

# COUPLE FORGIVENESS AND ITS MODERATING ROLE IN THE INTERGENERATIONAL TRANSMISSION OF VETERANS' POSTTRAUMATIC STRESS SYMPTOMS

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*This study examined the moderating effect couple forgiveness (as perceived by the wives/mothers) may have on the intergenerational transmission of posttraumatic stress symptoms (PTSS) among families of combat veterans and former prisoners of war (ex-POWs). The sample included 123 (79 ex-POWs and 44 control combatants) Israeli father–mother–adult offspring triads. Self-report measures were administered at 2008 to veterans, at 2010–2011 to wives, and at 2013–2014 to offspring. The findings indicated that ex-POWs' PTSS were positively related to their offspring's PTSS, while couple forgiveness buffered this effect, particularly, and detrimentally, when couple forgiveness was low. These findings imply that apprehending the quality of the forgiving atmosphere within the marital relationship may be important for understanding the apparatus of intergenerational transmissions of trauma.*

Entailing prolonged, repeated, and deliberately inflicted deprivation, humiliation, and physical torture, war captivity makes one of the most severe and traumatizing man-made experiences in existence (e.g., Herman, 1992). Decades after repatriation, many former prisoners of war (ex-POWs) may continue to suffer from long-term somatic as well as psychopathological after-effects, most notably posttraumatic stress disorder (PTSD; e.g., Solomon, Horesh, Ein-Dor, & Ohry, 2012).

The long-term consequences of trauma, however, are not solely the fate of the primary trauma victims but may also foster dire ramifications for their significant others. In this respect, the term *secondary traumatization* (ST) was coined by Figley (1986) to indicate the manifestation of emotional distress and PTSD-like responses in people who are most proximate with the traumatized person. Particularly, ST among the progeny of primary trauma victims has recently begun to attract increasing attention (e.g., Maršanić, Margetić, Jukić, Matko, & Grgić, 2014), veterans' progeny included (e.g., Pedras & Pereira, 2014). Studies have typically indicated that the offspring of veterans with PTSD compared to those of veterans without PTSD exhibit more frequent and more

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severe posttraumatic symptomatic manifestations (e.g., Dekel & Goldblatt, 2008). Moreover, ST experienced in early stages of one's life may be implicated in similar manifestation in adulthood (e.g., Dinshtein, Dekel, & Polliack, 2011). Therefore, it has been suggested that veterans' PTSS may be implicated in the ST of their adult offspring (e.g., Pedras & Pereira, 2014). Furthermore, studies indicate that ex-POWs' adult offspring have not only reported a greater number of posttraumatic stress symptoms (PTSS) compared to offspring of noncaptive veterans (e.g., Zerach, 2015; Zerach & Aloni, 2015), but also that their PTSS were closely related to their fathers' PTSS (e.g., Zerach, Kanat-Maymon, Aloni, & Solomon, 2016).

In an attempt to explain the intergenerational transmission of the posttraumatic reactions depicted above, several possible mechanisms have been suggested. One view of trauma transmission proposed that veterans with PTSD are burdened with traumatic memories (e.g., Berntsen, Willert, & Rubin, 2003), and as they communicate these to their offspring, they are likely to reveal trauma-related clues and emotions as well as exhibit more difficulty in controlling their aggressive behaviors. Consequently, offspring may not only be exposed indirectly to traumatic events but also directly exposed to the traumatic contents and their fathers' violent behaviors (e.g., Rosenheck & Fontana, 1998).

An alternative explanation lies with contagion theory which has been originally suggested as the animating force behind ST (Figley, 1986). According to emotional contagion theory (e.g., Hatfield, Cacioppo, & Rapson, 1994), affective states may be in a way "contagious" and thus may be transferred from one person to another, partially by one partner adopting or imitating the behavior of the other partner. This may be particularly salient in parent-child relationships wherein children look up to their parents as models for imitation. Offspring, whether young or in early adulthood, may adopt some of their fathers' posttraumatic reactions and incorporate them into their own behavioral and affective repertoires.

Notwithstanding the plausibility of these explanatory avenues, they have one major shortcoming. Namely, they decontextualize the father-offspring relationship from the more holistic family system wherein it is embedded. As such, the triadic relationship of father-wife/mother-child, characteristic of most families, is generally overlooked. More holistic family perspectives are then much needed.

For instance, Minuchin's (1974) family system theory suggested that the family is a holistic relational system comprised of interrelated subsystems (e.g., marital subsystem, parent-child subsystems), wherein family members' behaviors reciprocally influence each other. Thus, each subsystem both affects and is affected by the others. In this respect, wives are an important resource of social support, and might be very influential also in the relationship between fathers/husbands and offspring (e.g., Mustillo, Xu, & Wadsworth, 2014). Indeed, it has been found that mothers may partially buffer the effect of paternal combat PTSD on offspring's PTSD (e.g., Dinshtein et al., 2011). Nevertheless, to the best of our knowledge, no extant study has investigated the possibility that the nature of the relationship between ex-POWs and their wives may play a role in the intergenerational transmission of PTSS.

Adding to extant knowledge, this study set out to examine the intergenerational transmission of trauma in families wherein the husbands are ex-POWs, and assess whether it is related to or affected by aspects of the marital relationship. Although it may be valuable to look at the marital relationship as a whole, this investigation was more nuanced, examining one of many factors within this relational gestalt. Specifically, we set out to examine whether couple forgiveness (as perceived by the wives/mothers) may be an important moderating factor in the relationship between fathers' and offspring's PTSS. The choice of the mothers' perspective for this study was guided by the notion that we were seeking to investigate the impact of the primary victim (i.e., the veteran) on his surrounding family system. The wives' perspective of the couple forgiveness (henceforth, "couple forgiveness" in accordance with Dekel, 2010) is then an assessment of one aspect of the couple interaction in light of the primary victim's trauma. Based on previous family studies indicating that forgiveness can restore trust, increase intimacy, improve the marital relationship, and maintain the good home atmosphere (e.g., Fincham, Hall, & Beach, 2006; Gordon, Hughes, Tomcik, Dixon, & Litzinger, 2009), the guiding notion was that couple forgiveness may play an important role in this concatenation of events.

### *Forgiveness and Intergenerational ST*

Forgiveness is a complex construct, conceptualized at varying levels (e.g., a response to a transgression, a personality trait, or a characteristic of social units such as families and communities; Fincham & Kashdan, 2004). In this study, forgiveness is considered to be interactive, simultaneously considering both the victim and the offender (Pollard, Anderson, Anderson, & Jennings, 1998). From this perspective, forgiving entails five components: (a) *realization*, denoting an intrapsychic awareness, either by the offender or the offended, of an action which brought about pain, unpleasantness, or suffering; (b) *recognition*, denoting an evaluation of the aforementioned incident by both interacting partners; (c) *reparation*, entailing three closely related and interacting components: confrontation regarding the incident, the offender taking responsibility for what has happened, and both the asking for forgiveness and giving it; (d) *restitution*, denoting an effort on the behalf of the offender to amend; and (e) *resolution*, entailing the relinquishment of bad feelings for what has happened by both parties.

Forgiveness and the various roles it play have been investigated vis-à-vis marital relationships, marital satisfaction, and the family atmosphere (e.g., Fincham et al., 2006; Gordon et al., 2009). It has been found, for instance, that forgiveness may lead to decreases in conflicts among married couples (e.g., Fincham, Beach, & Davila, 2004), and increments in relationship quality and overall marital satisfaction (e.g., Olson, Marshall, Goddard, & Schramm, 2015). Consistent with these observations, studies focusing on ex-POWs' families have found that couple forgiveness may result in higher qualities of marital relationship (e.g., Solomon, Dekel, & Zerach, 2009), and marital satisfaction (e.g., Dekel, 2010). However, much like ST, couple forgiveness too has been examined primarily in its implications for the marital dyad, whereas the effects for offspring's mental health and for the parent–children relationship have remained largely unexamined. Notwithstanding several theoretical realizations suggest that couple forgiveness may play a pivotal role in understanding the intergenerational transmission of posttraumatic reactions following war captivity.

The ABC-X model (Hill, 1958), for instance, suggests that family stress or crisis might be buffered by family coping, wherein the collective family serves as a significant coping resource. The family as a collective may involve family cohesion, which is the interconnectedness of family members through the sharing of interests, values, affection, and support. Family cohesion may increase family resiliency in the face of adversity, thus helping all of the members of the family overcome the stress involved (Hawley & DeHaan, 1996). This implies that a family member (e.g., wife/mother) might potentially relieve the stress of another family member (e.g., ex-POW husband/father) thus mitigating the effect of that member's stress on the remaining family members (e.g., offspring; e.g., Dinshtein et al., 2011). Given that forgiveness has been shown to promote an improved marital interaction among couples wherein the husband is an ex-POW (e.g., Dekel, 2010), it is assumed that such forgiveness may, in turn, also be instrumental in mitigating the maladaptive father–child interaction, and thus buffer the intergenerational transmission of posttraumatic reactions.

White's (1999) work on contagion of affection and warmth within families may also be of significance here. White (1999) has suggested that affection within interacting sets of familial subsystems (e.g., dyads, triads) can be implicated by affection transpiring in other subsystems within the family. Particularly, parents' affection toward one another may have positive effects on children's affection toward the parents. Accordingly, ex-POWs' perception of a higher quality of marital relationship, associated with a favorable atmosphere of forgiveness (Solomon et al., 2009), may reflect upon their relationship with their children. Such an effect may assist ex-POWs in their attempts to positively interact with their children and possibly buffer the effect their PTSS may have on their offspring. It is these potential benefits of couple's forgiveness that this study set out to examine.

It is noteworthy that although the family models reviewed above address the family system at the stages of childrearing (i.e., as children are growing up within the family), theoretically, they may be similarly applicable at later stages, as children transition into young adulthood and leave the home environment (e.g., Aquilino, 2008); as long as the family continues to function as a holistic unit characterized by frequent interactions of its constituting members and reciprocal influences between them. Naturally, such aspects are culturally inflected.

In light of the above, it was hypothesized that ex-POWs' PTSS will be positively associated with their offspring's PTSS, as indicated in previous studies (H1). However, it was hypothesized

that the couple forgiveness will moderate this effect (H2). In addition, given that (a) ex-POWs' families, compared to families wherein the father is a combat veteran who has not been in captivity, are more likely to exhibit dyadic adjustment problems (e.g., Zerach, Anat, Solomon, & Heruti, 2010), and (b) that ex-POWs with PTSS may be more likely to experience problems associated with marital distress, marital functioning (e.g., Cook, Riggs, Thompson, Coyne, & Sheikh, 2004), and marital intimacy (e.g., Solomon, Dekel, & Zerach, 2008b); we also hypothesized a group difference concerning this moderating effect. That is, we expected to find an interaction between fathers' trauma and the couple forgiveness when considering the offspring's PTSS (H3).

## METHOD

### *Participants and Procedure*

One hundred and twenty-three Israeli husband/father–wife/mother–adult offspring (henceforth, “offspring”) triads in which the father was a veteran who served in the Israeli Defense Force (IDF) land forces during the 1973 Yom Kippur War participated in this study. The sample was divided into the following two groups: (a) 79 triads wherein the fathers were ex-POWs and (b) 44 control triads in which the fathers fought on the same fronts as the ex-POWs but were not held captive (henceforth, “noncaptive veterans”/“controls”). Controls were selected on the basis of their similarity to the ex-POWs on relevant military and personal variables, including age, combat exposure, and military rank.

Data were collected from all veterans at three time points: 1991 (T1), 2003 (T2), and 2008 (T3) (for additional information see Solomon et al., 2012). The initial sample size at T1 included 121 participants, whereas at T2 91 participants remained. However, at T3, 27 participants who refused to participate in previous measurements agreed to participate, hence the sample size included 114 veteran participants. No significant differences were found between those who participated in the follow-up assessments with regard to T1 level of PTSD, rank, age, and education (see Solomon et al., 2012).

Data were collected from wives at two time points: 2004 (T1) and 2010–2011 (T2) (see Greene, Lahav, Bronstein, & Solomon, 2014). The majority of the couples (96%) stayed together over the 41 years since husbands' return from the war, and only 4% were divorced or widowed. Of 111 married ex-POWs, the wives of 82 agreed to participate at T1, and of 102 married noncaptive veterans, 74 wives participated. At T2, 79 of 147 potential ex-POWs' wives, and 56 of 103 noncaptive veterans' wives participated. Using the offspring's data as an anchor, the initial sample at T1 included 61 wives, whereas at T2 the sample included 72 wives (32 participants were added and 21 participants dropped out due to rejection to participate).

Data were collected from offspring once at 2013–2014, as detailed below (the offspring's time point will be referred to henceforth as T4). Among the offspring, 72 (58.5%) had a partner at the time of assessment, 41 (33.3%) were single, and 9 (7.3%) were divorced. In an attempt to capture the phenomena at hand in as close a temporal proximity as possible, in this study we focused on the later points of measurement for both partners [i.e., T3 (2008) for fathers and T2 (2010–2011) for mothers]. Nevertheless, as noted below, earlier measurements were taken into consideration as covariates in the analysis, as well as predictors in the stochastic regressions for completing missing data. Ex-POW and control groups did not differ significantly at T3 in age [ $M = 57.86$ ,  $SD = 6.25$  compared to  $M = 56.58$ ,  $SD = 4.16$ ,  $t(112) = -1.14$ ,  $p > .05$ ], education [ $M = 14.04$ ,  $SD = 4.40$  compared to  $M = 14.43$ ,  $SD = 3.16$ ,  $t(112) = .49$ ,  $p > .05$ ], religiosity [ $\chi^2_{(2)} = .08$ ,  $p > .05$ ], or fathers' country of birth [ $\chi^2_{(2)} = 4.02$ ,  $p > .05$ ]. Furthermore, no differences were found between the groups concerning participation in previous wars [ $M = .30$ ,  $SD = .70$  compared to  $M = .62$ ,  $SD = 1.02$ ,  $t(119) = 1.81$ ,  $p > .05$ ], combat exposure [ $M = 1.41$ ,  $SD = .56$  compared to  $M = 1.68$ ,  $SD = .71$ ,  $t(61) = 1.65$ ,  $p > .05$ ], and number of negative life events after the war [ $M = 7.10$ ,  $SD = 5.02$  compared to  $M = 6.74$ ,  $SD = 5.12$ ,  $t(119) = -.37$ ,  $p > .05$ ].

In addition, ex-POWs' wives and controls' wives did not differ at T2 in age [ $M = 58.79$ ,  $SD = 5.76$  compared to  $M = 58.21$ ,  $SD = 5.37$ ,  $t(70) = -.38$ ,  $p > .05$ ], education [ $M = 14.15$ ,  $SD = 3.16$  compared to  $M = 15.55$ ,  $SD = 3.72$ ,  $t(74) = 1.66$ ,  $p > .05$ ], religiosity [ $\chi^2_{(2)} = 4.94$ ,  $p > .05$ ], country of origin [ $\chi^2_{(2)} = 2.23$ ,  $p > .05$ ], negative life events after the war [ $M = 3.08$ ,  $SD = 1.58$  compared to  $M = 2.74$ ,  $SD = 0.99$ ,  $t(51) = .29$ ,  $p > .05$ ], and fathers' military service

$[\chi^2_{(1)} = .85, p > .05]$ . Ninety-two ex-POWs' adult offspring were contacted, and only one child in each family was assessed. In families wherein more than one child agreed to participate (there were only three such cases) we chose the firstborn. Response rate in this group was 87%, meaning that 79 participated and 12 refused to participate. Of the participating 79, 42 (53%) were women and 37 (47%) were men. Ages ranged from 22 to 53 ( $M = 35.19, SD = 6.44$ ). Twenty-five participants (22.8%) were born prior to the war or captivity, whereas the rest were born after the war. No differences were found among the offspring concerning their birth before or after the war.

Sixty-eight control adult offspring were contacted, once again, only one child from each family in a similar fashion of sampling as in the ex-POW group. Fourteen refused to participate, making the response rate in this group 80.6%. Of the participating 44, 20 (45.5%) were women and 24 (54.5%) were men. Ages ranged from 21 to 47 ( $M = 34.84, SD = 5.44$ ). Twelve participants (18.5%) were born prior to the war, whereas the rest were born afterward. No differences were found among the offspring concerning their birth before or after the war.

Offspring in ex-POWs and controls groups did not differ significantly in age [ $M = 35.12, SD = 6.49$  compared to  $M = 34.84, SD = 5.44, t(132) = -0.23, p > .05$ ], gender [ $\chi^2_{(1)} = 1.05, p > .05$ ], marital status [ $\chi^2_{(3)} = 3.76, p > .05$ ], military service [ $\chi^2_{(3)} = 5.40, p > .05$ ], religiosity [ $\chi^2_{(4)} = 3.96, p > .05$ ], and place of birth [ $\chi^2_{(2)} = 0.18, p > .05$ ]. The groups did differ in the years of education [ $M = 14.89, SD = 2.81$  compared to  $M = 16.42, SD = 2.51, t(120) = 3.00, p < .01$ ], with controls' offspring reporting more years of education compared to ex-POWs' offspring.

There was no direct inquiry concerning witnessing or exposure to the parents' relationships. However, offspring were asked separately for each parent "To what extent are you close to your father/mother in your everyday routine?" Concomitantly, 80 (65%) respondents reported having a close relationship with their father and 94 (78.8%) reported having close relationships with the mother. In the Israeli culture it is common to have daily interactions with parents or witness one's parents' relationship frequently, also after offspring mature and leave the parents' home. This typically includes interacting on a daily or weekly basis and visiting each other often.

#### *Handling Missing Data*

Triads were included in the sample only if (a) both the veteran and his wife participated in at least one wave of measurement, and (b) there was a full participation of their offspring in their own wave. The valid data for offspring were  $n = 122$  (1 missing, 0.8%); for veterans  $n = 121$  (2 missing, 1%);  $n = 91$  (32 missing, 26%);  $n = 114$  (9 missing, 7%), at T1, T2, and T3, respectively; and for wives/mothers  $n = 61$  (62 missing, 50%);  $n = 72$  (51 missing, 41%), at T1 and T2, respectively. To decide whether the data were missing at random, we conducted analyses of differences between these groups in all of the variables, in and between partners, using Little's Missing Completely at Random (MCAR) test. The analysis revealed that the data were missing at random (MAR),  $\chi^2_{(22)} = 22.7, p = .42$ , and, hence we treated the data in this manner (Collins, Schafer, & Kam, 2001). Missing data were handled with maximum likelihood (ML), rather than more conventional methods such as arithmetic mean, list-wise or pairwise deletion, due to ML's reliability in longitudinal study designs (e.g., Schafer & Graham, 2002). ML uses all the available relevant data for each participant, thus partially recovering missing data from earlier or later waves. Longitudinal modeling by ML of missing data from responses is especially effective if it is conducted for a longitudinal model that borrows information across waves and across partners that can provide auxiliary variables (Schafer & Graham, 2002). This study utilized variables measured for both partners and offspring and across waves so as to increase the likelihood for optimal estimations of missing values. The final sample included 123 triads, 79 ex-POW triads, and 44 noncaptive veteran triads.

#### *Measures*

*PTSD symptomatology.* To assess PTSS and PTSD of both fathers and offspring we used the PTSD Inventory (PTSD-I; Solomon, Benbenishty, Neria, & Abramowitz, 1993). This questionnaire is comprised of 17 items corresponding to PTSD symptom criteria listed in DSM-IV-TR (American Psychiatric Association [APA], 2000), all rated on a 4-point scale indicating frequency of experience ranging from 1 (never) to 4 (almost always). Both fathers and offspring were asked to report the frequency in which they experienced the described symptoms in the previous month, in

relation to the fathers' experience of combat or captivity (e.g., "I have recurrent pictures or thoughts about my/my fathers' captivity"). Positive endorsement of symptoms was calculated by counting the items in which the respondents answered "3" or "4". The severity of PTSS was assessed by the total number of positively endorsed symptoms. Using DSM-IV-TR (APA, 2000) symptom criteria (Criteria B-F), participants were also identified as having PTSD if they endorsed at least one intrusive symptom, three avoidant symptoms, and two hyper arousal symptoms, and clinically significant distress or impairment in the social domain, occupational domain, or other important areas of functioning. Disability was defined as dysfunction at work in the previous year. Operationalizing PTSD symptomatology both as a continuous variable accounting for PTSS severity independent of diagnostic criteria, and as a dichotomized semi-diagnosis of PTSD, was adopted to increase the capacity of identifying group differences and for achieving a more accurate indication of participants' posttraumatic reactions. The scale was found to have good psychometric properties, including high convergent validity compared with clinical interviews based on the SCID (Solomon et al., 1993). The PTSD-I reliability values for total scores were high for ex-POWs and noncaptive veterans (Cronbach's  $\alpha = .95$ ) and offspring (Cronbach's  $\alpha = .86$ ).

*Life events.* To assess potential intervening life events, we utilized the Life Events Checklist (LEC; Gray, Litz, Hsu, & Lombardo, 2004). This questionnaire is comprised of 17 potentially traumatic events over the lifetime of the participant that can lead, to PTSD or psychological distress (e.g., automobile accident, sexual assault, witnessing a violent death) according to the DSM-IV-TR (APA, 2000) Criterion A1. The questionnaire was administered to offspring for statistical control. For each item, respondents marked whether the event happened to him/her personally (0) was witnessed by him/her (1), heard of it (2), not sure (3), or irrelevant (4). Aside from items marked with "0" (i.e., happened personally), which were encoded as "1", all other items (1-4) were coded as "0". The sum of negative life events that participants were personally exposed to was utilized during the analysis. The possible range of LEC index is 0-17, and the actual range in this study was 0-10. The LEC has shown good psychometric properties (Gray et al., 2004). Reliability in this study was Cronbach's  $\alpha = .87$ .

*Couple forgiveness.* To assess couple forgiveness we used the Family Forgiveness Scale (FFS; Pollard et al., 1998). Rather than examining forgiveness as a trait or in a given circumstance, this questionnaire measures forgiveness in a specific system, as judged by the respondent. It consists of five subscales: (a) realization (intrapsychic awareness of an incident that caused pain), (b) recognition (assessment of the painful incident by either party), (c) reparation (interactional elements of forgiveness), (d) restitution (offender making amends), and (e) resolution (offender and offended relinquishing past pain). Similar to other studies (e.g., Solomon et al., 2009), for this study we created an index incorporating the total level of forgiveness in the current relationship by calculating an average of the five forgiveness scales, which was then treated as a measure of the couple forgiveness.

The original scale (Pollard et al., 1998) consists of two sections, each comprised of 20 statements. The statements are ranked on a 4-point scale ranging from 1 ("never true") to 4 ("almost always true"). The first section pertains to the forgiveness capacities of one's family of origin, the second to those of the current relationship. We used only the section relating to participants' current marital relationship (e.g., "I believe it is important to understand when we have hurt other persons' feelings", "I trust my partner to forgive me when I apologize", "when I hurt him I apologize"). The scale has demonstrated high item validity and discriminant validity in the past (Pollard et al., 1998) as well as in this study. Cronbach's  $\alpha$  in this study was .77.

*Sociodemographics.* All family members were assessed for demographic characteristics of age, level of education, country of origin, and religiosity. In addition, mothers and offspring were asked about their marital status, military service, and income level. Fathers were asked also about their part in previous wars as well as their combat exposure.

## RESULTS

### *Relationship Between Captivity and PTSD*

As a preliminary analysis we assessed self-reported PTSD rates according to dichotomized DSM-IV-TR (APA, 2000) diagnostic criteria among the veterans and offspring in both groups.

Chi-square analyses conducted among the fathers revealed that more ex-POWs met PTSD criteria compared to controls at T3 ( $n = 44$ , 58.7%,  $n = 0$ , 0%, respectively,  $\chi^2_{(1)} = 37.26$ ,  $p < .001$ ). Offspring in both groups did not differ in PTSD ( $n = 2$ , 2.7%,  $n = 0$ , 0%, respectively,  $\chi^2_{(1)} = 1.06$ ,  $p = .3$ ).

In addition, PTSS severity was analyzed as a continuous variable among the fathers and the offspring. A t-test analysis revealed that PTSS severity among ex-POWs was higher compared to controls ( $M = 9.06$ ,  $SD = 5.18$  compared to  $M = 1.72$ ,  $SD = 2.3$ ,  $t(121) = 10.82$ ,  $p < .001$ ). Similarly, ex-POWs' offspring reported higher rates of PTSS compared to controls' offspring ( $M = 3.02$ ,  $SD = 3.09$  compare to  $M = 1.73$ ,  $SD = 2.89$ ,  $t(121) = 2.58$ ,  $p = .01$ ).

### *Fathers' PTSS, Couple Forgiveness, and Offspring's PTSS*

Power analyses for Bivariate correlations were conducted for the entire sample of 123 triads as well as in each group separately (ex-POWs:  $n = 79$  and controls:  $n = 44$ ). Based on an a priori Alpha of 0.05, known sample size ( $n = 123$ , 79, and 44) to detect medium effect sizes of 0.3, medium-to-high power values were detected (0.92, 0.77, and 0.51) (power calculations were done using G\*Power 3.1; Faul, Erdfelder, Lang, & Buchner, 2007).

Pearson correlations were utilized separately for ex-POW and control triads to assess intercorrelations among research variables (see Table 1). As evident in Table 1, and as hypothesized (H1), among ex-POW triads the analysis yielded significant negative relations between couple forgiveness at T2 and fathers' PTSS at T1 ( $r = -.32$ ,  $p < .001$ ), but not among noncaptive veteran triads ( $r = -.16$ ,  $p = .3$ ). Steiger's (1980) test for equality of dependent correlations revealed that these correlations were different from one another,  $z(122) = 1.32$ ,  $p = .05$ . Similar discrepancy was found in the relations between couple forgiveness at T2 and fathers' PTSS at T2 (among ex-POW  $r = -.3$ ,  $p < .001$  but not among noncaptive veteran triads,  $r = -.23$ ,  $p = .14$ ). However, these correlations were not significant,  $z(122) = -.57$ ,  $p = .3$ .

As evident in Table 1, significant negative relations were found between couple forgiveness at T1 and ex-POW fathers' PTSS at T1 ( $r = -.25$ ,  $p < .001$ ), but not among noncaptive veteran triads ( $r = -.01$ ,  $p = .8$ ). These correlations were different from one another,  $z(122) = 1.9$ ,  $p = .02$ . No significant correlations were found between couple forgiveness at T1 and fathers' PTSS at T2 in both groups.

Positive relations between fathers' T1 and T2 PTSS and offspring's PTSS were found among ex-POWs ( $r = .25$ ,  $r = .34$ , respectively, all  $p < .001$ ) but not among controls dyads ( $r = .13$ ,  $r = -.03$ , respectively,  $p = .5$ , .9). The correlation between fathers' T2 PTSS and offspring's PTSS was higher in ex-POWs,  $z(122) = 2.98$ ,  $p = .001$  than in controls; however, no differences were found in correlation between fathers' T1 PTSS and offspring's PTSS  $z(122) = .96$ ,  $p = .16$ . No significant association was found between offspring's PTSS and couple forgiveness.

### *Multiple Moderation Model*

For a multiple regression with five predictors (three main variables and two covariates), our sample size of 123 triads yielded a power of .80 to detect a small effect size (.04) for each individual predictor in our regressions and for the interaction effect (power calculation was done using G\*Power 3.1; Faul et al., 2007). Given that power for detecting interactions (particularly a three-way interaction) is reduced by increased variance, alpha was maintained at .05 to preserve power. This sample size gave us statistical power of 90% to detect medium three-way interaction when Type I error probability was set at .05. However, while the power to detect the two-way interaction in ex-POWs was satisfying and yielded .7 power, the same power analysis in controls yielded relatively low power of .4. In other words, same effect with lowered power was found in controls, thus lowering the ability to detect effects.

To examine our hypotheses (H2, H3) concerning the moderation effects of couple forgiveness and fathers' type of trauma (i.e., captivity vs. combat) in the relation between fathers' PTSS at T2 to offspring's PTSS at T3, we employed Hayes's (2012) PROCESS script for moderated moderation (Model 3). In this analysis, 5000 bootstrapped samples were drawn to estimate the interactions and main effects. This analysis was conducted with life events and years of education as covariates. Former measurements of fathers' PTSS at T1 and couple forgiveness at T1 were also inserted as covariates. Bias corrected and accelerated 95% confidence intervals (CIs) were computed to

Table 1  
Means, Standard Deviations, and Intercorrelations between Main Study Measures between research groups

Measure	1	2	3	4	5	6	7
1. Offspring's Life events	–						
2. Years of education	-.18/-.00	–					
3. Fathers' T1 PTSS	.23*/.22	-.03/-.38***	–				
4. Fathers' T2 PTSS	.08/.07	-.22*/-.5***	.71***/.5***	–			
5. Couple forgiveness T1	.03/-.08	-.05/.12	-.25*/-.01	-.22/.15	–		
6. Couple forgiveness T2	-.06/-.01	.02/.07	-.32***/-.16	-.3***/-.23	.66***/.5***	–	
7. Offspring's PTSS	.13/.17	-.34***/-.06	.25*/.13	.34***/-.03	.16/.02	-.12/-.06	–
M (SD)	2.11 (1.5)	15.4 (2.8)	6.84 (5.3)	6.5 (5.6)	62.6 (7.3)	63.5 (6.8)	2.5 (2.9)

Note. \* $p < .05$ , \*\*\* $p < .001$ . The coefficients are displayed as follows: ex-POWs/controls. The means listed are based on the count calculation.

determine statistical significance of the effects. A CI that does not include zero provides evidence of a significant effect.

The total set of variables explained 36.3% of the variance of the offspring's PTSS ( $F(11, 110) = 5.63, p < .001$ ). One significant main effect was found for couple forgiveness ( $\beta = -.21, SE = .06, t = 3.08, p = .002$ ) and a nonsignificant effect was found for fathers' PTSS at T2 ( $\beta = -.03, SE = .09, t = .38, p = .7$ ) to be associated with offspring's PTSS. Type of trauma yielded no significant main effect ( $\beta = 1.35, SE = .88, t = 1.53, p = .12$ ), and neither did offspring's negative life events ( $\beta = .08, SE = .15, t = .5, p = .61$ ). Years of education ( $\beta = -.23, SE = .09, t = 2.5, p = .01$ ) had a significant effect, such that an increase in offspring's years of education was associated with lower offspring's PTSS. Fathers' PTSS at T1 did not predict offspring's PTSS ( $\beta = .08, SE = .08, t = .98, p = .32$ ), whereas couple forgiveness at T1 did predict offspring's PTSS ( $\beta = .11, SE = .04, t = 2.67, p = .01$ ).

More importantly and in congruence with the hypotheses, a significant two-way interaction was found for fathers' PTSS X couple forgiveness ( $\beta = -.04, SE = .01, t = 3.99, p < .001$ ). Probing of the interaction revealed that the association between fathers' and offspring's PTSS was stronger under low couple forgiveness ( $\beta = .29, p < .001$ ), whereas under high couple forgiveness the association became weaker and nonsignificant ( $\beta = .03, p = .6$ ).

The three-way interaction (moderated moderation; H3) between study group X couple forgiveness X fathers' PTSS emerged as significant ( $\beta = .07, SE = .03, t = 2.21, p = .02$ ). Probing analysis revealed that the interaction between fathers' PTSS and couple forgiveness was significant for both groups ( $\beta = -.02, p = .002, CI 95\% -.0362, -.0082$  in ex-POWs and  $\beta = -.1, p = .03, CI 95\% -.1505, -.0312$  in controls). We further probed the interaction by assessing the relation between fathers' and offspring's PTSS under the two research groups and under both lower (0.5–1 *SDs* below mean) and higher (0.5–1 *SDs* above mean) levels of couple forgiveness.

Specifically, among ex-POW triads, fathers' PTSS were positively associated with offspring's PTSS, under low levels of couple forgiveness ( $\beta = .23, p = .008$ ). However, when the couple forgiveness was high ( $\beta = -.1, p = .2$ ), no such association was found. Among the noncaptive veteran triads, a nonsignificant association was found between fathers' and offspring's PTSS whether couple forgiveness was high ( $\beta = .00, p = .12$ ) or low offspring's ( $\beta = .31, p = .25$ ).

## DISCUSSION

This study set out to examine whether forgiving behaviors between spouses (i.e., couple forgiveness) play a significant role in the intergenerational transmission of posttraumatic reactions from father to offspring within triadic familial relationships consisting of an ex-POW or noncaptive veteran, wife/mother, and adult offspring. In line with our hypotheses, results indicated that ex-POWs' PTSS was indeed positively related to their offspring's PTSS (H1). Moreover, results supported the hypothesis that couple forgiveness would buffer the effect that the fathers' PTSS may have on offspring's PTSS (H2), and particularly, that low forgiveness may be implicated in a closer detrimental relation between the fathers' PTSS and their offspring's PTSS. Nevertheless, differences between ex-POW triads and controls in this respect (H3) seemed marginal, although significant. It would seem that the relatively small sample and effect size may affect results, and thus the deference between ex-POWs' families and noncaptive veterans' families in this respect remains undetermined.

The complex interplay between the PTSS of veterans and that of their offspring, as well as the moderating role of the couple forgiveness may be explained in several manners. One possible explanation might be that forgiveness within the couple may increase trust, feelings of closeness, and marital satisfaction (e.g., Dekel, 2010), which may, in turn, improve the functional family atmosphere altogether (e.g., Gordon, Baucom, & Snyder, 2000). Higher levels of couple forgiveness may also foster a more favorable perception of the parental relationship from the children's perspective. According to the spillover hypothesis, this effect may carry on from the marital relationship to the parent–child interaction (e.g., Pedro, Ribeiro, & Shelton, 2012). Once a better marital relationship is fostered by forgiveness, better parental relationships may likewise emerge, thus reducing the effect of fathers' PTSS on offspring's PTSS. In contrast, under lower levels of couple forgiveness, there might be an increase in marital conflict, which may impact offspring (Sturge-

Apple, Skibo, & Davies, 2012). This may in turn further exacerbate their posttraumatic reaction. The findings above suggest that more than forgiveness within the married couple may be a protective factor or even a facilitator of health, its absence may be a risk factor for offspring's secondary traumatization in cases wherein their fathers' exhibit high PTSS.

Ostensibly, results also revealed that the moderating effect of couple forgiveness was different between the ex-POW group and the control group. Specifically, it was found that among ex-POW triads, high levels of couple forgiveness buffered the detrimental effect of fathers' PTSS on offspring's PTSS, but no such buffering effect was observed among noncaptive veteran triads. However, given constraints of sample size and power, making inferences on the basis of this finding must be approached with caution. Hence, it would seem that an answer to our third hypothesis remains to be determined.

Offering several tentative explanations, one may speculate that interpersonal ramifications of war captivity are in play here. War captivity, being a man-made trauma, can detrimentally alter POWs' basic trust in others in a way that undermines their ability to maintain secured attachments to significant others (e.g., Solomon, Dekel, & Mikulincer, 2008a), including their wives and children. This may lead to difficulties associated with intimacy, dependency, and control, all implicated in parental impediments (Zerach, Greene, Ein-Dor, & Solomon, 2012). However, forgiveness, and to some extent acceptance, of veterans' difficulties can help them positively cope with the aftermath of their trauma, increase their emotional engagement within the family, and bring them closer to family members (e.g., Dekel, 2007). This may improve the intimacy between parent and children and provide children with more support, which may in turn inhibit children's PTSS.

Among noncaptive veteran triads, however, the situation may be somewhat different. Veterans who had not suffered the additional torment of war captivity may exhibit fewer or less significant impediments to their capacity for intimacy with significant others. Sustaining a healthy impetus to foster proximity, veterans may be motivated toward building a positive father-child relationship (e.g., Ruscio, Weathers, King, & King, 2002). This may explain the ostensible lack of relation between fathers' and offspring's PTSS in this group, seemingly regardless of whether the couple forgiveness was higher or lower. However, as noted above, this is only speculative at this point, and must be further investigated in the future.

### *Clinical Implications*

The findings above underscore the importance of taking into consideration the family environment in general, and particularly the forgiveness within the couple, when considering veterans' offspring's secondary traumatization. From a clinical perspective, the results above suggest that a forgiveness-focused intervention for veteran couples may be beneficial not only for the marital dyad but also for ameliorating their offspring's PTSS. In other words, whereas previous research has primarily suggested that forgiveness-focused interventions with couples can improve mental health and increase marital satisfaction (e.g., Enright & Fitzgibbons, 2000), this study implies that such an intervention may exceed the primary forgiver-forgiven relationship, and may positively affect their offspring as well. This may be an important motivator for therapy among veteran dyads.

### *Study Limitations*

Although most of the study's predictions were supported, several limitations must be acknowledged. First, due to the attrition and addition of participants between measurements, the sample may be somewhat biased. Moreover, this study included a relatively small sample. Future studies should utilize larger samples.

Second, we attained only the wives' perspective concerning the couple's forgiveness. Future studies should use objective measures, or otherwise obtain also the veterans' and the offspring's perspectives. In addition, the couple forgiveness can be one of many possible factors moderating the relationship between fathers' and offspring's PTSS. Future studies should examine the moderating role of factors concerning the entire family system, and assess the marital relationship as a holistic construct.

Finally, as noted, the Israeli culture is characterized with close and intimate parent-adult offspring relationships, making the couple forgiveness of the parents relevant also after offspring

leave home. Other cultures may behave differently in this matter. The findings above must then be apprehended within their cultural context.

Notwithstanding these limitations, to the best of our knowledge, this study is of the first to examine the intergenerational transmission of posttraumatic reactions by observing the interplay of variables within family triads rather than merely examining the subrelation of the primary and secondary victim. Furthermore, and more specifically, it is an important contribution to extant knowledge concerning the relation between ex-POWs' PTSS and their offspring's PTSS. Particularly by highlighting the role couple forgiveness may play in this intergenerational transmission.

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