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Long-Term Guilt and Hostility Underlying Posttraumatic Stress Symptoms in War Combatants and Ex-Prisoners of War

Liat Itzhaky, Sharon Avidor, and Zahava Solomon

I-Core Research Center for Mass Trauma, The Bob Shappell School of Social Work, Tel-Aviv University, Tel-Aviv, Israel

ABSTRACT

The link between posttraumatic guilt and posttraumatic stress disorder has gained recognition over the past decades and was recently expressed in the modifications made to the diagnostic criteria for the disorder under the DSM-V. Yet, the psychological dynamics underlying this relation are still not fully understood. The present study introduces a model whereby different dynamics between guilt and hostility are related to posttraumatic stress disorder symptoms (PTSS), following different traumatic war experiences. One hundred and forty-four former prisoners of war (ex-POWs) and 143 comparable combatants participated in the study, 30 years after the war, reporting on their PTSS, guilt, and hostility. Moderation analyses revealed a three-way interaction, where high hostility buffered the effect of guilt on PTSS only among ex-POWs. This finding suggests a distinctive dynamic among guilt, hostility, and PTSS following diverse traumatic events. Specifically, it appears that hostility can have a mitigating effect on the negative outcomes of guilt for ex-POWs following trauma, but not for non-POW veterans. The theoretical reasoning and the clinical implications of these findings are discussed.

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ex-POW; guilt; hostility; PTSD

Introduction

Man-made traumas, such as war, are violent events that expose the individual to extreme outward aggression which, in turn, can lead to internalized aggression (Steenkamp, 2005). Among survivors of trauma, later manifestations of lingering inner aggression can be directed outwardly—against others, as in hostility—or inwardly—toward the self, as in posttraumatic guilt. Both manifestations of aggression (guilt and hostility) are part of the symptom criteria of posttraumatic stress disorder (PTSD) in the *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; DSM-5; American Psychiatric Association, 2013). Stemming from previous theoretical conceptualizations concerning the link between guilt and hostility among trauma survivors, the present study aims to examine the dynamic of these two long-term

CONTACT Liat Itzhaky, PhD  liat.itzhaky@gmail.com  Mass Trauma Research Lab, Bob Shapell School of Social Work, Tel Aviv University, Tel Aviv 69978, Israel.

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posttraumatic reactions underlying posttraumatic stress symptoms (PTSS). This will be explored in two groups of veterans who went through different traumatic war experiences, namely, ex-combatants and former prisoners of war (ex-POWs). The next sections include a detailed description of the suggested connections between long-term guilt and hostility.

Guilt refers to feelings of distress, which arise in response to one's own actions, thoughts, and intentions (Baumeister, Stillwell, & Heatherton, 1994). Psychological guilt includes self-punishment and judgment, manifested in distress and intrusive thoughts. Such a reaction often emerges as a consequence of the perception of wrongdoing or a violation of moral codes—two central elements in trauma (e.g., Litz et al., 2009). The literature in the field of traumatology has consistently documented feelings of guilt after numerous traumatic events (i.e., Amstadter & Vernon, 2008), especially among combatants (Kubany, Abueg, Kilauano, Manke, & Kaplan, 1997). Moreover, posttraumatic guilt has been found to be particularly high among veterans who suffer from PTSD (see Pugh, Taylor, & Berry, 2015), affecting both intensity and potential recovery (e.g., Kubany, Hill, & Owens, 2003; Kubany et al., 2004).

Stemming from appraisals of one's own behavior during the traumatic event, guilt can be persistent and hold long-term negative implications (Ehlers & Clark, 2000; Marx et al., 2010). Furthermore, theory and research have claimed that until guilty feelings are acknowledged and contextualized within the traumatic event by the trauma survivor, PTSS cannot improve (Williams, 1988). A recent study among a general clinical population revealed that a within-person change in long-term guilt predicted a change in PTSS (Hoffart, Oktedalen, & Langkaas, 2015), highlighting the centrality of posttraumatic guilt in PTSS.

Hostility, which involves feelings charged with negative aggressive valence, is also frequently experienced by survivors of various traumas (Orth & Wieland, 2006), especially among ex-combatants (Taft et al., 2007). Similar to other mechanisms underlying trauma that are adaptive during the exposure to the traumatic event, lingering hostility is dysfunctional and related to psychopathological outcomes, including PTSD (Jakupcak et al., 2007). Interestingly, the hostility and PTSD relation remains stable even when removing the anger and irritability items from the PTSD diagnostic scale (Novaco & Chemtob, 2002), indicating its unique feature as a posttraumatic sequela. It is important to note, however, that guilt is a multifaceted psychological phenomenon (O'Connor, Berry, Weiss, Bush, & Sampson, 1997); it can be evoked by different psychological and environmental mechanisms, and may vary according to the traumatic experience. Likewise, the interaction between guilt and hostility—which can be seen as opposing forms of aggression (self-versus other-directed aggression)—can take several forms after exposure to trauma. In this study, we will present the multifaceted nature of long-term

guilt and its dynamic with hostility in two different war traumas—combat and war captivity—to answer our study questions: Does the relation between long-term posttraumatic guilt and hostility differ under different traumatic experiences, and what form does their relation take?

Combat

Combat harbors a high potential for guilt (Kubany et al., 2004). It involves exposure to extreme violence that tests one's normative moral standards under abnormal conditions. On the battlefield, one is often expected to behave aggressively, to inflict injury, and to even take the lives of other human being. During combat, hostility is not only part of the combatant's mission but also serves as a psychological defense; an open expression of hostility helps the combatant regulate and vent fear and anxiety (e.g., Hendin & Pollinger-Haas, 1984; Robertson, Daffern, & Bucks, 2012).

Ex-combatants' guilt is usually linked to either their actions (e.g., unjustified aggression) or to their lack of action during the war (e.g., not saving the life of fellow combatants), as well as survivor's guilt—surviving when other combatants have died (Lifton, 1973; Solomon, 1993). Studies among combat veterans have shown that extreme experiences involving massacres and atrocities are stronger predictors of chronic PTSS than exposure only to combat (Fontana & Rosenheck, 1999; Marx et al., 2010), highlighting the major effect of compromised morals on PTSS (Litz et al., 2009). Stemming from a social-cognitive theory, Litz et al. (2009) have argued that acts of transgression create inner conflict as they raise questions concerning inner morality and inner goodness. In cases where this conflict prevents the incorporation of the traumatic event within the self and relational schemas, PTSD will emerge. The lack of integration will lead to frequent intrusions and consequent distress that will motivate the individual to avoid reminders of the trauma.

Paradoxically, among combatants, hostility, which awakens guilty feelings, also serves as a way to escape these feelings. Lifton (1973) addressed the experience of guilt among American Vietnam veterans and stated that during the war, while relying on the mechanisms of detachment and desensitization, the combatant is able to avoid the experience of guilt, since direct confrontation would have left him vulnerable to psychological or even physical danger. These feelings of guilt are redirected and expressed through feelings of rage and violent impulses (Lifton, 1973). As implied, it seems that in combat, hostility and guilt have a reciprocal dynamic, where one escalates the level of the other, creating a cycle of both experiences.

The nature of the dynamics between hostility and guilt might shift, however, depending on the context of the war-related trauma and subjection to others' aggression. In the following section, we will describe the case of war

captivity, an extreme form of war trauma, where the POW moves from the stance of a combatant who participated in transgressive acts and was exposed to the almost faceless enemy's aggression, to the stance of a victim who is exposed to traumatic experiences caused by specific perpetrators.

Captivity

A different war trauma, and one of the most adverse circumstances in the human experience, is war captivity. POWs are exposed, beyond the above described stress of combat, to the extreme conditions of captivity. This includes torture, mock executions, isolation, humiliation, and severe constraints on their physiological and psychological needs. Contrary to combat, during captivity any sign of aggression or hostility becomes life-threatening. The POW is expected to silence his or her aggression toward the captor, even while being subjected to highly violent and threatening situations. Expressions of aggression or hostility can potentially spark the captor's rage, with harrowing results for the POW. Keeping feelings, thoughts, and intentions at bay, the POW may be subjected to prolonged feelings of helplessness. As a consequence, the aggression becomes internalized and takes on the form of guilt (Solomon, 1993), which is one of the dominant experiences characterizing captivity (Herman, 1992). Moreover, above and beyond the direction of aggression, in captivity the restriction of the POW puts him or her in a constant state where his or her actions are largely inconsistent with core beliefs, values, and previous free will. Such circumstances can contribute to the experience of guilt during captivity as well as many years afterwards (Lifton, 1988).

Another aspect of the POW's guilt lies in the emotional ties of the adverse bonds with one's perpetrators. The relationship of the POW with the captor is very complex, often characterized by control and dependency. Herman (1992) describes the captor as "the most powerful person in the life of the victim and the psychology of the victim is shaped over time by the actions and beliefs of the perpetrator" (Herman, 1992, p. 383).

As can be drawn from the above, guilt among ex-POWs is a form of aggression directed inwardly as a result of several potential psychological processes occurring during times of victimization. Hostility, the outward direction of aggression, on the other hand, is not possible during the traumatic event itself. We suggest that in the case of ex-POWs, the presence of hostility will serve an ameliorative effect of somewhat decreasing the charged emotional state of the ex-POWs' long-term guilt on PTSS, due to the ex-POW being at least partly released from the inner aggression.

While the empirical literature points to the role of long-term guilt in the relation between trauma exposure and PTSS among combat veterans (Marx et al., 2010), the relation between guilt and hostility underlying PTSS among

combat veterans has not been examined, to the best of our knowledge. Relying on the reviewed theoretical literature, we expect to find an interaction effect between long-term guilt and hostility for predicting PTSS. However, because long-term guilt and hostility are presumably related to different underlying psychological mechanisms among former combatants compared to former combatants who were also POWs during the war, the effect will differ among survivors of these different traumatic experiences. Specifically, we hypothesize that (H1) ex-combatants will suffer from more PTSS if they experience higher long-term guilt and high hostility and that (H2) ex-POWs will suffer from more PTSS when experiencing high long-term guilt and low hostility, whereas under high hostility this effect will be buffered.

Method

The current study is part of a longitudinal research assessing the psychological implications of combat and captivity among Israeli combat veterans who participated in the 1973 Yom Kippur War (YKW). In this war, the Israeli army suffered many casualties, as over two thousand Israeli soldiers were killed in action and many more were wounded. About 290 soldiers from different army units were captured, a number that was unprecedented in Israeli military history. Within Israel, public opinion regarding the war and the way it had been conducted was highly critical, with many pointing the blame toward the government and the higher echelons of the military. Ex-POWs were welcomed by many as heroes on their return home, but at the same time were highly criticized, from within the military, for falling captive and for having disclosed information to the enemy (Gavriely, 2006).

Participants and procedure

Participants were followed over 35 years with assessments at three time points: 1991, 2003, and 2008. In the present study, we used only cross-sectional data collected in the second measurement wave (in 2003, 30 years after the war), as the data relating to guilt was collected only in that wave. According to Israel's Ministry of Defense, 240 soldiers from the Israeli Army land forces were captured during the 1973 YKW in Syria and in Egypt, for about 9–18 months and 1–4 months (respectively). One hundred and sixty-four of them participated in the first assessment, 144 participated in the second (10 could not be located or refused, four had died, and six could not participate due to mental deterioration). In addition, 280 veterans were sampled from the Israel Defense Forces (IDF) computerized database. These individuals also participated in the YKW, but were not taken captive and were matched with the ex-POWs on military background (military assignment, unit, and duty, as well as their scores on performance prediction tests

consisting of personality and intelligence measures that were administered before being drafted to the military), and on sociodemographic variables (i.e., age, ethnic background, marital status, and educational background). Among them, 185 participated at T1, 143 participated at T2 (41 could not be located and one had died). Potential participants were contacted by telephone and the aim of the current study was explained. In the first wave, questionnaires were administered at a centrally located hospital. In the second wave, questionnaires were administered at the participants' homes or in other locations of their choice. Participants' informed consent was obtained and they were told that the data would remain confidential. The study was approved by the ethics committees of both the IDF and Tel Aviv University.

Measures

PTSS were evaluated through the PTSD Inventory (PTSD-I; Solomon et al., 1993), which is a 17-item self-report questionnaire based on DSM-IV criteria, including avoidance, intrusion, and hyperarousal cluster symptoms (American Psychiatric Association, 1994). Each item describes a PTSD symptom adapted for war trauma (e.g., "You experienced recurrent scenes or thought about the war"). Participants were asked to indicate on a 4-point scale ranging from "never" to "very often" the frequency with which they experienced the described symptom within the past month. The PTSD-I has strong reliability and convergent validity when compared with diagnoses based on structured clinical interviews (Solomon et al., 1993). It has been frequently used in Israel with high internal consistency reaching .86 (Mikulincer, Ein-Dor, Solomon, & Shaver, 2011). PTSS represent the total sum of symptoms, and the possible total score is 17. In this study, the PTSD-I showed strong internal consistency ($\alpha = .96$).

Guilt was assessed using the Trauma-Related Guilt Inventory (TRGI; Kubany et al., 1996) distress subscale. The TRGI is a 32-item self-report questionnaire consisting of three subscales: (a) guilt distress, (b) global guilt, and (c) guilt cognitions. The questions are associated with specific traumatic events (e.g., combat-related guilt) and participants are asked to rate a statement, in relation to combat captivity on a 5-point Likert scale, ranging from 0 "not at all true/never true" to 4 "extremely true/always true" (e.g., "I feel grief or sorrow about the outcome"). As our model relates to psychological guilt, we used the guilt distress six-item subscale, which has also been found to be greatly related to PTSS (Browne, Trim, Myers, & Norman, 2015). The guilt distress score is the mean score of the six items (total possible score is four). In this study the distress subscale evinced high internal consistency ($\alpha = .90$).

Hostility was evaluated via the Symptom Checklist-90 (SCL-90; Derogatis, 1977) hostility subscale, which is comprised of six items representing both felt

hostility (e.g., “having urges to break or smash things”) and expressed hostility (e.g., “shouting or throwing things”). Participants are asked to indicate how frequently they experienced each symptom during the last two weeks on a 5-point Likert scale. The possible total score is 4. In the present study, its internal consistency was good ($\alpha = .83$).

Data analysis

We first examined the between-groups differences (ex-POWs vs. non-ex-POWs) in guilt, hostility, and PTSS, using *t*-tests for independent groups. In the second step we employed Hayes’s (2012) PROCESS script for moderated moderation (Model 3). In this analysis, 2,000 bootstrapped samples were drawn to estimate the interactions and main effects. Bias corrected and accelerated 95% confidence intervals (CIs) were computed to determine statistical significance of the effects. A CI that does not include zero provides evidence of a significant effect. We probed the interaction by assessing the relation between the study groups and PTSS under both lower (0.5–1 SDs below mean) and higher (0.5–1 SDs above mean) levels of guilt and hostility.

Results

Results of the *t*-test analyses showed that the ex-POWs group scored significantly higher on guilt (ex-POWs: $n = 100$, $X = 2.25$, $SD = .74$; controls: $n = 120$, $X = .78$, $SD = 1.13$; $t(218) = 11.12$, $p < .00$), on hostility (ex-POWs: $n = 124$, $X = 1.15$, $SD = .41$; controls: $n = 103$, $X = .27$, $SD = .95$; $t(225) = 13.27$, $p < .00$) as well as on PTSS (ex-POWs: $n = 124$, $X = 9.89$, $SD = 3.5$; controls: $n = 103$, $X = 2.27$, $SD = 3.90$; $t(225) = 8.71$, $p < .00$).

In the regression analysis conducted to assess the study hypotheses, the total set of variables explained 76% of the variance of PTSS ($F[7,212] = 93.6$, $p < .001$). As can be seen in Figure 1, we found a significant main effect for hostility and two-way interactions between hostility and group as well as between guilt and hostility. The interaction between group and hostility did not reach significance. More importantly, a three-way interaction among study group, guilt, and hostility was significant. Probing analysis of the three-way interaction demonstrated that the two-way interaction between study group and guilt was significant only under low hostility ($B = 3.14$, $SE = .64$, $p < .001$), whereas under high hostility it was not significant ($B = -1.2$, $SE = 1.1$, $p = .29$). Probing of the significant two-way interaction between group and guilt showed that under low hostility and guilt, study group did not yield a significant effect on PTSS ($B = 1.15$, $SE = .78$, $p = .84$), whereas under low levels of hostility and high values of guilt, group significantly predicted PTSS ($B = 8.82$, $SE = 1.3$, $p < .001$), meaning that among ex-POWs experiencing high guilt and low hostility, higher levels of PTSS were

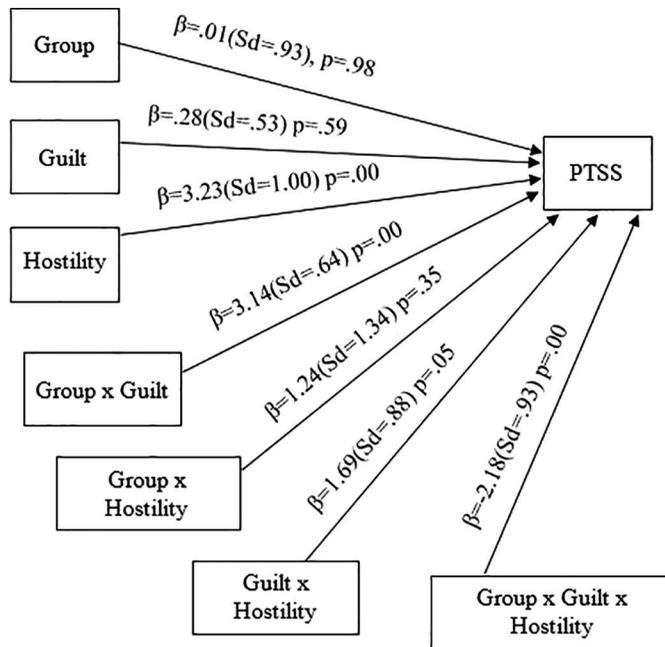


Figure 1. Multiple moderation model with guilt and hostility as moderators of the link between study group (ex-POWs vs. controls) and PTSS.

observed. This result indicates that guilt was associated with more PTSS, and even more so for ex-POWs than combat veterans, only when levels of hostility were low. High levels of hostility attenuated the moderation effect of guilt and captivity on PTSS, supporting our second hypothesis, stating that ex-POWs will suffer from more PTSS when experiencing high long-term guilt and low hostility, whereas under high hostility this effect will be buffered. However, our first hypothesis, stating that ex-combatants will suffer from more PTSS under a condition of higher long-term guilt and high hostility, was not established.

Discussion

The current study's aim was to explore the associations between long-term guilt and hostility that underlie PTSS in different types of war-trauma—combat and captivity. Combatants and ex-POWs were exposed to stressful experiences on the battlefield; however, ex-POWs were subsequently exposed to the prolonged and extreme trauma of captivity.

Our first hypothesis, that among ex-combatants high levels of guilt coupled with high levels of hostility would predict higher PTSS, was not confirmed. Nevertheless, a different pattern did emerge between the groups and our second hypothesis concerning the buffering effect of hostility in the relation between long-term guilt and PTSS among ex-POWs was established.

Specifically, in the ex-POW group, high levels of reported hostility moderated (attenuated) the connection between long-term guilt and PTSS. This suggests that different mechanisms involving guilt and hostility underlie PTSS after different war traumas. This finding is in line with previous studies regarding distinctions in the subsequent clinical outcomes for those who were exposed to the prolonged interpersonal trauma of captivity, compared to other war-traumas (e.g., Wamser-Nanney & Vandenberg, 2013) and further allude to the specific constructs that underlie PTSS in these two groups. This was indicated also in the Kozaric-Kovacic, Marusic, and Ljubin (1999) study, which compared a group of ex-POWs to matched combatants (both from the Croatian 1991/1992 war) and found that ex-POWs with PTSD suffered from more feelings of guilt, psychic numbing, headaches, and lack of energy, while non-POW combatants suffered from more panic attacks and more uncontrolled aggressive behavior.

Among ex-POWs, guilt was significantly related to PTSS, but only under low hostility. In other words, for ex-POWs who reported high hostility, guilt and PTSS were not associated. One of the central attributes of war captivity is the interpersonal dominance—whether physical or mental—exerted by the captors. During captivity, the victim's ability to express emotions or behavior, in particular aggression, is restricted due to the terror of the situation and the captor's total control. In this situation, the victim harbors intense feelings of guilt that may have been developed through several possible mechanisms—identification with the aggressor as well as the inward direction of the victim's own aggression, which was originally directed toward the captor. Another possible mechanism is the guilt that the ex-POW feels for what he did not do (i.e., not preventing traumatic events from occurring). Thus, it seems that for ex-POWs, guilt without any outward channeling of aggression can accumulate and worsen PTSS in the many years following release from captivity.

Although hostility itself is a risk factor for PTSS and is related to a deficiency in anger regulation after trauma (Chemtob, Novaco, Hamada, Gross, & Smith, 1997), in the context of war-trauma it is also the central active coping mechanism learned during combat, which lingers into the veteran's postwar life. It may be that, for ex-POWs, the move from a passive to more active stance, where the direction of aggression is turned outward, is a sort of healing mechanism that reduces the effect of posttraumatic guilt on PTSS. This positive effect of an active stance after traumatic exposure has also been demonstrated in animal studies, showing that taking action replaces the passive fear-response, allowing other coping pathways to evolve (LeDoux & Gorman, 2001).

This study has several limitations. Its cross-sectional design restricts its ability to arrive at causal interpretations. In addition, we relied solely on self-report measures, which may have caused a response bias to affect our results. Another limitation is that the measurement took place 30 years after the traumatic events of the YKW. Although our questionnaires were phrased

in a way that assessed PTSD and guilt pertaining to the war, we cannot disregard possible confounding factors in the lives of the participants that might have evolved over time and influenced their guilt and trauma-related reports, including their experiences after homecoming. Future studies should examine the present model while also including responses to more recent traumatic events.

Despite these limitations, our study, based on a unique sample of ex-POWs and matched control veterans, contributes to the knowledge concerning the dynamic connections between two highly prevalent experiences following war-trauma: guilt and hostility. Our findings are in line with recent literature on treatment modalities for PTSD among war veterans (Steenkamp, Nash, Lebowitz, & Litz, 2013), which has suggested that different components are involved in the guilt that ensues from different war traumas (survivor's guilt vs. perpetration guilt). This underscores the need to distinguish carefully between different nuances in the patient's personal experience. Results of this study further contribute to the growing body of evidence on the distinctive clinical picture found among individuals who went through prolonged and interpersonal traumas, highlighting the need, both in therapy and in research, to differentiate between the experiences.

Notes on contributors

Liat Itzhaky, PhD, is a clinical psychologist and a postdoctoral research fellow at the I-Core Research Center for Mass Trauma at the Bob Shapell School of Social Work at Tel Aviv University. She received her BA, MA, and PhD in clinical psychology from Ben-Gurion University. Her research focuses on trauma as well as on self-harming phenomena as nonsuicidal self-injury, suicidality, and eating disorders.

Sharon Avidor, PhD, is a psychology intern at the Tel Aviv Medical Center, and a lecturer at the clinical gerontology program at Ruppin Academic Center in Israel. She received her BA from Ben-Gurion University, and her MA and PhD in psychology from Tel Aviv University. She did her postdoctoral fellowship at the I-Core Research Center for Mass Trauma at Tel Aviv University. Her research interests focus on well-being and the long-term effects of traumatic experiences across the life span.

Zahava Solomon is a professor of psychiatric epidemiology and social work at Tel Aviv University and the head of the Multidisciplinary Center of Excellence for Mass Trauma Research. Her research focuses on traumatic stress, with particular emphasis on the psychological sequelae of combat, war captivity, the Holocaust, and terrorism. Prof. Solomon has published 6 books and over 400 articles and chapters. Prof. Solomon is internationally recognized as a leading trauma researcher. She was a member of the DSM-4 Advisory subcommittee for PTSD and has earned numerous grants and awards.

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