ex-POWs, most notably posttraumatic stress symptoms (PTSS), including intrusion (e.g., flashbacks), avoidance (e.g., numbness), hyper-arousal (e.g., alertness) and negative alterations in cognitions and mood (e.g., negative world-views) [12].

However, the ramifications of captivity are not limited to primary trauma victims, but rather may be transmitted to their significant

others. According to the *Diagnostic and Statistical Manual of Mental Disorders* [DSM-5; 12], learning about a close family member's traumatic event may lead to similar psychopathology as primary exposures. The term 'secondary traumatization' describes this process [1,13]. Secondary traumatization may manifest not only in PTSS but also in more generalized distress, functional problems and somatic difficulties [14].

Ex-POWs' spouses may be particularly susceptible to secondary traumatization (e.g., [14]), exhibiting more PTSS and severe psychological distress compared to controls (e.g., [15]). Since secondary traumatization may also manifest somatically, the current study will assess ex-POWs' wives' somatic responses in light of their capacity to differentiate themselves from their husbands.

1.1. Perceived health among wives of ex-prisoners-of-war

The somatic components of secondary traumatization have been documented primarily by the examination of perceived health. Simply put, perceived health refers to individuals' evaluation of their physical

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health. This is measured via reporting physical difficulties or symptoms, or by assessing the individuals' general self-rated health (e.g., [16]). While the former is more readily associated with objective indicators of health, the latter signifies a more holistic assessment of one's health (e.g., [17]). Hence, apprehending perceived health more fully mandates taking both into account.

In previous studies, both wives of ex-POWs and wives of traumatized combatants reported more health complaints [18], psychosomatic symptoms [19] and worse self-rated health scores [20] compared to wives of non-traumatized combatants. Nevertheless, most studies have found worse perceived health among ex-POWs' wives compared to combatants' wives [19,20].

According to Schnurr and Green [16], poor perceived health among trauma survivors derives from their posttraumatic reaction (i.e., PTSS). Arguably, PTSS hinders perceived health by affecting psychological, biological, behavioral and attentional factors that interact, leading to physical decline. Accordingly, numerous studies have documented the role PTSS plays within the relation between trauma exposure and poor perceived health (e.g., [21,22]).

1.2. Indirect captivity exposure, self-differentiation and secondary traumatization

Theoretically, secondary trauma survivors are exposed to traumatic content via their relationship with primary survivors [1]. It may therefore be postulated that ex-POWs' wives' capacity to differentiate themselves from their husbands' emotions – best realized in the concept of self-differentiation (e.g., [23,24]) – may play a pivotal role in secondary traumatization susceptibility.

Self-differentiation refers to two interrelated dimensions. The first, the intra-psychic, involves the ability to differentiate intellect from emotions (e.g., [24]). The second, which is addressed here, concerns the inter-personal realm denoting the ability to experience both relationship intimacy and autonomy as enhancing and complementary experiences (e.g., [23]). High self-differentiation (“balance”) reflects one's capacity to maintain a sense of self and adhere to personal convictions, despite pressure to do otherwise (e.g., [24]). Balanced individuals possess flexible interpersonal boundaries, permitting intimacy without fear of enmeshment or loss-of-self (e.g., [23,24]). Low self-differentiation may be expressed by pleasing others at the expense of one's self (“fusion-with-others”) or by retreating emotionally (“cut-off”). Whereas fused individuals tend to experience separation as overwhelming, cut-off individuals perceive closeness as threatening. Nevertheless, both are significantly influenced by others' behaviors and appraisals, as well as the situation at hand.

Although self-differentiation is generally considered stable [23], trauma literature reveals that it may be hindered by direct [25] and indirect exposure to captivity (e.g., [25,26]). Since ex-POWs are often more severely implicated by the trauma than non-captive-combatants [27], their spouses may be more burdened. This may increase fusion or cut-off tendencies designed to handle their partners' adversity. Ex-POWs' spouses typically demonstrate lower self-differentiation compared those of combatants (e.g., [25]).

Self-differentiation may affect coping in the face of adversity [24,28] and was found to mediate the relation between stress and subsequent distress (e.g., [29]). Concomitantly, literature has implied that maladaptive differentiation might increase the risk for secondary traumatization. Fused individuals might be over-involved in their relationship with the primary trauma survivors, which may lead to internalization of the traumatic content and therefore to elevated distress [1]. Fused individuals might also engage in emotional and behavioral mimicry underlying emotional contagion [30]. For instance, fused wives may imitate their husbands' avoidance or hypervigilant behaviors, which, in turn, increase their vulnerability for secondary traumatization.

On the other hand, cut-off individuals might develop pathological posttraumatic reactions due to extreme efforts to refrain from being in

touch with the trauma [31]. Research has demonstrated the association between low self-differentiation and secondary traumatization among ex-POWs' offspring [31] and traumatized veterans' wives [32]. Studies conducted among the same sample of ex-POWs' wives also found that low self-differentiation predicted high distress (e.g., [26]). Furthermore, a mutual association between self-differentiation and PTSS was found over time, whereby low self-differentiation predicted higher PTSS and vice versa [33].

Yet, mostly investigations considered psychological symptoms, while the somatic domain has been generally overlooked. It is against this backdrop that the current study was devised. The current longitudinal study set out to explore wives' perceived health in relation to indirect exposure to their husbands' captivity, and examine the mediating role of self-differentiation.

1.3. Self-differentiation, PTSS, and perceived health

Theoretically, poor self-differentiation is associated with enduring anxiety, which affects not only psychological well-being but also physical health [23,24]. Moreover, research among non-traumatized populations found low self-differentiation to be correlated with more physical symptoms [34,35] and higher somatic distress [36]. Hence, both empirical and theoretical realizations culminate in the hypothesis that the impediments to the wives' self-differentiation, would predict negative perceived health; and poor self-differentiation would act as a mechanism underlying negative perceived health among ex-POWs' wives.

Speculatively, poorly differentiated wives may exhibit increased vulnerability to somatic distress when confronted with the challenges of living with an ex-POW. They might show over-identification with their husbands or otherwise detach themselves. Both patterns could lead to elevated stress, which may, in turn, gradually take its toll on health (e.g., [37]). Chronic stress can cause hyper-activation of various physiological systems, leading to lasting physiological changes, including elevated cortisol levels, impaired insulin response and impaired immunity [38], thereby increasing the plausibility of health difficulties and morbidity reflected in negative perceived health.

The implications of wives' self-differentiation might have a unique contribution in explaining perceived health. Moreover, the mutual association between self-differentiation and PTSS [33] suggests that self-differentiation might complementarily act as a mechanism which operates alongside PTSS. In light of the realizations above, we hypothesize the following:

1. Ex-POWs' wives will report high PTSS, poor self-differentiation, and worse perceived health compared to controls' wives.
2. Poor self-differentiation and high PTSS will be associated with negative perceived health.
3. Indirect captivity exposure will predict low self-differentiation and high PTSS, which will be associated with negative perceived health.
4. Self-differentiation will mediate the relation between indirect captivity exposure and perceived health, beyond the effects of PTSS.

2. Method

2.1. Participants

Participants in the current study were two groups of wives of veterans from the 1973 Yom Kippur War: 1) wives of ex-POWs; and 2) wives of non-captive combat veterans. Combatants were matched to the ex-POWs in personal and military backgrounds. Both groups were located through their husbands, who participated in a larger longitudinal study [for more details, see 15]. Assessments were carried out at two time-points: 2003 (T1) and 2011 (T2). In the present study, wives who participated in at least one wave of measurement were included.

2.1.1. Wives of ex-POWs

At T1, 111 ex-POWs were married or had a partner. Of these, 90 wives participated at T1 (response rate: 81%). At T2, 147 ex-POWs were married or had a partner. Of these, 114 wives participated at T2 (response rate: 78%). Of the 90 wives who participated at T1, 61 also participated at T2 (67.8%). In addition, 53 wives participated at T2 but not at T1.

Control wives. At T1, 102 of the control veterans were married or had a partner. Of these, 75 wives participated in T1 (response rate: 74%). At T2, 103 control veterans were married or had a partner. Of these, 57 wives participated in T2 (response rate: 55%). Of the 75 wives who participated at T1, 30 also participated at T2 (40.0%). In addition, 27 wives participated at T2 but not at T1.

No significant differences between the groups were found in terms of wives' country of birth $\chi^2(2, N = 89) = 3.37, p = 0.143$, Cramer's $V = 0.14$, number of children $t(161) = 0.60, p = 0.285, d = -0.09$, years of marriage/cohabitation, $t(164) = 0.84, p = 0.404, d = 0.30$, psychological treatment in the past, $\chi^2(1, N = 163) = 2.67, p = 0.2128$, Cramer's $V = 0.13$, and number of traumatic events other than the husbands' captivity, $t(124.81) = -0.49, p = 0.625, d = -0.08$.

2.2. Procedure

Using Israel Defense Force files, potential participants were sent a letter introducing the study and informed that research assistants would contact them. After receiving an explanation of the study's aim, those who agreed to participate were offered the option of filling out research questionnaires at their homes or at a location of their choice. Informed consent was obtained for all participants. This study was approved by the Tel Aviv University ethics committee.

2.2.1. Handling missing data

Substantial attrition, and addition, are very common in longitudinal designs [39]. In the current study, both occurred from T1 to T2. To handle the missing data, a restrictive approach was employed, wherein only wives who participated in at least one wave of measurement were included ($n = 74$ (T1), 80 (T2), 91(both)). No differences in demographics were found between these groups. (It is noteworthy that the wives who participated at T2 were the wives of the same ex-POWs and combatants from T1).

Overall 30.2–37.1% of data were missing across waves. To determine the pattern of missing data, we conducted Little's Missing Completely at Random (MCAR) test [39]. Although the analysis indicated that the data were missing completely at random, $\chi^2(192) = 100.003, p = 1.00$, we decided to use the more advanced method of maximum likelihood, [40] using SPSS 22 and AMOS 22. The final sample included 245 participants: 102 control wives and 143 ex-POWs' wives.

2.3. Measures

2.3.1. Posttraumatic stress symptoms (T1 and T2)

The wives' PTSS were assessed using the PTSD Inventory (PTSD-I; [41]), a well-validated, 17-item, self-report questionnaire based on DSM-IV-TR [42]. Ratings appear on a 4-point scale ranging from 'never' to 'very often'. Wives were asked about their reactions to their husbands' experiences of combat or captivity and were required to rate each statement according to the frequency at which they experienced the described content during the last month. The number of positively endorsed symptoms was calculated by counting the items in which respondents answered '3' (often) or '4' (almost always) as these responses capture the DSM-IV-TR criteria of "persistent" experiencing of these symptoms. The severity score of persistent posttraumatic symptoms ranged from 0 to 17. An additional score, reflecting the total number of symptoms was computed, scores ranging from 17 to 68. The inventory has proven psychometric properties [25]. The scale's internal consistency in this study was 0.84 at T1 and .85 at T2.

2.3.2. Differentiation of the self (T1 and T2)

The current study employed the scale developed by Apple [43] measuring three dimensions of self-differentiation: (a) fusion-with-others: being overinvolved with one's partner; (b) balance: participation in the experiences of one's partner without losing individuality; and (c) cut-off: prioritizing individuality. The scale contains nine statements for each dimension. Participants rated how accurately each statement describes the way they relate to their husbands, on a 5-point scale ranging from 'not at all' to 'very much'. The scale's internal consistency in this study at T1 and T2 respectively was 0.62, 0.67 for fusion-with-others; 0.76, 0.78 for balance; 0.73, 0.78 for cut-off.

2.3.3. Perceived health measures

Self-rated health (T2) was assessed by the commonly used [44] question: "How would you define your physical health status at present?" (rated on a 6-point scale from 1 = *excellent* to 6 = *very bad*).

Somatization subscale symptoms checklist-90-R (T2) (SCL-90-R) [45] was used to assess somatic complaints. This subscale includes 12 items asking respondents to rate on a 5-point scale the degree to which they suffered from the symptom during the preceding two weeks. Mean score reflected the level of somatic complaints, with higher scores reflecting greater somatic complaints. The subscale's internal consistency in this study was 0.86.

Number of health problems (T2) were assessed by a checklist of 11 health problems. Participants were requested to mark each problem from which they suffered. The list was based on common health problems (e.g., allergies, heart disease), suggested by general physicians, and has been used in previous studies of war veterans [11]. The score was computed based on the total number of conditions checked.

2.4. Data Analysis

A series of mixed analyses of variance with study group as the between group variable, and time as the within group variable were conducted in order to compare the groups in self-differentiation and PTSS measures. A One-way Analysis of Variance (ANOVA) was conducted for PTSS and a Multivariate Analysis (MANOVA) was conducted for self-differentiation. A MANOVA was employed in order to compare the groups in perceived health.

Path Analysis was utilized to examine the hypothesized model wherein indirect captivity exposure would predict low self-differentiation and high PTSS, which, in turn, will predict negative perceived health. AMOS statistics was employed to estimate the model's fit by using several fit indices: comparative fit index (CFI), normed-fit index (NFI), Tucker-Lewis index (TLI), and root mean square error of approximation (RMSEA). A model has high fit if CFI, NFI and TLI are >0.95 and RMSEA is equal or lower than 0.05 [46]. Chi square test was computed, however, given its sensitivity to sample size (e.g., [47]), the ratio of chi square to degrees of freedom was used. Values between 1 and 3 indicated a good fit [47].

To investigate whether self-differentiation mediates the relationship between indirect captivity exposure and perceived health, beyond the effect of PTSS as a mechanism, bootstrapping method with 1000 bootstrap resamples was conducted using PROCESS computational macro [48]. Bootstrapping is a nonparametric method that generates an estimate of the indirect effect, including a 95% confidence interval. An indirect effect is significantly different from zero at $p < 0.05$ when zero is not within the confidence interval; implying that the effect of the independent variable on the dependent variable is mediated by the proposed mediating variable.

3. Results

3.1. Group differences

Analysis for PTSS revealed significant effects for group and for time, $F(1, 243) = 6.49, p < 0.05, \eta^2_p = 0.13$. (Table 1). Effect for the time X

Table 1

Means, SDs and univariate F results of self-differentiation, perceived health and PTSS among wives of ex-POWs and control wives.

Variable	Wives of ex-POWs (n = 143)		Control wives (n = 102)		F(1, 243)	η_p^2
	M	SD	M	SD		
Fusion						
T1	2.43	0.55	2.22	0.50		
T2	2.45	0.58	2.15	0.47	17.02***	0.07
Balance						
T1	3.90	0.53	3.98	0.51		
T2	3.82	0.58	3.90	0.43	1.85	0.01
Cut Off						
T1	1.99	0.51	1.94	0.53		
T2	2.09	0.59	1.96	0.54	1.83	0.01
PTSS						
T1	4.78	3.89	2.16	2.36		
T2	4.93	0.08	2.73	2.62	32.41***	0.12
Health Problems (T2)	2.53	1.65	2.50	2.03	0.01	0.00
Somatic Complaints (T2)	1.12	0.75	0.80	0.52	14.21***	0.06
Self-Rated Health (T2)	2.83	0.91	2.46	0.86	10.27**	0.04

Note. Ex-POWs = former prisoners of war, PTSS = posttraumatic stress symptoms.

** $p < 0.01$.

*** $p < 0.001$.

group interaction was non-significant, $F(1, 243) = 2.35$, $p = 0.13$, $\eta_p^2 = 0.01$. Ex-POWs' wives reported higher PTSS compared to control wives. Both groups reported an increase in PTSS over time. The same trend was evident using the total number of symptoms ($F(1, 243) = 35.32$, $p < 0.001$, $\eta_p^2 = 0.13$). Ex-POWs' wives reported more symptoms ($M = 32.61$ SD = 10.52, $M = 33.43$ SD = 10.92, at T1 and T2 respectively) compared to control wives ($M = 25.68$ SD = 6.58, $M = 27.2$ SD = 6.87, at T1 and T2 respectively).

Analysis for self-differentiation revealed a significant effect for group, $F(1, 243) = 13.65$, $p < 0.001$, $\eta_p^2 = 0.05$. Separate univariate ANOVAs revealed a significant effect for group only regarding fusion-with-others. The effects for time, $F(1, 243) = 0.58$, $p = 0.45$, $\eta_p^2 = 0.00$, and for time X group interaction, $F(1, 243) = 2.93$, $p = 0.09$, $\eta_p^2 = 0.01$, were non-significant. Ex-POWs' wives reported greater fusion-with-others compared to control wives.

Analysis for perceived health revealed a significant effect for group, $F(3, 241) = 6.45$, $p < 0.001$, $\eta_p^2 = 0.07$. Separate univariate ANOVAs revealed a significant effect for group regarding somatic complaints and self-rated health. Ex-POWs' wives reported higher somatic complaints and negative self-rated health compared to control wives.

3.2. Associations between study variables

Pearson correlations (Table 2) revealed significant correlations between self-differentiation, PTSS and perceived health. Poorer self-

differentiation was related with higher PTSS, more somatic complaints, more health problems and negative self-rated health. Correlations between balanced self-differentiation at T2 and cut-off self-differentiation at T1 and health problems were non-significant.

3.3. Predicting perceived health

Path Analysis fit indices indicated that the theoretical model was a good representation of the data, $\chi^2(3) = 4.995$, $p = 0.175$, $\chi^2/df = 1.652$, CFI = 0.99, NFI = 0.99, TLI = 0.97, RMSEA = 0.05 (Fig. 1). The model explained 10.9% of the number of health problems' variance, 46.7% of the somatic complaints' variance and 28.2% of the self-rated health's variance.

Indirect captivity exposure predicted PTSS and fusion-with-others, which in turn, predicted negative perceived health. PTSS predicted more somatic complaints and negative self-rated health. Fusion-with-others predicted more health problems and negative self-rated health. In addition, low balance self-differentiation was associated with more health problems and somatic complaints. The other paths were non-significant.

3.4. The mediating role of self-differentiation

Bootstrapping method analyses yielded several interesting findings (Table 3; Figs. 2–4). Fusion-with-others fully mediated the relations between indirect captivity exposure and the indicators of health problems and self-rated health. Indirect exposure to captivity predicted increased fusion-with-others and PTSS, which in turn were associated with more health problems. Indirect captivity exposure predicted increased fusion-with-others, which in turn was associated with negative self-rated health. The relation between indirect captivity exposure and somatic complaints was mediated solely by PTSS.

4. Discussion

The present longitudinal study explored the role wives' self-differentiation plays in explaining somatic difficulties, in light of their husbands' captivity trauma. Results indicated that wives' indirect exposure to captivity was predictive of a fusion-with-others and elevated PTSS, both of which contributed significantly to the prediction of negative perceived health. Moreover, the present results revealed that fusion-with-others mediated the relations between indirect captivity exposure and indicators of health problems, and self-rated health, beyond the effects of PTSS.

The finding that being a wife of an ex-POW may hinder self-differentiation, particularly heightening tendencies for fusion, may be explained in several manners. First, it may be argued that ex-POWs' wives' imbalanced self-differentiation might be rooted in the quality of their

Table 2

Intercorrelations between main study measures.

Measure	1	2	3	4	5	6	7	8	9	10	11	12
1. PTSS (T1)	–											
2. PTSS (T2)	0.82***	–										
3. Fusion (T1)	0.60***	0.64***	–									
4. Fusion (T2)	0.56***	0.61***	0.73***	–								
5. Balance (T1)	–0.21**	–0.19**	–0.36***	–0.35***	–							
6. Balance (T2)	–0.29***	–0.32***	–0.47***	–0.40***	0.65***	–						
7. Cut off (T1)	0.28***	0.22***	0.37***	0.21**	–0.72***	–0.67***	–					
8. Cut off (T2)	0.31***	0.33***	0.41***	0.39***	–0.61***	–0.73***	0.69***	–				
9. Health problems (T2)	0.24***	0.31***	0.29***	0.25***	–0.18**	0.11–	0.10	0.13*	–			
10. Somatic complaints (T2)	0.61***	0.74***	0.45***	0.50***	–0.43***	–0.47***	0.34***	0.42***	0.67***	–		
11. Self-rated health (T2)	0.40***	0.52***	0.52***	0.43***	–0.26***	–0.30***	0.24***	0.31***	0.51***	0.47***	–	

Note. PTSS = posttraumatic stress symptoms.

* $p < 0.05$.

** $p < 0.01$.

*** $p < 0.001$.

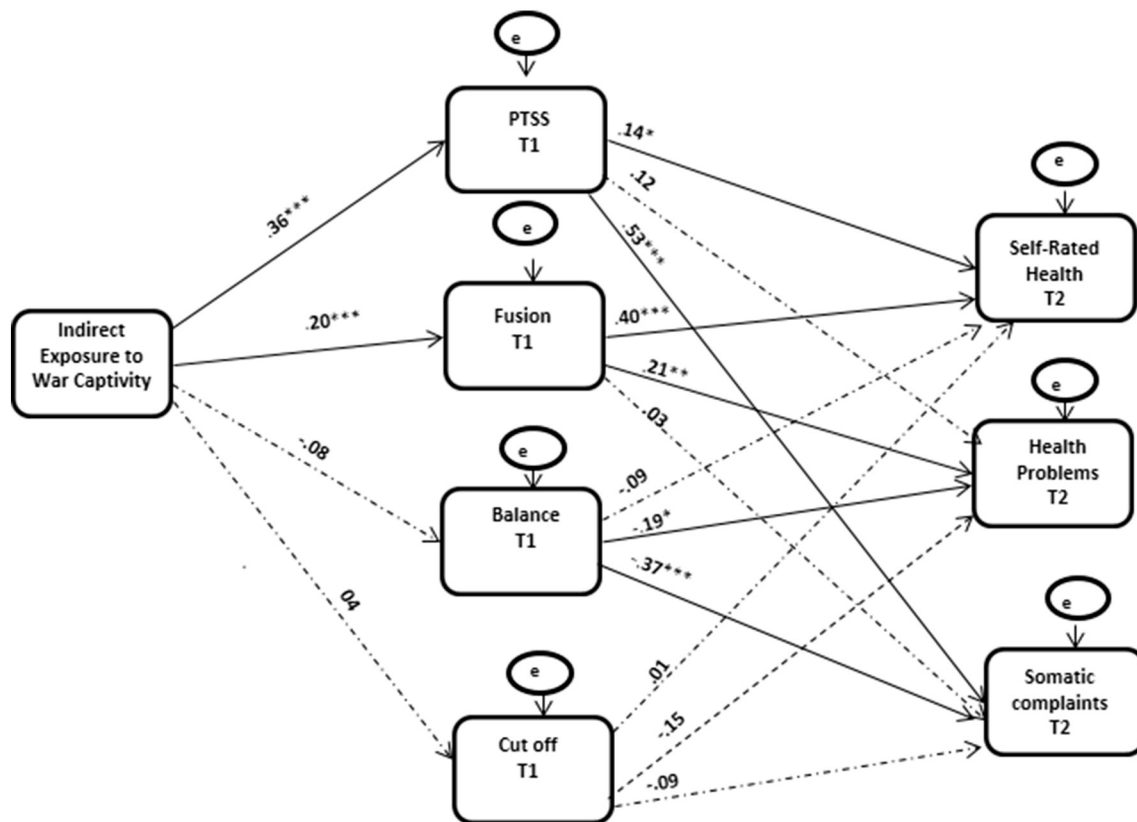


Fig. 1. SEM model assessing the relation between indirect exposure to war captivity, self-differentiation, and PTSS in predicting perceived health measures. Solid lines represent significant predictions. Dashed lines represent non-significant predictions. Values of indirect exposure to war captivity: 0 = wives of control veterans, 1 = wives of ex-POWs. PTSS = posttraumatic stress symptoms. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

relationships. Living with an ex-POW, who may fluctuate between dependency and withdrawal as part of his posttraumatic reaction [12], could challenge the wife's capacity to maintain a healthy interpersonal distance. Moreover, imbalanced self-differentiation, particularly fusion, may reflect the spouses' attempts to cope with their husbands' adversity. For instance, fusion may drive spouses to provide ever-increasing care and support to their husbands (e.g., [49]), giving spouses the illusion of regained control in the face of despair.

Alternatively, low self-differentiation among ex-POWs' wives may originate in their emotional distress (e.g., [14]). Perhaps the psychological difficulties exhibited by ex-POWs' wives transpire alongside the indirect exposure to their husbands' trauma, thus hindering their capacity to keep a balanced differentiation. The wives might feel overwhelmed by their husbands' trauma and suffer from elevated distress, which, in turn, heightens tendencies for dependence, thereby increasing fusion within the marital relationship.

The main contribution of the present research, however, is in uncovering the role of self-differentiation with regard to perceived health.

The current innovative findings revealed that fusion operated as a mechanism underlying negative perceived health among ex-POWs' wives, beyond the effects of PTSS. This finding underscores that among spouses indirectly exposed to their husbands' trauma, those who are prone to experience emotional enmeshment might suffer not only from emotional distress, manifested in PTSS, but also from somatic disturbances.

Several explanatory routes may be suggested concerning these results. First, taking into account the unique position of trauma survivors' spouses, one might speculate that wives inclined towards fusion suffer more from intensified exposure to traumatic content. Whereas highly differentiated spouses are capable of providing emotional support while simultaneously maintain healthy boundaries, fused spouses might merge with their husbands, internalizing their adversity, and subsequently feel distressed themselves [1]. Such distress may undermine the wives' immune system (e.g., [37]), leading to poor health and negative perceived health.

Alternatively, it might be that negative perceived health among fused wives is rooted in chronic stress resulting from caregiver burden.

Table 3

Unstandardized Regression coefficients, Standard Errors, and Bootstrap 95% Confidence Intervals for predicting Perceived health at T2 by indirect captivity exposure through PTSS and self-differentiation at T1.

Measure	Health Problems		Somatic Complaints		Self-Rated Health	
	Bootstrap 95% Confidence Intervals	β (SE)	Bootstrap 95% Confidence Intervals	β (SE)	Bootstrap 95% Confidence Intervals	β (SE)
Direct	{−0.8403,0.1053}	−0.37 (0.24)	{−0.1233,0.1549}	0.02 (0.07)	{−0.0761,0.3495}	0.14 (0.11)
Indirect through T1 PTSS	{0.0004,0.4714}*	0.21* (0.12)	{0.1739,0.3879}*	0.27* (0.06)	{−0.0345,0.1880}	0.07 (0.06)
Indirect through T1 fusion	{0.0298,0.3565}*	0.15* (0.08)	{−0.0332,0.0542}	0.01 (0.02)	{0.0423,0.2761}*	0.15* (0.06)
Indirect through T1 Balance	{−0.0240,0.2109}	0.06 (0.06)	{−0.0261,0.1035}	0.04 (0.03)	{−0.0060,0.0613}	0.01 (0.02)
Indirect through T1 Cut Off	{−0.1417,0.0394}	−0.03 (0.04)	{−0.0471,0.0088}	−0.01 (0.01)	{−0.0158,0.0441}	0.00 (0.01)

Note. 95% Confidence Intervals are presented in brackets. Confidence intervals that do not include 0 (null association) are significant. * Significant at 0.05. PTSS = posttraumatic stress symptoms.

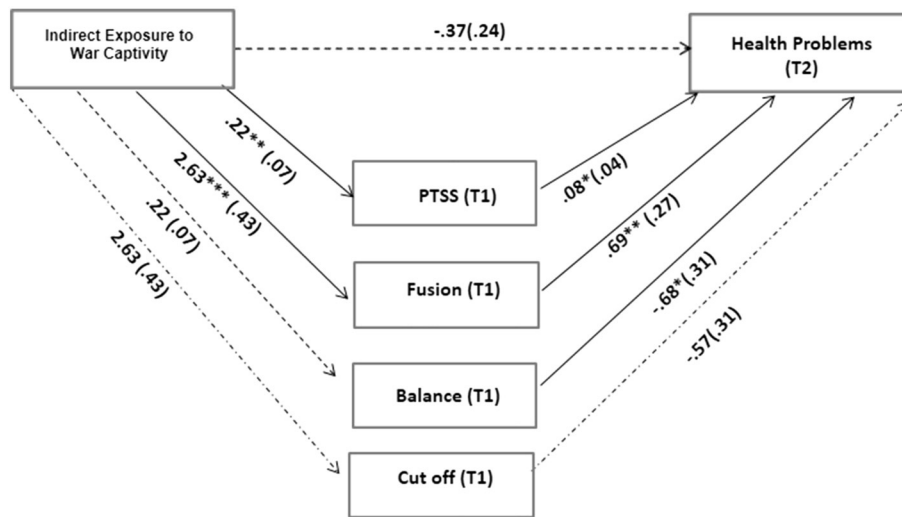


Fig. 2. Self-Differentiation and PTSS as mediators in the relation between indirect exposure to war captivity and Health Problems. All coefficients represent unstandardized regression coefficients. Solid lines represent significant predictions. Dashed lines represent non-significant predictions. Value in the brackets represents Standard errors (SE). Values of indirect exposure to war captivity: 0 = wives of control veterans, 1 = wives of ex-POWs. PTSS = posttraumatic stress symptoms. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

The deep and enduring distress which ex-POWs undergo can demand intensive care, and hence position their wives in the role of caregivers [50]. Whereas the highly differentiated wife possesses the capacity to maneuver between her supportive and autonomous identities, the fused wife might be wholly drawn into the caregiver role. This may result in the sacrificing of her own needs [24], and an intensified sense of caregiver burden, once again resulting in chronic stress [51], and hindering various health related domains.

Lastly, one can speculate that fused individuals might suffer not only from 'psychological contagion' [1], bearing somatic implications, but also from more explicit 'somatic contagion.' The process of identification with the trauma survivors' somatic experience has been documented in the clinical field as 'body-centered countertransference' (e.g., [52]). According to Pearlman and Saakvitne [53] the therapist's identification with the patient's somatic experience can lead to somatic symptoms such as nausea, headaches, and stomach disturbances. Research has supported this claim, documenting elevated levels of somatic symptoms among therapists treating traumatized patients [52]. Thus, it may be suggested that a similar process underlies the current results.

The inter-dependence between spouses [54] and the physical contact within marital relationships might contribute to spouses' over-identification with their partners' somatic distress. Moreover, while disclosure of captivity trauma within the marital dyad may be less common than disclosure in therapy, the trauma may nevertheless be reenacted via externalizing behaviors [55]. Wives may witness their husbands' somatic plight via their functional disabilities, physical markers (e.g., scars), pain reactions, and negative attitudes towards their body.

Since ex-POWs have experienced harsh physical torture during captivity [56], their somatic suffering is deep, enduring and often present even decades after repatriation [4,7,8]. Therefore, one may speculate that fused wives of ex-POWs might not only identify with their husbands' emotional traumatic memories [1] but also with their somatic experiences and, therefore, suffer from negative perceived health. Since the present study did not examine this route, only speculation can be offered at this point. Future prospective studies should use dyadic designs to investigate this proposed process.

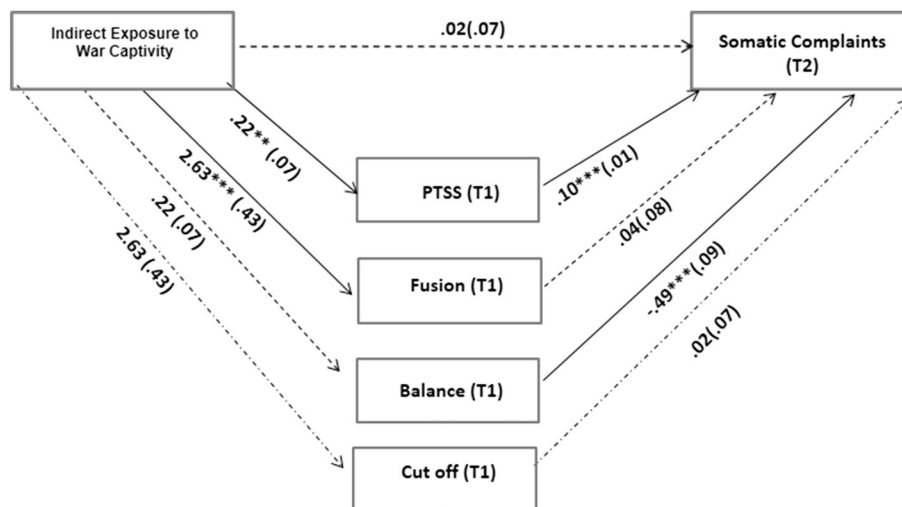


Fig. 3. Self-Differentiation and PTSS as mediators in relation between indirect exposure to war captivity and Somatic Complaints. All coefficients represent unstandardized regression coefficients. Solid lines represent significant predictions. Dashed lines represent non-significant predictions. Value in the brackets represents Standard errors (SE). Values of indirect exposure to war captivity: 0 = wives of control veterans, 1 = wives of ex-POWs. PTSS = posttraumatic stress symptoms. ** $p < 0.01$, *** $p < 0.001$.

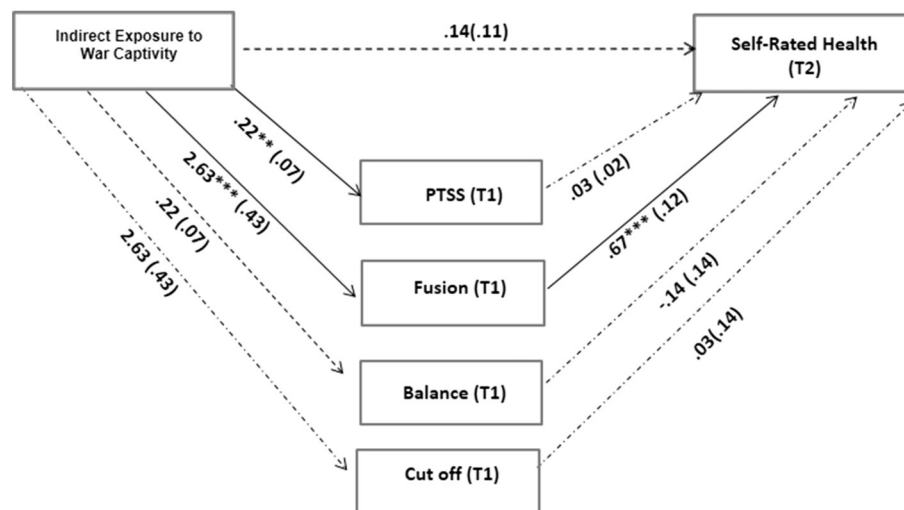


Fig. 4. Self-Differentiation and PTSS as mediators in relation between indirect exposure to war captivity and self-rated health. All coefficients represent unstandardized regression coefficients. Solid lines represent significant predictions. Dashed lines represent non-significant predictions. Value in the brackets represents Standard errors (SE). Values of indirect exposure to war captivity: 0 = wives of control veterans, 1 = wives of ex-POWs. PTSS = posttraumatic stress symptoms. ** $p < 0.01$, *** $p < 0.001$.

4.1. Study limitations and future directions

The present findings must be realized in light of several limitations. First, this study was based on self-report measures, which may be subject to response biases and shared method variances. Future studies should consider collecting data from multiple informants and utilizing objective measures if possible. Second, the current study did not include data concerning wives' perceived health and self-differentiation prior to husbands' captivity, or in close proximity to repatriation, but rather relied on data that were collected 30 and 38 years after captivity. This limits our ability to control for these variables, and consider other factors which potentially play a role in the processes at hand. Third, the present research did not incorporate data regarding the wives' personality characteristics (e.g., Neuroticism) which might account for variation in their response to the trauma and self-differentiation [57]. Additionally, although study groups did not differ in marriage length, both length and quality of marriage may nevertheless implicate self-differentiation and by extension also perceived health. Future investigations should pursue such within-group differences.

Notwithstanding the limitations above, the present research bears important implications for both the theoretical and clinical domains, as it calls into attention the role self-differentiation plays in regards to negative perceived health among indirect trauma victims. As it turns out, secondary trauma survivors who lack sufficient differentiation capacities might be at a high risk not only for elevated emotional pain but also for negative perceived health, established as a powerful indicator of morbidity [58] and mortality [59]. This process might be highly relevant not only for ex-POWs' wives, but also for spouses of survivors of other interpersonal traumas (e.g., childhood sexual abuse), who may find themselves over-involved in their partner's enduring distress and its repercussions. This is up to future research to determine. The current findings nevertheless ultimately underscore the need for clinical interventions facilitating self-differentiation among trauma victim's spouses (e.g., therapy which is family system theory oriented) [23], thus potentially mitigating emotional and somatic contagion.

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