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Moral Injury in Veterans of War

... our natural killer instincts

Military personnel serving in war are confronted with ethical and moral challenges, most of which are navigated successfully because of effective rules of engagement, training, leadership, and the purposefulness and coherence that arise in cohesive units during and after various challenges. However, even in optimal operational contexts, some combat and operational experiences can inevitably transgress deeply held beliefs that undergird a service member's humanity. Transgressions can arise from individual acts of commission or omission, the behavior of others, or by bearing witness to intense human suffering or the grotesque aftermath of battle. An act of serious transgression that leads to serious inner conflict because the experience is at odds with core ethical and moral beliefs is called *moral injury*.

More specifically, moral injury has been defined as "perpetrating, failing to prevent, bearing witness to, or learning about acts that transgress deeply held moral beliefs and expectations" (Litz et al., 2009). Various acts of commission or omission may set the stage for the development of moral injury. Betrayal on either a personal or an organizational level can also act as a precipitant. On a conceptual level, moral injury is different from long-established post-deployment mental health problems. For example, whereas PTSD is a mental disorder that requires a diagnosis, moral injury is a dimensional problem. There is no threshold for establishing the presence of moral injury; rather, at a given point in time, a Veteran may have none, or have mild to extreme manifestations. Furthermore, transgression is not necessary for a PTSD diagnosis nor does PTSD sufficiently capture moral injury, or the shame, guilt, and self-handicapping behaviors that often accompany moral injury.

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B.S. Although the idea that war can be morally compromising is not new, empirical research about moral injury is in its infancy, and there are more unanswered questions than definitive answers at this point. Below we review key studies that fall under the umbrella of moral injury, noting the limitations of current knowledge and suggesting future research directions.

For those interested in learning more about the topic of moral injury, Litz et al. (2009) provide a comprehensive review, complete with working definitions, prior research in related areas, a preliminary conceptual model, and intervention suggestions. The conceptual model posits that individuals who struggle with transgressions of moral, spiritual, or religious beliefs are haunted by dissonance and internal conflicts. In this framework, harmful beliefs and attributions cause guilt, shame, and self-condemnation. Forgiveness is also an important mediator of outcome. The moral injury framework posed by Litz et al. suggests that although moral injury is manifested as PTSD-like symptoms (e.g., intrusions, avoidance, numbing), other outcomes are unique and include shame, guilt, demoralization, self-handicapping behaviors (e.g., self-sabotaging relationships), and self-harm (e.g., parasuicidal behaviors). This framework highlights the importance of thinking in a multi- or inter-disciplinary fashion about helping repair the moral wounds of war. Litz et al. argue that existing PTSD treatment frameworks may not sufficiently target moral injury.

As a first step to validating the construct of moral injury, Drescher et al. (2011) conducted interviews with a diverse group of health and religious professionals who work with active-duty

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military personnel and Veterans in order to better categorize war-zone events that may contribute to moral injury. Emerging themes included betrayal (e.g., leadership failures, betrayal by peers (failure to live up to one's own moral standards, betrayal by trusted civilians), disproportionate violence (e.g., mistreatment of enemy combatants and acts of revenge), incidents involving civilians (e.g., destruction of civilian property and assault), and within-rank violence (e.g., military sexual trauma, friendly fire, and fragging). The authors suggest that an important next step would be to directly interview Veterans about their experiences to help expand this list.

The authors also interviewed providers about signs or symptoms of moral injury, and the results of this inquiry fit nicely with the aspects of the model described in Litz et al. (2009): social problems, trust issues, spiritual/existential issues, psychological symptoms, and self-deprecation. Study participants also made important suggestions about ways to repair moral injury; these can be categorized into spiritually directed, socially directed, and individually directed interventions. This last point emphasizes that in addition to traditional individual-based therapies, interventions for moral injury should be considered across multiple disciplines (e.g., involving spiritual leaders), and that collaborative work across multiple systems may lead to the best results (i.e., multidisciplinary effort that also considers social systems in which the individual is based and can receive help and support).

A number of studies have empirically demonstrated the potential moral injuries of war. For example, several articles have documented the relationship between killing in war and a number of adverse outcomes. Fontana & Rosenheck (1999) found that killing and injuring others was associated for PTSD even when accounting for other exposures to combat within a larger model. Subsequent studies have expanded upon these findings, demonstrating a relationship between killing and a host of other mental health and functioning variables. In Vietnam Veterans, after controlling for exposure to general combat experiences, killing was associated with posttraumatic stress disorder symptoms, dissociation, functional impairment, and violent behaviors (Maguen et al., 2009). Furthermore, the association with each outcome was stronger among those who reported killing non-combatants. In returning OIF Veterans, even after controlling for combat exposure, Maguen et al. (2010) found that taking another life was a significant predictor of PTSD symptoms, alcohol abuse, anger, and relationship problems. In Gulf War Veterans, killing was a significant predictor of posttraumatic stress symptoms, frequency and quantity of alcohol use, and problem alcohol use, even after statistical control for perceived danger, exposure to death and dying, and witnessing killing of fellow soldiers (Maguen, Vogt et al., 2011).

Beckham and colleagues (1998) focused on exposure to atrocities and found that after controlling for general combat, atrocities were associated with PTSD symptoms, guilt, and maladaptive cognitions. Marx et al. (2010) found that combat-related guilt mediated the association between participation in abusive violence and both PTSD and MDD. In analyses to further explore which components of PTSD were most important, Beckham and colleagues (1998) demonstrated that the strongest association between atrocities and PTSD was with the re-experiencing cluster. Other studies have also found that atrocities are most associated with re-experiencing and avoidance, rather than with hyperarousal symptoms of PTSD, which follows logically given

that morally injurious events are more guilt- and shame-based than fear-based. Taken as a whole, this body of research suggests that morally injurious acts such as killing and atrocities are associated not only with PTSD (particularly re-experiencing and avoidance, rather than hyperarousal), but also with a host of other mental health problems and debilitating outcomes.

The link between guilt and suicide, a putative outcome stemming from moral injury, is also an important area of inquiry. Fontana et al. (1992) highlighted how different trauma types can lead to diverse mental health and functional outcomes. They found that being the target of killing or injuring in war was associated with PTSD and being the agent of killing or failing to prevent death or injury was associated with general psychological distress and suicide attempts. In a related study, Hendin and Haas (1991) found that combat guilt was the most significant predictor of both suicide attempts and preoccupation with suicide, suggesting that guilt may be an important mediator. The authors also reported that for a significant percentage of the suicidal Veterans, the killing of women and children occurred while feeling emotionally out of control due to fear or rage. This suggests that killing of women and children—arguably morally injurious events—may be associated with guilt feelings. A more recent study of service members who have recently returned from war suggests that the relationship between killing and suicide may be mediated by PTSD and depression (Maguen, Luxton et al., 2011).

The Interpersonal-Psychological Theory of Suicide (reviewed by Selby et al., 2010) offers an important backdrop within which to digest some of these findings. The theory also fits well with the model of moral injury. According to the theory, three factors are associated with suicide: feelings that one does not belong with other people, feelings that one is a burden on others or society, and an acquired capability to overcome the fear and pain associated with suicide. The authors suggest that of all factors, acquired capability may be the most associated with military experience because combat exposure and training may cause habituation to fear of painful experiences, including suicide. Consequently, killing behaviors, through a series of other mediators, result in more easily being able to turn the weapon of destruction onto oneself. Interestingly, findings from Killgore et al. (2008) suggest that suicide is not the only high-risk outcome of concern; indeed a variety of arguably morally injurious combat actions can lead to multiple risky behaviors. More specifically, greater exposure to violent combat, killing another person, and contact with high levels of human trauma were associated with greater post-deployment risk-taking in a number of different domains.

There is also a series of articles that point to important potential mediators within the context of moral injury. Beckham and colleagues (1998) highlighted the role of cognitions related to hindsight bias and wrongdoing among those endorsing atrocities. Witvliet et al. (2004) examined forgiveness of self and others and found that difficulty with any kind of forgiveness was associated with PTSD and depression and that difficulty with self-forgiveness was associated with anxiety. Religious coping seemed to be associated with PTSD symptoms but the authors cautioned that this relationship should be explored in greater detail. Indeed, this and other studies have highlighted that the religious and spiritual causes and consequences of moral injury are complex and need to be explored. For example, many of the pre-existing morals and values that are transgressed in war stem from religious beliefs and faith practices. Religion and spirituality are critical components

guilt

or humanism

Relief of the double bind

of moral injury. More research is needed to better understand how these factors shape beliefs, attributions, and coping in the aftermath of a moral injury.

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Because there is sufficient evidence that morally injurious events produce adverse outcomes, developing treatments that target moral injury is an important next step. Research investigating a new intervention for military personnel and Veterans that targets moral injury, life-threat trauma, and traumatic loss is underway (Gray et al., in press; Steenkamp et al., 2011). The treatment, Adaptive Disclosure, consists of eight 90-minute sessions, each of which includes imaginal exposure to a core haunting combat experience and uncovering beliefs and meanings in this emotionally evocative context. In cases where traumatic loss or moral injury are present, patients also engage in experiential exercises that entail either a charged imaginal conversation with the deceased or a compassionate and forgiving moral authority in the context of moral injury. In an open trial, Adaptive Disclosure resulted in reductions in PTSD symptoms, depression symptoms, and negative posttraumatic appraisals, and increased posttraumatic growth (Gray et al., in press).

atrocities exposure was related to PTSD symptom severity, PTSD B (reexperiencing) symptoms, Global Guilt, Guilt Cognitions, and cognitive subscales of Hindsight-Bias/Responsibility and Wrongdoing. These results are discussed in the context of previous research conducted regarding atrocities exposure and PTSD.

Drescher, K. D., Foy, D. W., Kelly, C., Leshner, A., Schutz, K., & Litz, B. (2011). **An exploration of the viability and usefulness of the construct of moral injury in war veterans.** *Traumatology*, 17, 8-13. doi: 10.1177/1534765610395615.

It is widely recognized that, along with physical and psychological injuries, war profoundly affects veterans spiritually and morally. However, research about the link between combat and changes in morality and spirituality is lacking. Moral injury is a construct that we have proposed to describe disruption in an individual's sense of personal morality and capacity to behave in a just manner. As a first step in construct validation, we asked a diverse group of health and religious professionals with many years of service to active duty warriors and veterans to provide commentary about moral injury. Respondents were given a semistructured interview and their responses were sorted. The transcripts were used to clarify the range of potentially and morally injurious experiences in war and the lasting sequelae of these experiences. There was strong support for the usefulness of the moral injury concept; however, respondents chiefly found our working definition to be inadequate.

Fontana, A., & Rosenheck, R. (1999). **A model of war zone stressors and posttraumatic stress disorder.** *Journal of Traumatic Stress*, 12, 111-126. doi: 10.1023/A:1024750417154.

We present a theoretical model of field placement, war zone stressors (fighting, death and injury of others, threat of death or injury to oneself, killing others, participating in atrocities, harsh physical conditions and insufficiency of resources in the environment) and PTSD. Theater veterans from the National Vietnam Veterans Readjustment Study were divided randomly into two subsamples of 599 each. The model was developed on the first subsample and cross-validated on the second using structural equation modeling. The model provides a theoretically and empirically satisfactory description of the anatomy of war zone stressors and their role in the etiology of PTSD, but it leaves unanswered important questions regarding the etiological role of insufficiency of resources in the environment.

Fontana, A., Rosenheck, R., & Brett, E. (1992). **War zone traumas and posttraumatic stress disorder symptomatology.** *Journal of Nervous and Mental Disease*, 180, 748-755.

The diagnosis and clinical understanding of PTSD rests upon the explicit identification of traumatic experiences that give rise to a well-defined constellation of symptoms. Most efforts to investigate the characteristics of these experiences have attempted to specify war zone stressors as objectively as possible. In this study, we add specification of the psychological meaning of war zone stressors to their objective specification. Eleven traumas are organized in terms of four roles that veterans played in the initiation of death and injury; namely, target, observer, agent, and failure. These roles can be ordered in terms of the degree of personal responsibility involved in the initiation of death and injury. The relationships of these roles to current symptomatology were examined in combination with a set of objective measures of war zone stressors. The sample consisted of the first 1,709 Vietnam theater veterans who were assessed in a national evaluation of the PTSD Clinical Teams initiative of the Department of Veterans Affairs. Results show that having been a target of others' attempts to kill or injure is related more uniquely than any other role to symptoms that are diagnostic criteria for PTSD. On the other hand, having been an agent of killing and having been a failure at preventing death and injury are related more strongly than other roles to general psychiatric distress and suicide attempts. These results support the interpretation that roles involving low personal responsibility for the initiation of traumas may be connected most distinctively to symptoms diagnostic of PTSD, whereas roles involving high personal responsibility may be connected as much to comorbid psychiatric symptoms, including suicidal behavior, as to PTSD.

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Beckham, J. C., Feldman, M. E., & Kirby, A. C. (1998). **Atrocities exposure in Vietnam combat veterans with chronic posttraumatic stress disorder: Relationship to combat exposure, symptom severity, guilt, and interpersonal violence.** *Journal of Traumatic Stress*, 11, 777-785. doi: 10.1023/A:1024453618638.

Vietnam combat veterans (N = 151) with chronic PTSD completed measures of atrocities exposure, combat exposure, PTSD symptom severity, guilt and interpersonal violence. PTSD symptom severity, guilt and interpersonal violence rates were similar to previously reported studies that examined treatment seeking combat veterans with PTSD. Controlling for combat exposure, endorsement of

Gray, M. J., Schorr, Y., Nash, W., Lebowitz, L., Amidon, A., Lansing, A., et al. (in press). **Adaptive Disclosure: An open trial of a novel exposure-based intervention for service members with combat-related psychological stress injuries.** *Behavior Therapy*. doi: 10.1016/j.beth.2011.09.001. We evaluated the

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Psychological aspects
of combat

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preliminary effectiveness of a novel intervention that was developed to address combat stress injuries in active-duty military personnel. Adaptive disclosure (AD) is relatively brief to accommodate the busy schedules of active-duty service members while training for future deployments. Further, AD takes into account unique aspects of the phenomenology of military service in war in order to address difficulties such as moral injury and traumatic loss that may not receive adequate and explicit attention by conventional treatments that primarily address fear-inducing life-threatening experiences and sequelae. In this program development and evaluation open trial, 44 marines received AD while in garrison. It was well tolerated and, despite the brief treatment duration, promoted significant reductions in PTSD, depression, and negative posttraumatic appraisals, and was also associated with increases in posttraumatic growth.

Litz, B. T., Stein, N., Delaney, E., Lebowitz, L., Nash, W. P., Silva, C., et al. (2009). **Moral injury and moral repair in war veterans: A preliminary model and intervention strategy.** *Clinical Psychology Review, 29*, 695-706. doi: 10.1016/j.cpr.2009.07.003. Throughout history, warriors have been confronted with moral and ethical challenges, and modern unconventional and guerrilla wars amplify these challenges. Potentially morally injurious events, such as perpetrating, failing to prevent, or bearing witness to acts that transgress deeply held moral beliefs and expectations may be deleterious in the long-term, emotionally, psychologically, behaviorally, spiritually, and socially (what we label as moral injury). Although there has been some research on the consequences of unnecessary acts of violence in war zones, the lasting impact of morally injurious experience in war remains chiefly unaddressed. To stimulate a critical examination of moral injury, we review the available literature, define terms, and offer a working conceptual framework and a set of intervention strategies designed to repair moral injury.

Maguen, S., Lucenko, B. A., Reger, M. A., Gahm, G. A., Litz, B. T., Seal, K. H., et al. (2010). **The impact of reported direct and indirect killing on mental health symptoms in Iraq War veterans.** *Journal of Traumatic Stress, 23*, 86-90. doi: 10.1002/its.20434. This study examined the mental health impact of reported direct and indirect killing among 2,797 U.S. soldiers returning from Operation Iraqi Freedom. Data were collected as part of a postdeployment screening program at a large Army medical facility. Overall, 40% of soldiers reported killing or being responsible for killing during their deployment. Even after controlling for combat exposure, killing was a significant predictor of PTSD symptoms, alcohol abuse, anger, and relationship problems. Military personnel returning from modern deployments are at risk of adverse mental health conditions and related psychosocial functioning related to killing in war. Mental health assessment and treatment should address reactions to killing to optimize readjustment following deployment.

Maguen, S., Luxton, D. D., Skopp, N. A., Gahm, G. A., Reger, M. A., Metzler, T. J., et al. (2011). **Killing in combat, mental health symptoms, and suicidal ideation in Iraq War Veterans.** *Journal of Anxiety Disorders, 25*, 563-567. doi: 10.1016/j.janxdis.2011.01.003. This study examined combat and mental health as risk factors of suicidal ideation among 2,854 U.S. soldiers returning from deployment in support of Operation Iraqi Freedom. Data were collected as part of a postdeployment screening program at a large Army medical facility. Overall, 2.8% of soldiers reported suicidal ideation. Postdeployment depression symptoms were associated with suicidal thoughts, while postdeployment PTSD symptoms were associated with current desire for self-harm. Postdeployment depression and PTSD symptoms mediated the association between killing in combat and suicidal thinking, while postdeployment PTSD symptoms mediated the association between killing in combat and desire for self-harm. These results provide preliminary evidence that suicidal thinking and the desire for self-harm are associated with different mental health predictors, and that the impact of killing on suicidal ideation may be important to consider in the evaluation and care of our newly returning veterans.

Maguen, S., Metzler, T. J., Litz, B. T., Seal, K. H., Knight, S. J., & Marmar, C. R. (2009). **The impact of killing in war on mental health symptoms and related functioning.** *Journal of Traumatic Stress, 22*, 435-443. doi: 10.1002/jts.20451. This study examined the mental health and functional consequences associated with killing combatants and noncombatants. Using the National Vietnam Veterans

Readjustment Study (NVVRS) survey data, the authors reported the percentage of male Vietnam theater veterans ($N = 1200$) who killed an enemy combatant, civilian, and/or prisoner of war. They next examined the relationship between killing in war and a number of mental health and functional outcomes using the clinical interview subsample of the NVVRS ($n = 259$). Controlling for demographic variables and exposure to general combat experiences, the authors found that killing was associated with posttraumatic stress disorder symptoms, dissociation, functional impairment, and violent behaviors. Experiences of killing in war are important to address in the evaluation and treatment of veterans.

Maguen, S., Vogt, D. S., King, L. A., King, D. W., Litz, B. T., Knight, S. J., et al. (2011). **The impact of killing on mental health symptoms in Gulf War veterans.** *Psychological Trauma: Theory, Research, Practice, and Policy, 3*, 21-26. doi: 10.1037/a0019897. This study examined the impact of killing on posttraumatic stress symptomatology (PTSS), depression, and alcohol use among 317 U.S. Gulf War veterans. Participants were obtained via a national registry of Gulf War veterans and were mailed a survey assessing deployment experiences and postdeployment mental health. Overall, 11% of veterans reported killing during their deployment. Those who reported killing were more likely to be younger and male than those who did not kill. After controlling for perceived danger, exposure to death and dying, and witnessing killing of fellow soldiers, killing was a significant predictor of PTSS, frequency and quantity of alcohol use, and problem alcohol use. Military personnel returning from modern deployments are at risk of adverse mental health symptoms related to killing in war. Postdeployment mental health assessment and treatment should address reactions to killing in order to optimize readjustment.

Mart, B. P., Foley, K. M., Feinstein, B. A., Wolf, E. J., Kaloupek, D. G., & Keane, T. M. (2010). **Combat-related guilt mediates the relations between exposure to combat-related abusive violence and psychiatric diagnoses.** *Depression and Anxiety, 27*, 287-293. doi: 10.1002/da.20659. **Background:** This study examined the degree to which combat-related guilt mediated the relations between exposure to combat-related abusive violence and both PTSD and Major Depressive Disorder (MDD) in Vietnam Veterans. **Methods:** Secondary analyses were conducted on data collected from 1,323 male Vietnam Veterans as part of a larger, multisite study. **Results:** Results revealed that combat-related guilt partially mediated the association between exposure to combat-related abusive violence and PTSD, but completely mediated the association with MDD, with overall combat exposure held constant in the model. Follow-up analyses showed that, when comparing those participants who actually participated in combat-related abusive violence with those who only observed it, combat-related guilt completely mediated the association between participation in abusive violence and both PTSD and MDD. Moreover, when comparing those participants who observed combat-related abusive violence with those who had no exposure at all to it, combat-related guilt completely mediated the association between observation of combat-related abusive violence and MDD, but only partially mediated the association with PTSD. **Conclusions:** These findings suggest that guilt may be a mechanism through which abusive violence is related to PTSD and MDD among combat-deployed Veterans. These findings also suggest the importance of assessing abusive-violence-related guilt among combat-deployed Veterans and implementing relevant interventions for such guilt whenever indicated.

Selby, E. A., Anestis, M. D., Bender, T. W., Ribeiro, J. D., Nock, M. K., Rudd, M. D., et al. (2010). **Overcoming the fear of lethal injury: Evaluating suicidal behavior in the military through the lens of the Interpersonal-Psychological Theory of Suicide.** *Clinical Psychology Review, 30*, 298-307. doi: 10.1016/j.cpr.2009.12.004. Suicide rates have been increasing in military personnel since the start of Operation Enduring Freedom and Operation Iraqi Freedom, and it is vital that efforts be made to advance suicide risk assessment techniques and treatment for members of the military who may be experiencing suicidal symptoms. One potential way to advance the understanding of suicide in the military is through the use of the Interpersonal-Psychological Theory of Suicide. This theory proposes that three necessary factors are needed to complete suicide: feelings that one does not belong with other people, feelings that one is a burden on others or society, and an acquired capability to overcome the fear and pain associated with suicide. This review analyzes the various ways that military service may

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influence suicidal behavior and integrates these findings into an overall framework with relevant practical implications. Findings suggest that although there are many important factors in military suicide, the acquired capability may be the most impacted by military experience because combat exposure and training may cause habituation to fear of painful experiences, including suicide. Future research directions, ways to enhance risk assessment, and treatment implications are also discussed.

Steenkamp, M. M., Litz, B. T., Gray, M. J., Lebowitz, L., Nash, W., Conoscenti, L., et al. (2011). **A brief exposure-based intervention for service members with PTSD.** *Cognitive and Behavioral Practice, 18*, 98-107. The growing number of service members in need of mental health care requires that empirically based interventions be tailored to the unique demands and exigencies of this population. We discuss a 6-session intervention for combat-related PTSD designed to foster willingness to engage with and disclose difficult deployment memories through a combination of imaginal exposure and subsequent cognitive restructuring and meaning-making strategies. Core corrective elements of existing PTSD treatments are incorporated and expanded, including techniques designed to specifically address traumatic loss and moral conflict.

Witvliet, C. V. O., Phillips, K. A., Feldman, M. E., & Beckham, J. C. (2004). **Posttraumatic mental and physical health correlates of forgiveness and religious coping in military veterans.** *Journal of Traumatic Stress, 17*, 269-273. doi: 10.1023/B:JOTS.0000029270.47848.e5. This study assessed mental and physical health correlates of dispositional forgiveness and religious coping responses in 213 help-seeking veterans diagnosed with PTSD. Controlling for age, socioeconomic status, ethnicity, combat exposure, and hostility, the results indicated that difficulty forgiving oneself and negative religious coping were related to depression, anxiety, and PTSD symptom severity. Difficulty forgiving others was associated with depression and PTSD symptom severity, but not anxiety. Positive religious coping was associated with PTSD symptom severity in this sample. Further investigations that delineate the relevance of forgiveness and religious coping in PTSD may enhance current clinical assessment and treatment approaches.

ADDITIONAL CITATIONS

Bandura, A. (1999). **Moral disengagement in the perpetration of inhumanities.** *Personality and Social Psychology Review, 3*, 193-209. doi: 10.1207/s15327957pspr0303_3. Moral agency is manifested in both the power to refrain from behaving inhumanely and the proactive power to behave humanely. Moral agency is embedded in a broader socio-cognitive self-theory encompassing self-organizing, proactive, self-reflective, and self-regulatory mechanisms rooted in personal standards linked to self-sanctions. The self-regulatory mechanisms governing moral conduct do not come into play unless they are activated, and there are many psychosocial maneuvers by which moral self-sanctions are selectively disengaged from inhumane conduct. The moral disengagement may center on the cognitive restructuring of inhumane conduct into a benign or worthy one by moral justification, sanitizing language, and advantageous comparison; disavowal of a sense of personal agency by diffusion or displacement of responsibility; disregarding or minimizing the injurious effects of one's actions; and attribution of blame to, and dehumanization of, those who are victimized. Many inhumanities operate through a supportive network of legitimate enterprises run by otherwise considerate people who contribute to destructive activities by disconnected subdivision of functions and diffusion of responsibility. Given the many mechanisms for disengaging moral control, civilized life requires, in addition to humane personal standards, safeguards built into social systems that uphold compassionate behavior and renounce cruelty.

Fontana, A., & Rosenheck, R. (2004). **Trauma, change in strength of religious faith, and mental health service use among veterans treated for PTSD.** *Journal of Nervous and Mental Disease, 192*, 579-584. doi: 10.1097/01.nmd.0000138224.17375.55. One of the most pervasive effects of traumatic exposure is the challenge that people experience to their existential beliefs concerning the

ADDITIONAL CITATIONS *continued*

meaning and purpose of life. Particularly at risk is the strength of their religious faith and the comfort that they derive from it. The purpose of this study is to examine a model of the interrelationships among veterans' traumatic exposure, PTSD, guilt, social functioning, change in religious faith, and continued use of mental health services. Data are drawn from studies of outpatient ($N = 554$) and inpatient ($N = 831$) specialized treatment of PTSD in Department of Veterans Affairs programs. Structural equation modeling is used to estimate the parameters of the model and evaluate its goodness of fit to the data. The model achieved acceptable goodness of fit and suggested that veterans' experiences of killing others and failing to prevent death weakened their religious faith, both directly and as mediated by feelings of guilt. Weakened religious faith and guilt each contributed independently to more extensive use of VA mental health services. Severity of PTSD symptoms and social functioning played no significant role in the continued use of mental health services. We conclude that veterans' pursuit of mental health services appears to be driven more by their guilt and the weakening of their religious faith than by the severity of their PTSD symptoms or their deficits in social functioning. The specificity of these effects on service use suggests that a primary motivation of veterans' continuing pursuit of treatment may be their search for a meaning and purpose to their traumatic experiences. This possibility raises the broader issue of whether spirituality should be more central to the treatment of PTSD, either in the form of a greater role for pastoral counseling or of a wider inclusion of spiritual issues in traditional psychotherapy for PTSD.

Hall, J. H., & Fincham, F. D. (2005). **Self-forgiveness: The stepchild of forgiveness research.** *Journal of Social and Clinical Psychology, 24*, 621-637. Although research on interpersonal forgiveness is burgeoning, there is little conceptual or empirical scholarship on self-forgiveness. To stimulate research on this topic, a conceptual analysis of self-forgiveness is offered in which self-forgiveness is defined and distinguished from interpersonal forgiveness and pseudo self-forgiveness. The conditions under which self-forgiveness is appropriate also are identified. A theoretical model describing the processes involved in self-forgiveness following the perpetration of an interpersonal transgression is outlined and the proposed emotional, social-cognitive, and offense-related determinants of self-forgiveness are described. The limitations of the model and its implications for future research are explored.

Herdin, H., & Haas, A. P. (1991). **Suicide and guilt as manifestations of PTSD in Vietnam combat veterans.** *American Journal of Psychiatry, 148*, 586-591. *Objective:* Although studies have suggested a disproportionate rate of suicide among war veterans, particularly those with postservice psychiatric illness, there has been little systematic examination of the underlying reasons. This study aimed to identify factors predictive of suicide among Vietnam combat veterans with PTSD. *Method:* Of 187 veterans referred to the study through a Veterans Administration hospital, 100 were confirmed by means of a structured questionnaire and five clinical interviews as having had combat experience in Vietnam and as meeting the DSM-III criteria for PTSD. The analysis is based on these 100 cases. *Results:* Nineteen of the 100 veterans had made a post-service suicide attempt, and 15 more had been preoccupied with suicide since the war. Five factors were significantly related to suicide attempts: guilt about combat actions, survivor guilt, depression, anxiety, and severe PTSD. Logistic regression analysis showed that combat guilt was the most significant predictor of both suicide attempts and preoccupation with suicide. For a significant percentage of the suicidal veterans, such disturbing combat behavior as the killing of women and children took place while they were feeling emotionally out of control because of fear or rage. *Conclusions:* In this study, PTSD among Vietnam combat veterans emerged as a psychiatric disorder with considerable risk for suicide, and intensive combat-related guilt was found to be the most significant explanatory factor. These findings point to the need for greater clinical attention to the role of guilt in the evaluation and treatment of suicidal veterans with PTSD.

Killgore, W. D. S., Cotting, D. I., Thomas, J. L., Cox, A. L., McGurk, D., Vo, A. H., et al. (2008). **Post-combat invincibility: Violent combat experiences are associated with increased risk-taking propensity following deployment.** *Journal of Psychiatric Research, 42*, 1112-1121. doi: 10.1016/j.jpsychires.2008.01.001. Combat exposure is associated with increased rates of mental health

ADDITIONAL CITATIONS *continued*

problems such as post-traumatic stress disorder, depression, and anxiety when soldiers return home. Another important health consequence of combat exposure involves the potential for increased risk-taking propensity and unsafe behavior among returning service members. Survey responses regarding 37 different combat experiences were collected from 1,252 US Army soldiers immediately upon return home from combat deployment during Operation Iraqi Freedom. A second survey that included the Evaluation of Risks Scale (EVAR) and questions about recent risky behavior was administered to these same soldiers 3 months after the initial post-deployment survey. Combat experiences were reduced to seven factors using principal components analysis and used to predict post-deployment risk-propensity scores. Although effect sizes were small, specific combat experiences, including greater exposure to violent combat, killing another person, and contact with high levels of human trauma, were predictive of greater risk-taking propensity after homecoming. Greater exposure to these combat experiences was also predictive of actual risk-related behaviors in the preceding month, including more frequent and greater quantities of alcohol use and increased verbal and physical aggression toward others. Exposure to violent combat, human trauma, and having direct responsibility for taking the life of another person may alter an individual's perceived threshold of invincibility and slightly increase the propensity to engage in risky behavior upon returning home after wartime deployment. Findings highlight the importance of education and counseling for returning service members to mitigate the public health consequences of elevated risk-propensity associated with combat exposure.

MacNair, R. M. (2002). **Perpetration-induced traumatic stress in combat veterans.** *Peace and Conflict: Journal of Peace Psychology, 8*, 63-72.

doi: 10.1207/S15327949PAC0801_6. The hypothesis that PTSD associated with killing is more severe than that associated with other traumas causing PTSD was tested on US government data from Vietnam War veterans. This large stratified random sample, the National Vietnam Veterans Readjustment Study, allows for generalizable findings. Results showed that PTSD scores were higher for those who said they killed compared to those who did not. Scores were even higher for those who said they were directly involved in atrocities compared to those who only saw them. PTSD scores also remained high for those who said they had killed, but in traditional combat form. The data did not support the alternative explanations that higher battle intensity or a predisposition to over-reporting of symptoms might account for these findings.

Tangney, J. P., Stuewig, J., & Mashek, D. J. (2007). **Moral emotions and moral behavior.** *Annual Review of Psychology, 58*, 345-372. doi: 10.1146/annurev.psych.56.091103.070145. Moral emotions represent a key element of our human moral apparatus, influencing the link between moral standards and moral behavior. This chapter reviews current theory and research on moral emotions. We first focus on a triad of negatively valenced self-conscious emotions—shame, guilt, and embarrassment. As in previous decades, much research remains focused on shame and guilt. We review current thinking on the distinction between shame and guilt, and the relative advantages and disadvantages of these two moral emotions. Several new areas of research are highlighted: research on the domain-specific phenomenon of body shame, styles of coping with shame, psychobiological aspects of shame, the link between childhood abuse and later proneness to shame, and the phenomena of vicarious or “collective” experiences of shame and guilt. In recent years, the concept of moral emotions has been expanded to include several positive emotions—elevation, gratitude, and the sometimes morally relevant experience of pride. Finally, we discuss briefly a morally relevant emotional process—other-oriented empathy.