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The Contribution of Empathy to the Adjustment of Military Veterans and Their Female Partners

Objective: Empathy plays an important role in romantic relationships; and thus, this study examined the contribution of both Israeli male military veterans' and their female partners' cognitive and emotional empathy to both partners' adjustment defined as posttraumatic stress symptoms (PTSS) and functioning, comparing veterans who asked for mental health help and a comparison group of veterans who did not.

Method: Participants were 300 Israeli male veterans of the 2006 Israel–Lebanon War and their female partners, all of whom completed self-report questionnaires.

Results: Results demonstrated significant differences between the models in the groups. Among the male veterans in the research group, higher levels of veterans' own emotional and cognitive empathy were associated with higher levels of their PTSS and lower levels of functioning. In the comparison group, females' Personal Distress and Fantasy subscales of the Interpersonal Reactivity Index were positively associated with their own PTSS, whereas the Empathic Concern subscale was negatively associated. Females' Perspective-Taking served as a protective factor only for those in the research group and was negatively associated with females' PTSS. In each of the models, the cross effects (from one partner to the other) were limited.

Conclusion: The various facets of empathy and its dyadic nature appear to play a different role in the adjustment of each partner in military couples. The associations among the research group were stronger than in the comparison group.

Rates of posttraumatic stress disorder (PTSD) diagnoses have been found to be between 4% and 20% for Israeli male military veterans. PTSD comprises symptoms of intrusion, hyperarousal, avoidance, and persistent negative alterations in cognitions and mood (American Psychiatric Association, 2013). Similar rates of PTSD have been found among male veterans in the U.S. Armed Forces who served in Operation Iraqi Freedom and Operation Enduring Freedom and subsequently experienced PTSD as a result of their military service (Institute of Medicine, 2013; Solomon et al., 1994; Zohar & Fostick, 2013). In both armies, the majority of combatants were men (Blum, 2016).

Although limited, research has demonstrated how the military veteran's PTSD can negatively affect his wife or partner (e.g., Beckham et al., 1996), a phenomenon known as secondary traumatization (e.g., Figley, 1986). Secondary traumatization can occur when those who are in close contact with a traumatized person begin to experience emotional distress and display PTSD-like responses, similar to the primary trauma survivor's exhibited PTSD symptoms (Figley, 1995). Approximately 10% of the female spouses of veterans who suffer from PTSD have been found to experience symptoms of secondary traumatization, otherwise known as secondary traumatic stress

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(STS) symptoms (Dekel et al., 2015; Renshaw et al., 2008). Indeed, in the most recent version of the *Diagnostic Statistical Manual of Mental Disorders (DSM-V)*, the revised criteria for a diagnosis of PTSD were expanded to include indirect exposure to trauma (American Psychiatric Association, 2013).

If individuals have symptoms of PTSD but do not meet all of the criteria for a PTSD diagnosis, they can be considered as having posttraumatic stress symptoms (PTSS). Not surprisingly, a veteran's PTSS can have a negative impact on their marital relationship. Studies have documented lower levels of marital satisfaction (Lambert et al., 2012), sexual satisfaction (Renshaw et al., 2008) and intimacy (Solomon et al., 2008), and higher levels of family violence (Monson et al., 2009) in couples in which the veteran suffers from PTSS compared with couples in which the veteran does not suffer from PTSS.

To date, research has focused on understanding the process by which the distress of the male veteran with PTSS is transmitted to his civilian partner (Fredman et al., 2014; Monk & Goff, 2014; Renshaw et al., 2010); however, most studies have focused on only one of the spouses, narrowing in on PTSS severity (Sautter et al., 2011) or caregiver burden (Beckham et al., 1996) as possible pathways. Only a few studies have examined the interpersonal dynamic between the two partners or the variables pertaining to each of them (Gerlock et al., 2014; Lambert et al., 2015; Macdonell et al., 2014).

To add to the existing literature, and based on previous dyadic models (Goff & Smith, 2005; Monson & Fredman, 2012; Monson et al., 2010), the current study examined the contribution of both the veteran's and the female partner's empathy to their adjustment as manifested in their PTSS and functioning, while comparing groups of veterans who did or did not apply for mental health help. This examination allowed for the opportunity to learn about the contribution of each partner's empathy to their own and to their partner's adjustment in the same design.

EMPATHY

Empathy is defined here as individuals' ability to both understand and share in the private world of another person as if it were their own (Horvath & Bedi, 2002). The research literature conceptualizes empathy as being expressed

both cognitively and emotionally (Péloquin & Lafontaine, 2010; Preston & Waal, 2002). Emotional empathy is when the observer experiences and shares in the emotions of the other to such a degree that the emotional life of the other actually becomes that of the observer (Hoffman, 2000; Preston & de Waal, 2002; Verhofsstadt et al., 2008). Cognitive empathy is defined as intellectually putting oneself into the place of another without necessarily experiencing the other's emotions (Preston & de Waal, 2002).

Role of Empathy in Relationships and Marriage

Whereas empathy can play a role in all interpersonal interactions, research has found that empathy plays a seminal and positive role in romantic and marital relationships (Ickes, 2001; Simpson et al., 2003). The primary role of empathy is in helping individuals form and maintain lasting social bonds (Preston & de Waal, 2002) through a recognition of and response to the thoughts and feelings of others (Mikulincer & Shaver, 2005). Empathy can be predictive of closeness and the ability to forgive, as well as predictive of lower levels of tension within a couple (Fincham et al., 2002; O'Brien et al., 2009; Simpson et al., 2003). Dyadic empathy can aid each partner in reading the other's positive emotions, experiencing the other's physiological state, and gauging levels of empathic effort and accuracy, all of which can in turn contribute to overall relationship satisfaction (Cohen et al., 2012; Preston & De Waal, 2002). Each partner's perception of dyadic empathic congruity also can affect levels of happiness within the relationship (Kimmes et al., 2014). Higher levels of empathic accuracy have been found to be predictive of higher positive levels of emotional support and lower levels of negative types of support (i.e., criticism or blaming) in marriage (Verhofstadt et al., 2008). Partners in distressed marriages can come to see their spouses' negative behaviors as indications of negative personality attributes and can therefore benefit from greater empathy; couples in marriages that are high in adjustment are usually able to see negative behaviors as situational and temporary (Fincham et al., 1987; Fletcher & Fincham, 1991; Gottman, 1999).

There are few publications on the role of empathy in couples where one partner suffers from PTSD. Bride and Figley (2009) argued that empathy can play both a positive and negative role in the emergence of STS: Although empathy

can play a positive role in connecting one partner with the other, it also can have a negative impact in that it can cause the partner without PTSD to experience the stress and suffering of the loved one who experienced the traumatic event (Bride & Figley, 2009). Other studies' findings have supported this theory, documenting that trauma survivors with PTSS can have a negative impact on the other partner (Campbell & Renshaw, 2013; Leifker et al., 2015). Partners of individuals with PTSS have been shown also to have difficulties in relationships. They are more likely to report the following: challenges in providing intimacy, relationship distress, and engaging in negative communication (Allen et al., 2010; Riggs et al., 1998). Relationship difficulties can occur as the result of their PTSS symptoms and effects, for example, emotional numbing can potentially lead to a loss of interest in activities and to feelings of detachment and alienation from others (Nietlisbach & Maercker, 2009).

Little is known about how partners' empathy for their spouse contributes to their own adjustment, or how empathy among couples in which one partner has PTSS can in turn contribute to the partner's adjustment. However, the role of empathy has been studied extensively among therapists (Baum, 2015; Thomas, 2013), physicians (Gleichgerrcht & Decety, 2013), and caregivers (Figley, 1995) and has been found to be helpful in the professional's ability to care about and connect with patients. At the same time, empathy has been found to contribute to higher compassion fatigue, burnout, and vicarious trauma of professionals, all of which can negatively influence their private and professional lives (MacRitchie & Leibowitz, 2010).

To better understand the dyadic nature of PTSS and functioning among couples in which the husbands actively served in a war, the present study examined the contribution of each partner's empathy to both partners' symptoms of PTSS and functioning. Specifically, we examined (a) the contribution of individuals' empathy to their own PTSS and functioning (within-person effects) and (b) the contribution of one's partner's empathy to the other's PTSS and functioning (between-spouse effects), comparing veterans who applied for help and those who did not.

On the basis of the theory of secondary traumatization, we hypothesized that the women's actor effects would be negative (i.e.,

females' higher empathy would be associated with their own lower adjustment, manifested in their higher PTSS and lower functioning). The military veterans' actor effects were examined as an open question because we were unable to formulate a hypothesis due to a lack of previous studies on the topic. Regarding partner effects, in light of previous findings that demonstrate how spouses can use empathy to support their male partners with PTSS, as opposed to what veterans with PTSS tend to do, which is withdraw and shut down, we hypothesized that females' contributions to their male veteran partners would be stronger than male veterans' contributions to their female partners.

METHOD

Participants were 300 male veterans of the 2006 Israel–Lebanon War and their wives or female partners. Of these participants, 150 veterans and their partners were in the PTSS study group; the other 150 veterans and their partners were in the comparison group. It is important to point out that the vast majority of Israeli combatants of wars in Israel in general are male; in fact, during the 2006 Israel–Lebanon War, fewer than 3% of enlisted women served as combatants (Blum, 2016). For this reason, the current study focused on male veterans and their female partners, a situation that naturally led to our use of more gendered language.

The 2006 Israel–Lebanon War was a 33-day military conflict between Hezbollah paramilitary forces in Lebanon and the Israel Defense Forces (IDF). To track those soldiers who were most likely to experience PTSS as a consequence of their active service in the war, the study population included all male soldiers who requested the IDF's mental health services, until 2011 when data were collected. However, given that veterans who request mental health assistance might differ in background variables (Pietrzak et al., 2009), as well as in experiences of distress (Erbes et al., 2007), from veterans who do not request help, we compared the groups in background variable and in the whole model.

A comparison of the sociodemographic information of the veterans in the two groups revealed that there were no differences between them in terms of country of birth, marital status, length of relationship, number of children, rank, and military role (combat vs. noncombat). The average age of the male veterans was 35.53 years

old (ranging from 27 to 61 years, $SD = 5.45$), and the average age of their female partners was 33.80 years (ranging from 24 to 62 years, $SD = 5.57$). The majority of veterans and their partners were born in Israel (87.00% and 85.80%, respectively). The average number of years of education among the males was 14.89 (ranging from 10 to 25 years, $SD = 2.83$) and 15.21 (ranging from 11 to 22 years, $SD = 2.44$) among the females.

The majority of both males and females were employed (68% and 67%, respectively); approximately 15% of the veterans and 18% of the partners were students. The majority of couples reported that they were married (79%), and the remainder reported cohabiting (21%). On average, couples reported having been together for 6.5 years (ranging from 6 months to 37 years, $SD = 5.28$) and had an average of 1.57 children (ranging from 0 to 10 children, $SD = 1.65$). The majority of veterans (61.10%) reported that their income was above average, and the remainder (38.90%) reported their income as average or below average. Most of the veterans (89.30%) had held combat positions; the rest (10.70%) had held noncombat positions. Their military ranks included officers (14%) and enlisted men (86%).

As expected, the level of PTSS of the research group (we provide a description of the PTSS measure later in this section) was significantly higher ($M = 2.23$, $SD = .83$; $t(298) = 12.75$, $p < .001$) than that of the comparison group ($M = 1.28$, $SD = .39$). In addition, their level of functioning was lower ($M = 26.85$, $SD = 9.43$; $t(298) = 9.80$, $p < 0.05$) than that of the comparison group ($M = 32.56$, $SD = 7.18$).

Procedures

Participant recruitment began from an IDF-provided list of male military veterans who had requested mental health services from the IDF in the aftermath of the 2006 Israel–Lebanon War, gathered with the assistance of an IDF mental health officer who was part of the research team. Research assistants telephoned all potential participants and asked them whether they were currently in a heterosexual relationship of at least 6 months' duration. Being in a heterosexual relationship was added as an inclusion criterion because the number of homosexual couples serving in the Israeli military is not known.

Of these veterans with PTSS, 369 fulfilled the study criterion. During the telephone recruitment call, some of veterans declined to participate. For those who agreed to participate, the aims of the study were explained to them, and their consent to participate and to recruit their partners into the study was obtained. The couples were sent questionnaires via the Internet or by mail. Of the 369 couples, 150 completed the surveys, resulting in a 40% response rate.

The comparison group comprised individuals who had served in the 2006 Israel–Lebanon War also and were from the same military units as the study group but had not asked for mental health assistance. They were chosen from a list, obtained from the IDF for the purposes of this study, of approximately 5,000 veterans who had participated in the 2006 Israel–Lebanon War in the same units in which the study group veterans served. Every fifth veteran on this list was contacted and invited to participate in the study; collection ceased when 150 couples were identified. Research assistants made three to five follow-up attempts for all couples in the study, including mailings and telephone calls.

Recruitment was a long and complex process because we had to obtain the agreement and willingness of both partners to participate. Approximately 40% of the PTSS study group couples and 30% of the comparison group couples who were contacted agreed to participate in the study, and males were matched in age and rank. Comparing the sociodemographic information of the veterans in the two groups revealed that there were no differences between them in terms of country of birth, education, rank, and military role (combat vs. noncombat). The female partners of the veterans also did not differ from one another in terms of age or level of education. Likewise, the study and comparison groups had no significant differences between them in terms of marital status, length of relationship, and number of children.

All 300 couples were compensated, with each couple receiving a total of \$25 for their participation. In instances where a participating veteran or his partner displayed emotional or marital distress, the research team referred the individual to a treatment facility. The institutional review boards of both The Helsinki Committee of the Medical Corps of the IDF and Bar-Ilan Institutional Review Board approved the proposal for this study.

Measures

Sociodemographic Information. For all participants, the following variables were collected: age, gender, country of birth, education, income, length of relationship with partner, number of children, and rank of the veteran.

Traumatic Life Events Questionnaire. The occurrence of earlier traumatic events in the lives of both partners was measured using the Traumatic Life Events Questionnaire (Solomon, 1993), which provides a standard list of 13 traumatic life events (war, car accidents, etc.). In relation to each item, both partners were asked to answer whether they had experienced the event at some point in their lives and, if so, when (Dekel & Solomon, 2006). Scores were calculated as the number of traumatic events that each partner had experienced.

Interpersonal Reactivity Index (IRI). The male and female participants' empathy was assessed by the IRI (Davis, 1980), a 28-item self-report questionnaire consisting of four subscales, each of which assesses a specific aspect of empathy. The cognitive empathy scale includes the Perspective-Taking subscale that measures the tendency to adopt the point of view of other people in everyday life ("I sometimes try to understand my friends better by imagining how things look from their perspective") and the Fantasy subscale that measures the tendency to experience the feelings and actions of fictitious characters in books, movies, and plays ("I really get involved with the feelings of the characters in a novel"). The emotional empathy questions assess Empathic Concern, which measures the tendency to experience feelings of warmth, compassion, and concern for other people ("I often have tender, concerned feelings for people less fortunate than me"). The Personal Distress subscale also assesses emotional reactions, but rather than tapping feelings of concern for others, it taps one's feelings of personal unease and discomfort in *reaction* to the emotions of others ("Being in a tense emotional situation scares me"). Respondents were asked to rate their level of empathy on a 5-point Likert scale ranging from 1 (*does not describe me well*) to 5 (*describes me very well*). In a study conducted among civilian couples, the internal reliability of the four scales ranged from .73 to .83 (Péloquin & Lafontaine, 2010). Cronbach's alpha scales were high, ranging from 0.69 to 0.80, except

for the reliability of the males' empathic concern, which was 0.56. Alphas were as follows: Empathic Concern (males, .56; females, .71), Personal Distress (males, .76; females, .69), Fantasy (males, .73; females, .76), and Perspective Taking (males, .78; females, .80).

PTSD Inventory. PTSS were measured using the PTSD Inventory (Solomon et al., 1993), a 17-item, self-reported symptom scale that corresponds to the *DSM-IV* (American Psychiatric Association, 1994). This scale was developed in Israel and has been validated and used intensively (Ginzburg et al., 2002; Karstoft et al., 2013). In accordance with Criterion A of the PTSD classification, the symptoms must be connected to a specific event. Male participants were asked to indicate the frequency with which they had experienced each symptom in relation to their wartime service during the preceding month, using a 4-point scale ranging from *never* (1) to *very often* (4).

For each statement, the women were asked to indicate whether they had the symptom in the previous month. Instead of referring to a traumatic experience of their own, however, they were asked about their husband's experiences of combat. An example of an item was "I have recurrent pictures or thoughts about my husband's combat."

The PTSD inventory is used to assess symptom severity as measured by the mean number of symptoms experienced by participants. This scale has been used widely with Israeli populations and found to be highly valid and reliable. Cronbach's alpha reliability estimates for the current study were strong, with values of .96 and .90 for PTSD symptom total scores for males and females, respectively.

Life Functioning Scale. Levels of daily functioning of both partners was reported using the Life Functioning Scale, derived from the Psychotherapy Outcome Assessment and Monitoring System—Trauma Version (POAMS-TV; Green et al., 2003). Respondents were asked to rate their level of functioning in each of 11 areas related to their daily life (e.g., work, social relationships, and physical health), over the previous 2 weeks, on a 5-point Likert-type scale ranging from 0 = *barely functioning* to 4 = *functioning very well*. Scores were calculated as the mean of the items: The higher the score, the greater the functioning. In this study, the alpha reliability

Table 1. Correlation Coefficients Across Model Independent and Outcome Variables by Actor Versus Partner and Groups (Combat Couples)

	1	2	3	4
Actor Veteran				
1. Perspective Taking	—	-.03	-.44***	.72***
2. Fantasy	.30**	—	.32**	.25*
3. Empathic Concern	-.24*	.52***	—	-.28*
4. Personal Distress	.60***	.29*	.17	—
Actor Spouse				
1. Perspective Taking	—	.28**	.02	.58***
2. Fantasy	.17	—	.44***	.32**
3. Empathic Concern	-.15	.31**	—	.14
4. Personal Distress	.55***	.51***	.10	—
Actor-Partner				
1. Perspective Taking	.01, .31**			
2. Fantasy		.03, .22*		
3. Empathic Concern			.14, .05	
4. Personal Distress				.15, .24
Actor Veteran - Partner				
1. Perspective Taking	—	.23*	-.02	.08
2. Fantasy	-.09	—	.16	-.004
3. Empathic Concern	-.08	-.07	—	-.15
4. Personal Distress	.14	.06	-.11	—
Actor Spouse - Partner				
1. Perspective Taking	—	.09	-.09	.26*
2. Fantasy	.21*	—	.08	.36**
3. Empathic Concern	.01	-.08	—	.00
4. Personal Distress	.19	-.09	-.08	—

Note. *** $p < .001$. ** $p < .01$. * $p < .05$.

estimate was .93 for the men and 0.87 for the women.

Statistical Analysis

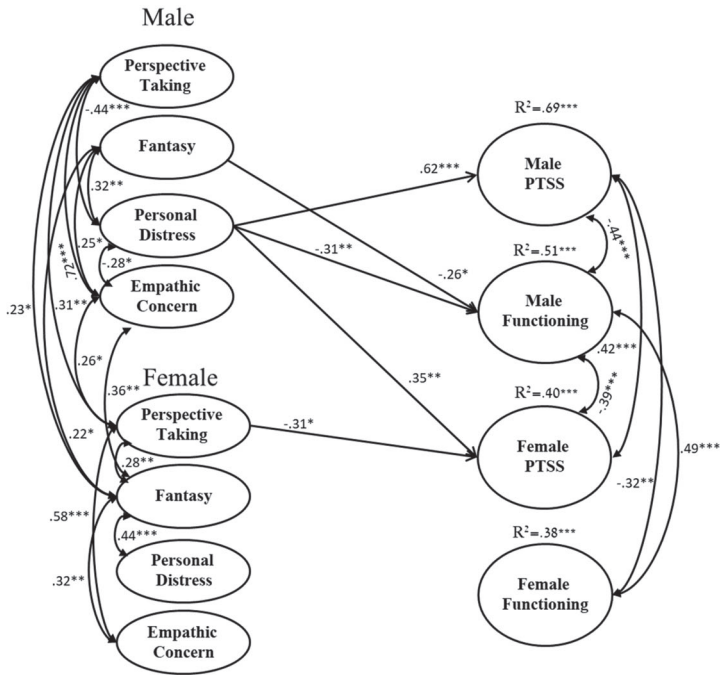
To test the hypothesized models, we applied the unconstrained actor partner interdependence model (APIM), using structural equation modeling (SEM). The advantage of this analytical framework is that it examines the interactions of actors with partners and vice versa; using it, therefore, provides the opportunity to examine both within-participant and between-participant effects. Moreover, for the two-group (targeted group vs. comparison group) and dyadic (participant vs. spouse) comparison, we developed a twofold invariance test. In this test, we compared an unconfigured model fit with a model constrained to equal coefficients across the two groups and between dyad members. We started from a saturated model in which all paths from background to empathy variables

and from background to outcome variables were estimated.

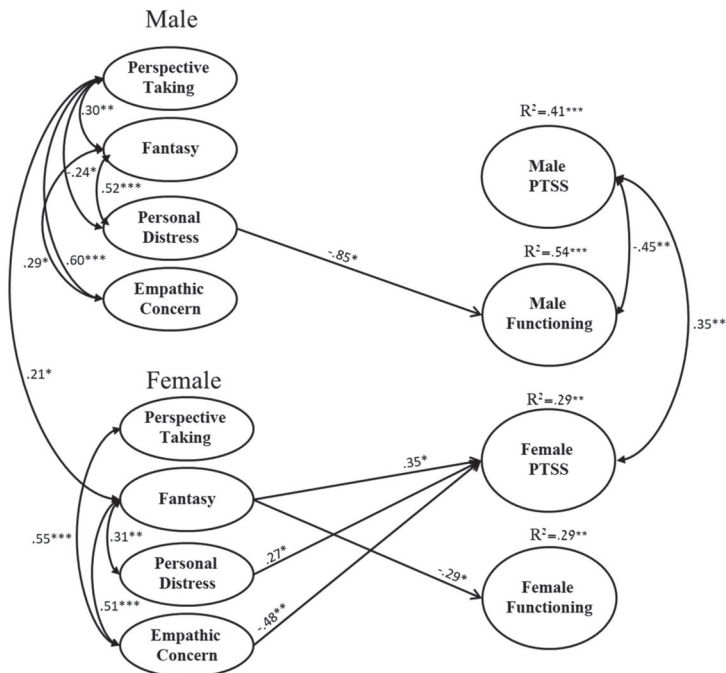
The modeling procedure was conducted as follows: First, we tested all paths between background variables and empathy and dependent variables. Next, we excluded all nonsignificant paths from background variables to other variables but kept all paths from empathy to the dependent variables to retain the dyadic format of the structure of the data. By excluding the nonsignificant paths, we reduced the model's complexity. In the Results section, we report significant paths only and estimate associations across empathy variables and across outcome variables. In Table 1, we present the correlation coefficients across model independent and outcome variables by actor versus partner and groups. In Figure 1, we examine the structural equation model results for understanding male and female psychological response to psychological perceptions.

Figure 1. STRUCTURAL EQUATION MODEL RESULTS FOR UNDERSTANDING MALE AND FEMALE PSYCHOLOGICAL RESPONSE TO PSYCHOLOGICAL PERCEPTIONS: MODEL A: CASES; MODEL B: CONTROLS.

Model A



Model B



RESULTS

Multiple Group Comparison Results

In comparison to a free unconstrained model, which appeared to meet the required fit quality (comparative fit index [CFI], Tucker–Lewis index [TLI] = 1.00, root mean square of approximation [RMSEA] < .001, standard root mean squared residual [SRMR] = .014, $\chi^2 = 5.41$, $df = 14$, $p = .98$), the comparison between groups, targeted and control, resulted in a significant reduction in goodness of fit: χ^2 difference 137.23, $df = 80$, $p < .001$, CFI difference = .06. That is, there was a meaningful difference between the two groups in their association between empathy and outcomes. In this comparison, we relaxed the actor–partner effects, such that their estimation was free. The second comparison included constraints for equality within effects (e.g., spouse-on-herself equal to subject-on-himself effects, and spouse-on-subject equal to subject-on-spouse effects). Although these constraints resulted in a considerable reduction in goodness of fit (χ^2 difference = 54.35, $df = 32$, $p < .01$, CFI difference = .017), in this comparison, the overall fit remained high (e.g., CFI = .983, TLI = .922). This finding may indicate that the comparison group is the one that entered with lower dyadic associations.

Dyadic Analysis

To examine the level of individuals' empathy as it contributes to their own personal adjustment (as manifested in levels of PTSS and functioning and adjusted to the STS and functioning of his/her partner), we conducted an SEM (Mplus v.7.4). The model includes background variables, the four empathy subscales as independent variables, and the two adjustment measures as dependent variables. The presented model (see Figure 1), which includes both within-participant and between-spouse effects and includes only the significant path of the background variable, revealed goodness of fit above the required threshold (for fit requirement, see Wang & Wang, 2012: CFI, TLI > .90 => good fit; CFI, TLI > .95 => excellent fit). Only significant paths are presented in Figure 1. In Table 2, we present results from actor–partner models wherein PTSS are predicted by subscales of the Interpersonal Reactivity Index. In Table 3, we share the results from actor–partner models

wherein functioning is predicted by subscales of the IRI.

Within-Person Effects

In the target group, females' Perspective-Taking was found to be negatively and significantly associated with her own PTSS ($\beta = -.31$, $p < .05$). Among males, Fantasy and Personal Distress were negatively associated with their own functioning ($\beta = .26$, $p < .05$; $\beta = -.31$, $p < .01$; respectively), whereas personal distress was positively associated with their own PTSS ($\beta = .62$, $p < .001$).

As for the comparison group, among females, Fantasy and Personal Distress were positively associated with their PTSS ($\beta = .35$, $p < .05$; $\beta = .27$, $p < .05$; respectively), whereas Empathic Concern was negatively associated with their PTSS, and Fantasy was negatively associated with their functioning ($\beta = -.48$, $p < .01$; $\beta = -.29$, $p < .05$; respectively). Among males from the comparison group, only Personal Distress was found to be negatively associated with their functioning ($\beta = -.85$, $p < .05$).

Between-Spouse Effects

In terms of between-spouse effects, we found only one positive association in the research group from males' Personal Distress their females' PTSS. It is important also to note that the correlations across dyadic members in the cases were found to be high between both the empathy measures and the outcome measures. For example, males' Perspective-Taking and Fantasy were positively correlated with these same measures of females. In addition, the PTSS and Functioning of both partners in this group were highly correlated. This finding was in contrast to a single correlation found in the comparison group between males' Perspective-Taking and females' Fantasy in the empathy measures, and between males' PTSS and females' PTSS.

DISCUSSION

The aim of this study was to better understand the dyadic nature of the contribution of empathy to PTSS and functioning in couples composed of male military veterans and female civilians.

Table 2. Results From Actor–Partner Models Wherein Posttraumatic Stress Symptoms Are Predicted by Subscales of the Interpersonal Reactivity Index

	Combat couples				Control couples			
	Veteran		Spouse		Veteran		Spouse	
	b	SE	b	SE	b	SE	b	SE
Actor								
Perspective-Taking	-3.41	4.18	-4.45*	2.14	-0.30	2.74	2.66	1.55
Fantasy	1.48	1.93	-0.03	1.47	1.92	2.46	3.26*	1.36
Empathic Concern	12.33***	1.78	2.45	1.75	5.08	3.70	2.69*	1.34
Personal Distress	2.53	7.19	3.79	2.81	-1.34	3.02	-5.54*	2.18
Partner								
Perspective-Taking	-1.51	2.75	1.86	3.23	0.32	1.40	0.61	2.97
Fantasy	0.49	1.92	0.46	1.48	-0.97	1.22	-1.71	2.69
Empathic Concern	-0.20	2.28	4.21**	1.35	0.51	1.24	0.89	3.98
Personal Distress	-0.47	3.61	-0.49	5.50	-0.49	1.93	0.96	3.26

Note. *** $p < .001$. ** $p < .01$. * $p < .05$.

Table 3. Results From Actor–Partner Models Wherein Functioning Is Predicted by Subscales of the Interpersonal Reactivity Index

	Combat couples				Control couples			
	Veteran		Spouse		Veteran		Spouse	
	b	SE	b	SE	b	SE	b	SE
Actor								
Perspective-Taking	4.26	3.22	3.29	1.90	-2.25	3.90	2.24	1.48
Fantasy	-3.33*	1.47	-1.58	1.31	1.70	3.45	-2.76*	1.30
Empathic Concern	-4.12**	1.34	-1.95	1.55	-12.09*	5.36	-0.28	1.31
Personal Distress	-0.93	5.50	-1.03	2.50	6.32	4.26	3.10	2.05
Partner								
Perspective-Taking	1.54	2.10	-2.39	2.97	-1.76	1.85	-0.21	2.89
Fantasy	-1.45	1.46	-1.67	1.34	-2.01	1.60	-0.29	2.60
Empathic Concern	0.84	1.75	-1.83	1.18	1.07	1.67	-2.72	3.88
Personal Distress	1.30	2.77	6.11	5.13	4.06	2.56	2.27	3.18

Note. *** $p < .001$. ** $p < .01$. * $p < .05$.

The present study examined the contribution of both partners' cognitive and emotional empathy to both partners' symptoms of PTSS and functioning, comparing between a group of veterans who requested help and a comparison group. The association of subscales, rather than overall emotional or cognitive Empathy, was assessed to enable more specificity in terms of type of empathy (Haas et al., 2015; Péloquin & Lafontaine, 2010).

Comparing the models between the groups, it could be seen that in the target group, there were more within-person effects, that is, effects between the man's empathy and his outcomes, than were seen in the comparison

group. Results demonstrated that higher levels of the veterans' own emotional and cognitive empathy were associated with lower levels of adjustment: The veterans' Personal Distress and Fantasy (emotional empathy) were both negatively associated with their functioning, whereas his personal distress was associated positively with his PTSS. In the comparison group, only the negative association between the personal distress and functioning was significant. These findings highlight the difficulties of veterans with PTSS to regulate their emotions and the toll that it takes on their own distress and functioning (Macdonell et al., 2014).

The Fantasy scale measures respondents' tendencies to transpose themselves imaginatively into the feelings and actions of fictitious characters in books, movies, and plays. We could hypothesize here that higher levels of this type of empathy would be associated with lower functioning because the individuals might not be sufficiently grounded in reality and might be more occupied with the fantasy world than with the real world. Additionally, a recent criticism of this subscale suggested that it may have a personal component, an observation that would indeed validate the correlation we found with the aspect of personal functioning and might suggest that this subscale is less suitable for assessing empathy in close relationships (Péloquin & Lafontaine, 2010).

Regarding within-person effects, among the women, the picture is different: There were more associations among the women's within-person effects in the comparison group than in the study group. Among the women's within-person effects, in the comparison group, females' Personal Distress (emotional empathy) was positively associated with their own PTSS. Females' Personal Fantasy (cognitive empathy) was negatively associated with their own functioning, whereas higher empathic concern was associated with their own functioning. In studies of social workers and physicians, it has been found that higher levels of Personal Distress and empathic concern make a negative contribution to performance and functioning because Personal Distress is associated with higher compassion fatigue, secondary traumatic stress, and burnout (Gleichgerricht & Decety, 2013; Thomas, 2013). It is possible that female partners with higher levels of Personal Distress are more prone to internalize the emotional states of others (Jabbi et al., 2007; Saarela et al., 2007).

Only in the research group, a female's Perspective-Taking (cognitive empathy) served as a protective factor and was negatively associated with her own PTSS. This finding dovetails with other findings showing that those who score higher on Perspective-Taking tend to be less emotionally reactive (Mohr et al., 2007). Perspective-Taking may help the female partner navigate and comprehend the veteran's PTSS, which can in turn influence the female's emotional functioning as well as her ability to differentiate between her distress and that of her partner (Coutinho et al., 2014). High levels of Perspective-Taking have been found

to be positively related to social competence (Davis, 1983) and positively correlated with forgiving behaviors in civilian couples in times of duress, as well as with overall positive marital adjustment (Long & Andrews, 1990).

Regarding between-partner effects, it was initially hypothesized that the female's contribution to her partner would be positive and stronger than the partner's effect on her, an assumption based on the theory of secondary traumatization and the caregiver (i.e., the fact that generally speaking, women occupy caregiver roles). For example, women may feel caught in a compassion trap, in which their empathy and willingness to help their partners exacts a price on their self-care (Dekel et al., 2005). A significant and unexpected finding, however, and one that runs contrary to the study's hypotheses, was that the female's empathy was not found to be associated with her partner's adjustment measures of PTSS and functioning in any of the groups. This finding might be attributed to the fact that veterans, due to their withdrawal from and avoidance of their partners, may be less influenced by their spouses than are civilian spouses (Brockman et al., 2015). In addition to PTSS, the veterans may be comorbidly experiencing depression or anxiety (Erbes et al., 2011), physical impairment (Gerlock et al., 2014), or difficulty in communicating with or connecting to their partners (Nelson Goff et al., 2006), all of which may result in the veteran "shutting off" his partner's effects.

This finding stands in contrast to the veteran's partner effects: In the research group, the male's Personal Distress was found to be positively associated with the female partner's PTSS. Researchers have theorized that this finding may be due to caregiving burden (Calhoun et al., 2002), emotional contagion (Figley, 1995), cultural socialization of females to be emotionally responsive (Hatfield et al., 1994), or projective identification (Weingarten, 2004). The discrepancies between the partners are significant, as dyadic empathy can lead to greater levels of dyadic coping and overall relationship satisfaction (Levesque et al., 2014).

This study is unique in that it examined dyadic empathy in military couples. Although other studies on empathy do exist, they have focused on civilian couples (Cohen et al., 2012; Levesque et al., 2014) or on the dyadic interactions within a couple (Kilpatrick et al., 2002; Kramer, et al., 2005; Langner & Keltner, 2008;

Whisman, 2014). Similar to the findings here, an earlier study also found that military veterans and their female partners differed in terms of the unique effects that each of their interactions had on the other; that is, the veteran's anxious attachment was significantly associated with his wife's PTSS severity, whereas the wife's anxious attachment was not significantly associated with her husband's PTSD severity (Ein-Dor et al., 2010). Other dyadic studies of military couples, however, differed from our study in that they found that both husbands and wives had different but existing within- and between-spouse effects (Lambert et al., 2015; Macdonell et al., 2014). It is important also to note that, consistent with earlier studies, there were multiple associations among couples in which one had PTSS and that they were stronger than in the comparison group couples, implying stronger crossover effects where higher levels of PTSS are evident (Roberge et al., 2016; Solomon et al., 2009).

Limitations

Limitations of this study include the use of measures in a cross-sectional design; hence, there was no baseline of each participant's level of empathy. In addition, self-reported measures, as opposed to assessments provided by clinicians, also can serve as a limitation. Furthermore, we decided to focus on heterosexual couples only and did not examine homosexual couples because the number of homosexual couples in this sample was too few in number. Another possible limitation of this study was gender; that is, it is impossible to know whether the findings were due to partner's gender or to partner's status (i.e., military vs. civilian). Additionally, although there are distinct differences between American and Israeli military populations, the majority of studies referenced in this study used samples of American military members and their partners. One of these differences is that the majority of American soldiers deploy for months at a time, a situation that diverges sharply from the situation that was at the center of this study: a 33-day war in which the study sample participated. Finally, the direction of the association between empathy and PTSS can be difficult to untangle; for example, do PTSS-related difficulties in social situations lead to a partner's trouble in empathizing? Or do partners who are low in empathy perhaps not

know how to respond to PTSS symptoms, potentially leading to their partners feeling alienated? Future longitudinal studies could certainly delve deeper into the association between these two constructs.

Given the focus on male veterans and their female partners in this study, future studies would do well to examine couples in which the female is a military veteran with a diagnosis of PTSD and her male partner a civilian. Homosexual couples should also be assessed in future studies. In addition, tracking couples in a longitudinal study could lead to a further understanding of how couples are affected by PTSS over time and of the potentially bidirectional association between empathy and PTSS. Future longitudinal studies could also examine the role of the female's previous traumatic events. It would also be of interest to see whether future studies would replicate our findings here, namely that the female partner's empathy was not associated with her male partner's PTSS and functioning.

Implications

Clinically, there is great potential for the development of interventions focusing on the role of empathy within military veteran couples, or post-deployment couples, who are in therapy. Interventions would need to be tailored to the specific needs of the dyad; for instance, female partners may experience a sense of burden that impedes their ability to assist their male veteran partners, whereas male veteran partners may not be responsive to their female partners because of their PTSS (Dekel et al., 2005). Service providers, including but not limited to clinicians or family life educators, also may wish to educate the couple on the differences between cognitive empathy and emotional empathy, highlighting the differences between them and explaining how each type of empathy can impact both the partner and his or her interaction with the other. Service providers also can work with male partners on increasing their Perspective-Taking and on balancing their own Personal Distress with the effect it has on their partners. It is important for professionals to work with both partners to see the costs and benefits of their interactions and to see how they influence the relationship between them. In addition, existing interventions for couples suffering from PTSS could be adapted to incorporate practices tailored to emotional and cognitive empathy

(e.g., Monson & Fredman, 2012). These interventions could potentially aid couples in which one partner has a diagnosis of PTSS, and they might also help partners find ways of being empathically present for one another.

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