Evidence Search Service
Results of your search request

Military perspectives on supporting mental health of frontline healthcare staff

ID of request: 22470
Date of request: 26th March, 2020
Date of completion: 27th March, 2020

If you would like to request any articles or any further help, please contact: Lisa Burscheidt at library@nelft.nhs.uk

Please acknowledge this work in any resulting paper or presentation as: Evidence search: Military perspectives on supporting mental health of frontline healthcare staff. Lisa Burscheidt. (27th March, 2020). ILFORD, UK: Aubrey Keep Library and Knowledge Service.

Sources searched
CINAHL (13)
Campbell Collaboration (1)
PsycInfo (13)

Date range used (5 years, 10 years): 2015-2020
Limits used (gender, article/study type, etc.): English
Search terms and notes (full search strategy for database searches below):

KnowledgeShare: military, army, field, battlefield, battlefront, battle

NICE Guidance & QS: n/a

Patient information: n/a

Cochrane: military or army or battle* in All Text AND "moral injury" or ptsd or "post traumatic stress" or guilt

Campbell: army or military

CRDWeb: (military or army) and ("mental health" or guilt or ptsd or "post traumatic")

TRIP Database: (military or army) (conflict or battle or battlefield or battlefront) "mental health"

HDAS: see below

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Summary of Results

As discussed I searched high level sources as well as health and social care databases. I tried to focus search results on the components mentioned in your query.

"Non-deployment factors affecting psychological wellbeing in military personnel: literature review." seems pretty comprehensive. "Timing of Evidence-Based Psychotherapy for Posttraumatic Stress Disorder Initiation Among Iraq and Afghanistan War Veterans in the Veterans Health Administration" and "Factors associated with completing evidence-based psychotherapy for PTSD among veterans in a national healthcare system" could be useful as you were wondering what interventions are most useful when. There are also several articles on the role of "transition stress" - the idea that it's not the battle environment itself that is stressful, but the transition from peaceful environments into it and out of it.

Something that came up a lot when I was searching was the idea that the path from traumatic experiences to mental health problems and the severity of impairment is mediated by a number of factors. Evidence seems to suggt that those who feel well supported, connected, and feel that life has meaning are less likely to have mental health problems, and/or their problems tend to be less severe and affect them for shorter periods of time.

Contents

15. Associations of Stress Exposures and Social Support With Long-Term Mental Health Outcomes Among U.S. Iraq War Veterans.
16. Beyond war and PTSD: The crucial role of transition stress in the lives of military veterans
17. Characteristics of veterans and military service members who endorse causing harm, injury, or death to others in the military.
18. Mental health impact of homecoming experience among 1730 formerly deployed veterans from the Vietnam war to current conflicts: Results from the Veterans' health study
19. Moral injury and PTSD as mediators of the associations between morally injurious experiences and mental health and substance use
20. Non-deployment factors affecting psychological wellbeing in military personnel: literature review.
21. On 'moral injury': Psychic fringes and war violence
22. Processing war: Similarities and differences in PTSD antecedents and outcomes between military and civilian war survivors
23. Psychiatric history, deployments, and potential impacts of mental health care in a combat theater
24. Solving the Mystery of Military Mental Health: A Call to Action.
25. The Women's Experience: A Look at Risk and Protective Factors for Deployed Female Air Force Personnel.
26. Psychiatrists in combat: Mental health clinicians' experiences in the war zone

C. Search History

A. Systematic Reviews

Campbell Collaboration

Deployment of personnel to military operations: impact on mental health and social functioning (2018)

Bog, M., Filges, R., Klint Jorgensen, Anne Marie

Available online at this link

What is this review about? When military personnel are deployed to military operations abroad they face an increased risk of physical harm, and an increased risk of adverse shocks to their mental health. The primary condition under consideration is deployment to an international military operation. Deployment to a military operation is not a uniform condition; rather, it covers a range of scenarios. Military deployment is defined as performing military service in an operation at a location outside the home country for a limited time period, pursuant to orders. The review included studies that reported outcomes for individuals who had been deployed. This review looked at the effect of deployment on mental health outcomes. The mental health outcomes are: post-traumatic stress disorder (PTSD), major depressive disorder (MDD), common mental disorders (depression, anxiety and somatisation disorders) and substance-related disorders. By identifying the major effects of deployment on mental health and quantifying these effects, the review can inform policy development on deployment and military activity as well as post-deployment support for veterans. In this way the review enables decision-makers to prioritise key areas. What is the aim of this review? This Campbell systematic review examines the effects of deployment on mental health. The review summarizes evidence from 185 studies. All studies used observational data to quantify the effect of deployment.

What are the main findings of this review? What studies are included? This review includes studies that evaluate the effects of deployment on mental health. A total of 185 studies were identified. However, only 40 of these were assessed to be of sufficient methodological quality to be included in the final analysis. The studies spanned the period from 1993 to 2017 and were mostly carried out in the USA, UK and Australia. The studies all had some important methodological weaknesses. None of the included studies used experimental designs (random assignment).

Does deployment have an effect on mental health? Deployment to military operations negatively affects the mental health functioning of deployed military personnel. For assessments taken more than 24 months since exposure, we consistently found adverse effects of deployment on all mental health domains (PTSD, depression, substance abuse/dependence, and common mental disorders), particularly on PTSD. For assessments taken less than 24 months (or a variable number of months since exposure) the evidence was less consistent and in many instances inconclusive.

What do the findings of this review mean? The odds of screening positive for PTSD and depression were consistently high in the longer term. This suggests that efforts should be increased to detect and treat mental disorders, as effects may be long-lasting. Overall the risk of bias in the majority of included studies was high. While it is difficult to imagine a randomised study design to understand how deployment affects mental health, other matters such as changes to personnel policy, or unanticipated shocks to the demand for military personnel, could potentially be a rich source of quasi-experimental variation.

How up-to-date is this review? The review authors searched for studies up to 2017. This Campbell systematic review was published in March 2018.

B. Original Research

1. **Do different types of war stressors have independent relations with mental health? Findings from the Korean Vietnam Veterans Study**
   Lee Hyunyup Psychological Trauma: Theory, Research, Practice, and Policy 2020;:No page numbers.

   Objective: South Korea had the second largest contingent of soldiers in the Vietnam War, but little is known about their adaptation, especially in later life. Previous work in a different sample found very high rates of posttraumatic stress disorder (PTSD; 41%) among Korean Vietnam veterans (KVVs; Kang, Kim, & Lee, 2014), compared to 19–31% for American Vietnam veterans. We explored possible reasons for this high rate of PTSD, as well as anxiety and depressive symptoms, utilizing both vulnerability factors (e.g., war stressors) and protective factors (optimism, unit cohesion, and homecoming experiences). Method: The sample included 367 male KVVs surveyed by mail (M age = 72, SD = 2.66). Using hierarchical regressions controlling for demographics, we examined the relative contributions of different types of war stressors and then the protective factors.

   Results: Combat exposure was significantly associated with the three types of negative psychological symptoms, but their associations became nonsignificant when "subjective" war stressors (malevolent environments, perceived threat, and moral injury) were added. In the final models, malevolent environments were the strongest predictor for all three outcomes. In addition, moral injury was independently associated with PTSD symptoms, while perceived threat was marginally associated with depressive and anxiety symptoms. Among psychosocial factors, only optimism was negatively associated with the mental health outcomes.

   Conclusion: KVVs had very high rates of combat exposure, but malevolent environments played a more important role in their mental health in later life. These findings suggest the

importance of considering adverse environmental factors in understanding PTSD in future studies. (PsycINFO Database Record (c) 2020 APA, all rights reserved) (Source: journal abstract) Impact statementClinical Impact Statement—Koreans and Korean Americans have very high rates of suicide (Kung et al., 2018), especially in late life (Park, Jee, & Jung, 2016). Clinicians might wish to consider the contribution of war-time experiences to psychological distress in late life given the association between PTSD and suicide (Conner et al., 2014). (PsycINFO Database Record (c) 2020 APA, all rights reserved)

2. **Timing of Evidence-Based Psychotherapy for Posttraumatic Stress Disorder Initiation Among Iraq and Afghanistan War Veterans in the Veterans Health Administration.**
Holder Nicholas Psychological Trauma: Theory, Research, Practice & Policy 2020;12(3):260-271.

Objective: Cognitive processing therapy (CPT) and prolonged exposure therapy (PE) were widely disseminated to treat posttraumatic stress disorder (PTSD) in the Veterans Health Administration (VHA). However, few Iraq and Afghanistan war veterans (Operation Enduring Freedom [OEF], Operation Iraqi Freedom [OIF], Operation New Dawn [OND]) diagnosed with PTSD have received CPT/PE and many initiate CPT/PE after substantial delay. Veterans who do not initiate CPT/PE or initiate CPT/PE after delay may have poorer treatment outcomes. This study aimed to identify predictors of CPT/PE initiation and timing.

Methods: Participants included OEF/OIF/OND veterans diagnosed with PTSD who received psychotherapy between 2001 and 2017 in the VHA (n = 265,566). Logistic regression analysis was utilized to predict initiating CPT/PE (vs. no CPT/PE). Multinomial logistic regression analysis was utilized to predict not initiating or initiating delayed CPT/PE versus "early CPT/PE" (<1 year after first mental health visit). Analyzed predictors included demographic, military, and clinical complexity variables (e.g., comorbidities, reported military sexual trauma [MST] history). Results: Seventy-Seven percent of veterans did not initiate CPT/PE, with 7.4% initiating early and 15.4% initiating delayed CPT/PE. Reported MST history (odds ratio [OR] = 1.45, 95% CI [1.39, 1.51]) and history of suicidal ideation/attempt (OR = 1.42, 95% CI [1.38, 1.46]) were strong predictors of CPT/PE initiation versus no CPT/PE. Comorbid pain (relative risk ratio [RRR] = 1.35, 95% CI [1.30, 1.42]) and depressive disorders (RRR = 1.37, 95% CI [1.32, 1.43]) were associated with increased likelihood of delayed versus early CPT/PE.

Conclusions: Most veterans in our study did not initiate CPT/PE. Generally, clinical complexity variables increased likelihood of initiating CPT/PE and initiating CPT/PE more than 1 year after first mental health visit. Additional research is needed to understand whether CPT/PE delay results from receipt of alternative intervention due to clinical complexity variables.

Clinical Impact Statement: Among Iraq and Afghanistan war veterans who received Veterans Health Administration posttraumatic stress disorder-related psychotherapy, few began cognitive processing therapy (CPT) or prolonged exposure therapy (PE). Most veterans who received CPT/PE began more than a year after their first mental health visit. Generally, clinical need variables (e.g., history of suicidal ideation/attempt, comorbidities) predicted beginning CPT/PE but also predicted beginning CPT/PE more than a year after first mental health visit. Understanding relevant mental health factors that affect the timing of CPT/PE will provide targets to improve treatment delivery by identifying how treatments are offered and accepted after first mental health visit.

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3. **Trauma exposure, mental health, and quality of life among injured service members: Moderating effects of perceived support from friends and family.**
McCabe Cameron T. Military Psychology (American Psychological Association) 2020;32(2):164-175.

Poor mental health and quality of life (QOL) are common among service members exposed to trauma and may be more pronounced among those injured on combat deployment. It is vital to identify factors that attenuate these issues. This study examined whether perceived support from friends and family buffer associations between level of trauma exposure, mental health symptoms (i.e., posttraumatic stress disorder [PTSD], depression), and QOL. Military health care records and cross-sectional web-assessment data were collected for 1,643 individuals who were participating in a large-scale surveillance project of patient-reported outcomes of Service members injured on combat deployment. General linear models revealed perceived support from family and friends were independently related to lower depression and PTSD symptoms, and higher QOL. Perceived support from friends buffered associations between trauma exposure and depression symptoms and QOL, but not PTSD symptoms. In contrast, individuals with high family support reported the lowest levels for both PTSD and depression symptoms at low levels of trauma exposure. At high levels of trauma exposure, however, symptoms were similar across levels of family support. A similar trend was observed for QOL. Such evidence reinforces the importance of interpersonal relationships and support for injured service members, and highlights the need to address these topics in existing treatment and rehabilitation programs.

4. **U.S. Military Veterans' Health and Well-Being in the First Year After Service.**
Vogt Dawne S. American Journal of Preventive Medicine 2020;58(3):352-360.

Introduction: This study examined the health and well-being of U.S. veterans during the first year after military service and tested several hypotheses regarding differences in veterans' well-being over time, across life domains, and based on sex, military rank, and deployment history.

Methods: A national sample of 9,566 veterans was recruited from a roster of all separating U.S. service members in the fall of 2016. Veterans' status, functioning, and satisfaction with regard to their health, work, and social relationships were assessed within 3 months of separation and then 6 months later. Analyses were completed in 2019.

Results: Health concerns were most salient for newly separated veterans, with many veterans reporting that they had chronic physical (53%) or mental (33%) health conditions and were less satisfied with their health than either their work or social relationships. By contrast, most veterans reported relatively high vocational and social well-being and only work functioning demonstrated a notable decline in the first year following separation. Enlisted personnel reported consistently poorer health, vocational, and social outcomes compared with their officer counterparts, whereas war zone-deployed veterans reported more health concerns and women endorsed more mental health concerns compared with their nondeployed and male peers.

Conclusions: Although most newly separated veterans experience high vocational and social well-being as they reintegrate into civilian life, findings point to the need for additional attention to the health of separating service members and bolstered support for enlisted personnel to prevent the development of chronic readjustment challenges within this population.

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5. **An Epidemiological Evaluation of Trauma Types in a Cohort of Deployed Service Members.**
Presseau Candice Psychological Trauma: Theory, Research, Practice & Policy 2019;11(8):877-885.

Objective: Using Stein et al.'s (2012) categorization scheme for typing Criterion A events (i.e., Life Threat to Self, Life Threat to Other, Aftermath of Violence, Traumatic Loss, Moral Injury by Self, and Moral Injury by Other) and extending Litz et al.'s (2018) prior work, we investigated the prevalence of trauma types, prevalence of posttraumatic stress disorder within each trauma type, and associations between trauma types and behavioral and mental health outcomes for an epidemiological sample of service members.

Method: Criterion A events coded by independent raters (kappas =.85–1.00) were used to determine prevalence rates and to conduct two path models examining all trauma types in relation to mental health outcomes.

Results: Consistent with prior research, we found events containing Life Threat to Self (51.1%) and Life Threat to Other (30.8%) to be most prevalent, and a majority of events (62.9%) were coded with one trauma type. Although least prevalent, Aftermath of Violence (12.0%) and Moral Injury by Self (4.8%) were most frequently and strongly associated with worse mental health outcomes. Path models predicted a very small amount of variance in continuous outcomes, thus limiting the interpretation of findings.

Conclusion: More epidemiological research is needed to understand the role of trauma type in relation to mental health among nontreatment-seeking service members. The current study used a coding scheme to categorize Criterion A traumatic events for an epidemiological sample of recently deployed military service members. Trauma types were represented at different rates, and some demonstrated unique patterns of associations with mental health outcomes. However, more research is needed to determine how trauma type relates to mental health in nontreatment-seeking samples of service members.

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6. **Factors associated with completing evidence-based psychotherapy for PTSD among veterans in a national healthcare system**
Maguen Shira Psychiatry Research 2019;274:112-128.

Little is known about predictors of initiation and completion of evidence-based psychotherapy (EBP) for posttraumatic stress disorder (PTSD), with most data coming from small cohort studies and post-hoc analyses of clinical trials. We examined patient and treatment factors associated with initiation and completion of EBP for PTSD in a large longitudinal cohort.

We conducted a national, retrospective cohort study of all Iraq and Afghanistan War veterans who had a post-deployment PTSD diagnosis from 10/01–9/15 at a Veterans Health Administration facility and had at least one coded post-deployment psychotherapy visit. We examined utilization of PE and CPT (individual or group) during any 24-week period. We used ordered logistic, logistic, and Cox proportional hazards regressions to examine variables associated with EBP initiation, early termination, and completion, and time to completion.

Over a 15-year period, of 265,566 veterans with PTSD, 22.8% initiated an EBP, and only 9.1% completed treatment. Completers did so about three years after their initial mental health visit. Factors positively associated with EBP completion included military sexual trauma, older age, race/ethnicity (i.e., African-American race for PE), combat, and multiple

deployments. The VHA has become timelier in delivering EBP for PTSD, and several subgroups are more likely to complete EBP. (PsycINFO Database Record (c) 2019 APA, all rights reserved) (Source: journal abstract)

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7. **Killing During Combat and Negative Mental Health and Substance Use Outcomes Among Recent-Era Veterans: The Mediating Effects of Rumination.**
Kelley Michelle L. Psychological Trauma: Theory, Research, Practice & Policy 2019;11(4):379-382.

Objective: Although killing in combat is associated with negative mental health outcomes and hazardous alcohol use, mechanisms that underlie this risk are not well understood. To our knowledge, this present brief report is the first to use mediation analysis to examine associations between killing in combat, distinct facets of rumination (problem-focused thoughts, counterfactual thinking, repetitive thoughts, and anticipatory thoughts), and negative mental health outcomes (i.e., depression, anxiety, PTSD, suicidality) and hazardous alcohol use.

Method: Participants were a community sample of 283 military personnel (158 males [60.31%]; mean age = 32.61 [SD = 7.11]) who had deployed in support of recent wars in Iraq or Afghanistan. Participants completed an online self-report survey.

Results: Three rumination facets (i.e., problem-focused thoughts, counterfactual thinking, and anticipatory thoughts) uniquely (controlling for effects of other rumination facets) mediated the associations between killing in combat and negative mental health outcomes and hazardous alcohol use. Taken together, killing in combat was associated with higher levels of each rumination facet, which in turn were distinctly associated with more negative symptoms of mental health and more hazardous drinking (problem-focused thoughts were the only facet to mediate all effects). Beyond these significant mediation effects, killing in combat still had a significant direct effect on every outcome.

Conclusion: These findings provide preliminary support for associations between killing in combat and negative mental health outcomes and hazardous alcohol use. Furthermore, rumination (particularly problem-focused thoughts) may be an important consideration in the evaluation and care of recent-era combat veterans.

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8. **Meaning in Life Moderates the Association Between Morally Injurious Experiences and Suicide Ideation Among U.S. Combat Veterans: Results From the National Health and Resilience in Veterans Study.**
Corona Christopher D. Psychological Trauma: Theory, Research, Practice & Policy 2019;11(6):614-620.

Objective: Effectively responding to suicide risk among veterans involves further developing understanding of reactions to combat experiences, including life-threatening events, traumatic losses, and morally injurious experiences. An important determinant of whether stressors lead to poor mental health outcomes is the perception of meaning. The current study aimed to determine whether global meaning (i.e., general beliefs, goals, and

sense of purpose in life) moderates the relationship between morally injurious experiences and suicide ideation among combat veterans.

Method: This analysis examined 564 participants in the National Health and Resilience in Veterans Study, which surveyed a nationally representative sample of U.S. military veterans, who reported a history of deployment to a combat zone. Multivariable logistic regressions examined interactions between morally injurious experiences and global meaning as predictors of the likelihood of current suicide ideation.

Results: There were significant interactions between global meaning and 2 morally injurious experience subtypes--transgressions by others and betrayal experiences. Higher global meaning was associated with significantly lower likelihood of experiencing suicide ideation at higher levels of transgression by others and betrayal experiences. Conclusions: Veterans who report higher levels of morally injurious experiences involving transgressions by others and betrayal experiences in the presence of higher levels of global meaning are significantly less likely to experience suicide ideation. Continued research is needed to determine whether interventions aimed at cultivating global meaning may help mitigate suicide risk in combat veterans with high exposure to certain potentially morally injurious experiences.

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9. **Mental health in conflict settings.**
Mylan Sophie Lancet 2019;394(10216):2237-2237.

Fiona Charlson and colleagues[1] called for a scaling up of mental health interventions in areas of conflict; however, they did not adequately consider acute limitations in the assessment of existing strategies (including indiscriminate and widely inconsistent use of the post-traumatic stress disorder label) or the damaging consequences of adopting universalised and externally generated preconceptions. Since 2004, our anthropological research in northern Uganda has explored the effects of the civil war there,[2] in which 60 000 people were abducted by the Lord's Resistance Army. Through ethnographic accounts and repeated in-depth interviews since 2012, with more than 600 former abductees and their children born to Lord's Resistance Army commanders, we have analysed the social effects of post-traumatic stress disorder interventions and the social ramifications of introducing trauma discourses.

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10. **Moral injury and suicidality among combat-wounded veterans: The moderating effects of social connectedness and self-compassion**
Kelley Michelle L. Psychological Trauma: Theory, Research, Practice, and Policy 2019;11(6):621-629.

Objective: Among combat veterans, moral injury (i.e., the guilt, shame, inability to forgive one's self and others, and social withdrawal associated with one's involvement in events that occurred during war or other missions) is associated with a host of negative mental health symptoms, including suicide. To better inform and tailor prevention and treatment efforts among veterans, the present study examined several potential risk (i.e., overidentification and self-judgment) and protective (i.e., self-kindness, mindfulness, common humanity, and social connectedness) variables that may moderate the association between moral injury and suicidality.

Method: Participants were 189 combat wounded veterans (96.8% male; mean age = 43.14 years) who had experienced one or more deployments (defined as 90 days or more). Nearly all participants reported a service-connected disability (n = 176, 93.1%) and many had received a Purple Heart (n = 163, 86.2%).

Results: Within a series of moderation models, we found 3 statistically significant moderation effects. Specifically, the association between self-directed moral injury and suicidality strengthened at higher levels of overidentification, that is, a tendency to overidentify with one's failings and shortcomings. In addition, the association between other-directed moral injury and suicidality weakened at higher levels of mindfulness and social connectedness. Conclusions: These findings provide insight on risk and protective factors that strengthen (risk factor) or weaken (protective factor) the association between moral injury and suicidality in combat-wounded veterans. Taken together, mindfulness, social connectedness, and overidentification are relevant to understand the increased/decreased vulnerability of veterans to exhibit suicidality when experiencing moral injury. (PsycINFO Database Record (c) 2019 APA, all rights reserved) (Source: journal abstract) Impact statement

Clinical Impact Statement—Experiences in combat may violate one's deeply held belief systems. For some service members, these violations may result in inner conflict. We examined variables that may increase risk for or reduce risk, that is, buffer the association between moral injury and suicidality. High levels of mindfulness and social connectedness reduced the association between moral injury and suicidality, whereas overidentifying, that is, identifying strongly with one's failures, strengthened the association between moral injury and suicidality. Mindfulness, social connectedness, and overidentification may be variables that mental health professionals should consider when working with veterans who have experienced moral injury and report suicidality. (PsycINFO Database Record (c) 2019 APA, all rights reserved)

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11. **Predictors of recovery from post-deployment posttraumatic stress disorder symptoms in war veterans: The contributions of psychological flexibility, mindfulness, and self-compassion**
Meyer Eric C. Behaviour Research and Therapy 2019;114:7-14.

Posttraumatic stress disorder (PTSD) is a major challenge among war veterans. This study assessed the contribution of several interrelated, modifiable psychosocial factors to changes in PTSD symptom severity among combat-deployed post-9/11 Veterans. Data were drawn from a longitudinal study of predictors of mental health and functional outcomes among U.S. Iraq and Afghanistan war Veterans (N = 117). This study assessed the unique contribution of psychological flexibility, mindfulness, and self-compassion to PTSD recovery, after accounting for established predictors of PTSD chronicity, including combat exposure, alcohol use problems, and traumatic brain injury. PTSD symptom severity was assessed using a clinician-administered interview, and PTSD recovery was defined as the change in symptom severity from lifetime worst severity, measured at baseline, to current severity at one-year follow-up. A mindful awareness latent factor comprised of all three variables measured at baseline predicted PTSD recovery beyond the other predictors of PTSD chronicity ($f^2 = 0.30$, large effect). Each construct predicted PTSD recovery when tested individually. When tested simultaneously, self-compassion, but not mindfulness or psychological flexibility, predicted PTSD recovery. These findings suggest that mindful awareness of emotional distress predicts recovery from PTSD symptoms in war veterans, which supports the utility mindfulness-based interventions in promoting post-trauma recovery. (PsycINFO Database Record (c) 2019 APA, all rights reserved) (Source: journal abstract)

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12. **Sex differences in mental health symptoms and substance use and their association with moral injury in veterans.**
Kelley Michelle L. Psychological Trauma: Theory, Research, Practice & Policy 2019;11(3):337-344.

Objective: This study examines potential sex differences in 3 types of experiences (i.e., atrocities of war, cognitive and emotional changes from combat, and leadership failure or betrayal) that may result in moral injury (i.e., guilt, shame, inability to forgive one's self, inability to forgive others, and withdrawn behavior associated with these three types of experiences). In addition, we examine whether moral injury results in different associations with mental health and substance use outcomes for female versus male veterans. We expected more symptoms of depression and anxiety for women and more symptoms of hazardous alcohol use and drug abuse for men. Also, we examined sex as a moderator between moral injury and outcomes, expecting stronger relationships between moral injury and symptoms of depression and anxiety among women and stronger associations between moral injury and alcohol use and drug abuse symptoms for men.

Method: Participants (n = 256; 60.9% [n = 156] males) were a community sample of recent-era military personnel who completed a measure of morally injurious experiences (MIEs) and associated moral injury.

Results: After correcting for Type I error rate, sex was not associated with mental health or substance use. Further, no Sex × Moral Injury interactions were present; however, moral injury significantly positively predicted all negative mental health symptoms (depression, anxiety, suicidality, and posttraumatic stress disorder [PTSD]) and hazardous alcohol use, but not drug abuse symptoms.

Conclusions: Results reveal the need for improved screening and treatment of moral injury and integrated treatments that may assess moral injury and associated disorders.

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13. **To what extent is psychological resilience protective or ameliorative: Exploring the effects of deployment on the mental health of combat medics**
Russell Dale W. Psychological Services 2019;:No page numbers.

Exposure to a major traumatic stressor increases the odds of negative mental health and maladaptive behavioral outcomes not only for victims but also for 1st responders and health care professionals who are exposed to the aftermath. This study investigates the extent to which psychological resilience acts as either a Protective (i.e., vaccine-like) or an Ameliorative (i.e., antibiotic-like) factor to reduce the deleterious mental health outcomes associated with exposure to a major stressor. To do so, this pilot study focused on the understudied population of military combat medics, who are exposed to both stressors associated with direct combat and with providing intense battlefield trauma care. Military combat medics who were identified as having deployed to Iraq or Afghanistan shortly after baseline measurements of posttraumatic stress disorder, depression, and aggressive behavioral tendencies and returned from deployment prior to the follow-up assessment (protective model) were compared to those who returned from deployment in Iraq or Afghanistan shortly before the baseline measurements and were not deployed again prior

to the follow-up assessments (ameliorative model). Data were collected on combat experiences to equate the stressor for these 2 samples, and a propensity score matching technique was used to ensure that the 2 samples were similar. The findings provide support for both the protective and the ameliorative models of psychological resilience. Results are discussed in terms of the potential benefits of resilience in mental health programs. (PsycINFO Database Record (c) 2019 APA, all rights reserved) (Source: journal abstract)

14. **Association between unethical battlefield conduct and mental health: Implications for leaders and ethical risk assessments**
Blanc J.-R. Sébastien Psychology of Violence 2018;8(2):250-258.

Objective: Excessively violent or otherwise inappropriate acts by military personnel on the modern battlefield can impede mission success, and they can have detrimental effects on the victims, witnesses, and perpetrators. This study provides new insights into the association between unethical battlefield conduct and mental health, as well as the processes through which misconduct on military operations occurs.

Method: Through a comprehensive literature review, we examine the scope of issues around unethical battlefield conduct and we consider the association between unethical conduct and mental health from different perspectives.

Results: Our review culminates in a process model that suggests that mental health problems, such as posttraumatic stress disorder (PTSD), can drive unethical battlefield conduct through anger induction and/or disregulation. Additionally, we propose a framework, the Triad of Ethical Risk, that underscores three factors that increase service members' risk for acting unethically on the battlefield: (a) recent history of combat exposure, (b) history of committing offenses that underscore violence and/or impulsivity, and (c) recent history of anger-related behaviors.

Conclusions: This practical framework can assist military leaders and health professionals in understanding the processes through which mental health can affect battlefield conduct, and in identifying personnel at risk of offending before they offend. (PsycINFO Database Record (c) 2018 APA, all rights reserved) (Source: journal abstract)

Available online at this link

15. **Associations of Stress Exposures and Social Support With Long-Term Mental Health Outcomes Among U.S. Iraq War Veterans.**
Ciarleglio Maria M. Behavior Therapy 2018;49(5):653-667.

The long-term mental health effects of war-zone deployment in the Iraq and Afghanistan wars on military personnel are a significant public health concern. Using data collected prospectively at three distinct assessments during 2003-2014 as part of the Neurocognition Deployment Health Study and VA Cooperative Studies Program Study #566, we explored how stress exposures prior, during, and after return from deployment influence the long-term mental health outcomes of posttraumatic stress disorder (PTSD), depression, anxiety disorders, and problem drinking. Longer-term mental health outcomes were assessed in 375 service members and military veterans an average of 7.5 years (standard deviation = 1.0 year) after the initial (i.e., "index") Iraq deployment following their predeployment assessment. Anxiety disorder was the most commonly observed long-term mental health outcome (36.0%), followed by depression (24.5%), PTSD (24.3%), and problem drinking (21.0%). Multivariable regression models showed that greater postdeployment stressors, as measured by the Post-Deployment Life Events scale, were associated with greater risk of

depression, anxiety disorders, and problem drinking. Anxiety disorder was the only outcome affected by predeployment stress concerns. In addition, greater postdeployment social support was associated with lower risk of all outcomes except problem drinking. These findings highlight the importance of assessing postdeployment stress exposures, such as stressful or traumatic life events, given the potential impact of these stressors on long-term mental health outcomes. This study also highlights the importance of postdeployment social support as a modifiable protective factor that can be used to help mitigate risk of long-term adverse mental health outcomes following war-zone exposure.

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16. **Beyond war and PTSD: The crucial role of transition stress in the lives of military veterans**
Mobbs Meaghan C. Clinical Psychology Review 2018;59:137-144.

[Correction Notice: An Erratum for this article was reported in Vol 60 of Clinical Psychology Review (see record 2018-12409-003). The authors regret that the printed version of the original article contained an error in relation to a citation and reference to a NY Times article by David Philipps, which authors misspelled as "Phillips." The correction is given in the erratum.] Although only a relatively small minority of military veterans develop Posttraumatic Stress Disorder (PTSD), mental health theory and research with military veterans has focused primarily on PTSD and its treatment. By contrast, many and by some accounts most veterans experience high levels of stress during the transition to civilian life, however transition stress has received scant attention. In this paper we attempt to address this deficit by reviewing the wider range of challenges, rewards, successes, and failures that transitioning veterans might experience, as well as the factors that might moderate these experiences. To illuminate this argument, we briefly consider what it means to become a soldier (i.e., what is required to transition into military service) and more crucially what kind of stressors veterans might experience when they attempt to shed that identity (i.e., what is required to transition out of military service). We end by suggesting how an expanded research program on veteran transition stress might move forward. (PsycINFO Database Record (c) 2018 APA, all rights reserved) (Source: journal abstract)

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17. **Characteristics of veterans and military service members who endorse causing harm, injury, or death to others in the military.**
Held Philip Psychological Trauma: Theory, Research, Practice & Policy 2018;10(3):352-359.

Objective: The purpose of the present research was to examine the demographic and mental health characteristics of veterans and service members who endorsed having caused harm, injury, or death to another person on deployment, while taking these individuals' total number of other lifetime traumas into account.

Method: Data for the present study were collected as part of the standard clinical evaluation for 228 treatment-seeking veterans and service members.

Results: Those who reported having caused harm, injury, or death to another person on deployment (22.4%) were more likely to be male, to have served in the Marines, to have served post 9/11, and to endorse other traumas commonly reported on deployment than

those who did not endorse causing harm, injury, or death. Those who endorsed causing harm on deployment were less likely to have served in the Air Force, and to have experienced sexual assault than those who did not cause harm. Causing harm, injury, or death was associated with higher levels of posttraumatic stress disorder (PTSD), drug use, and expressive anger at the bivariate level, but was no longer associated with mental health problems after accounting for the number of other lifetime traumas. Conclusions: Examining the role of causing harm in isolation may lead to false conclusions. Clinicians and researchers should assess for veterans' and service members' entire trauma histories.

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18. **Mental health impact of homecoming experience among 1730 formerly deployed veterans from the Vietnam war to current conflicts: Results from the Veterans' health study**
Boscarino Joseph A. Journal of Nervous and Mental Disease 2018;206(10):757-764.

We examined the effects of homecoming support on current mental health among 1730 deployed veterans from Vietnam, Iraq/Afghanistan, Persian Gulf, and other conflicts. The prevalence of current posttraumatic stress disorder (PTSD) was 5.4%, current depression was 8.3%, and 5.4% had suicidal thoughts in the past month. Overall, 26% of veterans had low homecoming support, which was more prevalent among Vietnam veterans (44.3%, $p < 0.001$). In multivariable logistic regressions, controlling for demographics, combat exposure, number of deployments, trauma history, and operational theater, low postdeployment support was associated with PTSD (odds ratio, 2.13; $p = 0.032$) and suicidality (odds ratio, 1.91; $p < 0.030$), but not depression. For suicidality, an interaction was detected for homecoming by theater status, whereby Iraq/Afghanistan veterans with lower homecoming support had a higher probability of suicidal thoughts ($p = 0.002$). Thus, years after deployment, lower homecoming support was associated with current PTSD and suicidality, regardless of theater and warzone exposures. For suicidality, lower support had a greater impact on Iraq/Afghanistan veterans. (PsycINFO Database Record (c) 2018 APA, all rights reserved) (Source: journal abstract)

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19. **Moral injury and PTSD as mediators of the associations between morally injurious experiences and mental health and substance use**
Battles Allison R. Traumatology 2018;24(4):246-254.

The present study examined the degree to which morally injurious experiences (MIEs; i.e., atrocities of war, psychological consequences of war, and leadership failure/betrayal) and moral injury (i.e., guilt, shame, difficulties with forgiveness, and withdrawal associated with exposure to MIEs) were associated with symptoms of depression, anxiety, posttraumatic stress disorder (PTSD), suicidality, hazardous alcohol use, and drug abuse symptoms. In addition, we examined moral injury and PTSD symptoms as mediators of the association between MIEs and these outcomes (exploratory model). Participants (n = 244) were a predominantly veterans community-based military sample. Our primary model (i.e., single mediation model) revealed that moral injury mediated associations between two MIEs (i.e., atrocities of war and leadership failure/betrayal) and depressive symptoms, anxiety symptoms, hazardous alcohol use, and PTSD symptoms. However, our exploratory model

(i.e., a dual simultaneous mediation model) revealed that moral injury was not significantly associated with any health outcomes after controlling for the effects of MIE dimensions and PTSD symptoms. Within this model, PTSD symptoms significantly mediated the effects of both atrocities of war MIEs and leadership failure/betrayal MIEs on depressive symptoms, anxiety symptoms, suicidality, and hazardous alcohol use. Findings provide preliminary support for moral injury as a mechanism linking exposure to MIEs to both mental health and hazardous alcohol use. Taken together, moral injury appears to be an important target for intervention among combat military personnel. (PsycINFO Database Record (c) 2019 APA, all rights reserved) (Source: journal abstract)

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20. **Non-deployment factors affecting psychological wellbeing in military personnel: literature review.**
Brooks Samantha K. Journal of Mental Health 2018;27(1):80-90.

Background: Most military mental health research focuses on the impact of deployment-related stress; less is known about how everyday work-related factors affect wellbeing.

Aims: This systematic narrative literature review aimed to identify non-deployment-related factors contributing to the wellbeing of military personnel. Method: Electronic literature databases were searched and the findings of relevant studies were used to explore non-deployment-related risk and resilience factors.

Results: Fifty publications met the inclusion criteria. Determinants of non-deployment stress were identified as: relationships with others (including leadership/supervisory support; social support/cohesion; harassment/discrimination) and role-related stressors (role conflict; commitment and effort-reward imbalance; work overload/job demands; family-related issues/work-life balance; and other factors including control/autonomy, physical work environment and financial strain). Factors positively impacting wellbeing (such as exercise) were also identified.

Conclusions: The literature suggests that non-deployment stressors present a significant occupational health hazard in routine military environments and interpersonal relationships at work are of fundamental importance. Findings suggest that in order to protect the wellbeing of personnel and improve performance, military organisations should prioritise strengthening relationships between employees and their supervisors/colleagues. Recommendations for addressing these stressors in British military personnel were developed.

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21. **On ‘moral injury’: Psychic fringes and war violence**
MacLeish Kenneth History of the Human Sciences 2018;31(2):128-146.

This article is concerned with theories and therapeutic practices that interpret posttraumatic combat stress as a ‘moral injury’ produced by the shock of carrying out lethal violence in uncertain battlefield conditions. While moral injury is said to share many symptoms with

post-traumatic stress disorder (PTSD), its proponents—military and Veterans Health Administration clinical psychologists, chaplains, and some psychiatrists—are concerned by PTSD's inability to account for the meaning-based moral and ethical distress that counterinsurgency battlefields in Iraq and Afghanistan are allegedly especially prone to produce in US soldiers. Moral injury theorists seem to want to describe a phenomenon that is both more profound than PTSD but which, as clinical psychologists Shira Maguen and Brett Litz state, is not itself a mental disorder. In this article, I examine the links between moral injury theory's fringe diagnostic status and the fringe status of the kinds of violence it understands as uniquely injurious to soldiers' psyches. Moral injury valorizes war-fighting and military culture while casting war as a source of almost inevitable psychopathology. I argue that moral injury theory represents an effort to carve out a distinct domain of psychological expertise but also a negotiation of the tension between war violence's 'normal' practice and its excessive or morally hazardous manifestations—both of which link mental illness directly to the politics of war violence and post-war care. (PsycINFO Database Record (c) 2019 APA, all rights reserved) (Source: journal abstract)

22. **Processing war: Similarities and differences in PTSD antecedents and outcomes between military and civilian war survivors**
Leon Matthew R. Occupational stress and well-being in military contexts 2018;:1-193.

Post-traumatic stress disorder (PTSD) affects both civilian and military populations following wartime experiences. However, despite an abundance of research investigating civilian and military populations separately, much less focus has been given to synthesizing and integrating findings to describe how civilian and military war survivors are comparatively affected by PTSD. This review is broken down into three sections covering (I) risk factors associated with PTSD, (2) relationships between PTSD and mental health outcomes, and (3) protective factors that can attenuate PTSD and its effects. Each section covers findings for civilians and military personnel and highlights similarities and differences between groups. (PsycINFO Database Record (c) 2019 APA, all rights reserved) (Source: chapter)

23. **Psychiatric history, deployments, and potential impacts of mental health care in a combat theater**
Varga Colleen M. Military Medicine 2018;183(1-2):e77.

Introduction: Increasing numbers of U.S. service members access mental health care while deployed and at home station. Multiple deployments carry with them a higher risk of exposure to combat as well as the impact of cumulative stressors associated with separation from family, hostile environments, and high operations tempo. However, mental health care resources continue to be underutilized, potentially because of higher levels of stigma regarding mental health care and concerns about career impact among service members. Some studies indicate that service members who have previously sought mental health care are likely to continue to do so proactively as needed. This study examined the associations between prior deployments, prior mental health treatment, and subsequent career-impacting recommendations (e.g., duty limitations and medical evacuation) among deployed service members seeking mental health care.

Materials and Methods: This study is a retrospective review of clinical records from three U.S. military Combat and Operational Stress Control units in Afghanistan. Data were drawn from the mental health records of 1,639 Army service members presenting for outpatient mental health services while deployed in Afghanistan from years 2006 to 2008. Results: In an unadjusted logistic regression model, service members with at least one prior deployment had a 38% greater odds (odds ratio [OR] = 1.38, 95% confidence interval [95%

CI] 1.06, 1.80; p < 0.05) of receiving career-impacting recommendations than those without a prior deployment. However, after adjusting for demographics (age, gender, marital status, rank, and military status), there was no association between prior deployments and career-impacting recommendations (OR = 1.06, 95% CI 0.78, 1.43; p = 0.716). In the second unadjusted model, service members with prior mental health treatment had a 57% lower odds (OR = 0.43, 95% CI 0.34, 0.56; p < 0.001) of receiving career-impacting recommendations than those without prior mental health treatment. After adjusting for demographics and number of prior deployments, service members with prior mental health treatment had a 58% lower odds (OR = 0.42, 95% CI 0.33, 0.56; p < 0.001) of receiving career-impacting recommendations than those without prior mental health treatment.

Conclusion: Among service members who had a clinical mental health encounter, prior deployment was not associated with career-impacting recommendations and prior mental health treatment appeared to be protective against career-impacting recommendations. These results are in line with research indicating that service members who have previous experience with mental health care tend to seek help sooner than those without prior treatment. Those service members who had previously sought care were more likely to express decreased stigma and seek mental health care while deployed. Consequently, service members who have prior mental health treatment may seek care before their concerns become marked enough to warrant duty-limiting recommendations to command. These findings have important implications for campaigns to reduce stigma and promote early help-seeking among service members. Efforts should continue to study and respectively make known the rates of career impact with the goal of increased early service utilization and increased ability to sustain service members' military readiness and personal functioning. (PsycINFO Database Record (c) 2019 APA, all rights reserved) (Source: journal abstract)

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24. **Solving the Mystery of Military Mental Health: A Call to Action.**
Lieberman Jeffrey A. Psychiatric Times 2018;35(12):1-4.

In the article, the author discusses the mental health issues confronting military personnel. Also cited are the failure by military officials to accept the reality of psychic injuries that denied said personnel effective mental health care, the pathological basis of psychologic trauma, as well as the post-traumatic stress disorder (PTSD) and its complications like suicide, addiction and domestic violence experienced by U.S. military personnel deployed in Iraq and Afghanistan.

25. **The Women's Experience: A Look at Risk and Protective Factors for Deployed Female Air Force Personnel.**
Breeden Nicole C. Journal of Women's Health (15409996) 2018;27(12):1449-1455.

Objective: Over the past few decades, women's roles in the United States military have expanded significantly. Currently women encounter more wartime experiences during deployment than in the past. Previous research with male service members has linked exposure to wartime events to subsequent development of post-traumatic stress disorder (PTSD) symptoms. However, because of the unique experiences of military women, research is needed to better understand the link between wartime experiences and mental health in female personnel.

Methods: We examined the wartime experiences of deployed, active-duty female Airmen and their relations to PTSD. A large representative sample of active-duty female Air Force personnel, who responded to the U.S. Air Force Community Assessment Survey (CAS), was used to determine the relationships between wartime experiences and symptoms of PTSD. Previous research suggests the possibility that factors, including unit cohesion and self-efficacy, may mediate these relations.

Results: Descriptive analyses indicate that the percentage of personnel experiencing PTSD symptoms increased as the number of wartime experiences increased. Logistic regression analyses revealed that wartime experiences were positively related to subsequent PTSD-related symptoms. Both unit cohesion and self-efficacy were negatively related to PTSD symptoms, but neither variable was found to moderate the relationship between wartime experiences and PTSD.

Conclusions: Women are experiencing greater numbers of wartime experiences. Like men, as the number of wartime experiences increases, PTSD symptoms increase as well. Self-efficacy and unit cohesion were found to lower these symptoms, indicating that these factors may help decrease the negative impact of wartime experiences.

26. **Psychiatrists in combat: Mental health clinicians' experiences in the war zone**
Anon. Psychiatrists in combat: Mental health clinicians' experiences in the war zone 2017;:No page numbers.

This book tells the professional and personal experiences of American military psychiatrists and their fellow mental health providers in the longest conflict in American history. These men and women treat service members for the psychological consequences from their experiences in battle, including killing enemy combatants, seeing wounded and killed civilian casualties, losing their friends in combat, factoring in personal mental health needs, and potentially dealing with their own physical injuries from being shot or blown up. The volume consists of 20 short first-person case studies from mental health providers who have been risking their lives while treating patients in the battlefield since 9/11. Written by experts who have experienced these challenges directly, this text offers both clinical and personal accounts that are not found elsewhere. Topics include tips on providing psychotherapy in battle, evaluating and treating detainees in war prisons such as Abu Ghraib and Guantanamo Bay, and the unique challenges of prescribing medication to patients who are also comrades in war. Psychiatrists in Combat; Mental Health Clinicians' in the War Zone is uniquely positioned to be a valuable resource for psychiatrists interested in trauma and veterans, psychologists, social workers, occupational therapists, military health personnel, and mental health professionals interested in military psychiatry. (PsycINFO Database Record (c) 2017 APA, all rights reserved) (Source: cover)

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C. Search History

	Source	Criteria	Results
1.	CINAHL	(army OR military).ti,ab	22393
2.	CINAHL	(war OR "armed conflict" OR "armed combat" OR battlefield OR battlefront OR battle OR "Military action" OR "field hospital" OR "military hospital").ti,ab	18963
3.	CINAHL	("mental health").ti,ab	110290
4.	CINAHL	exp "MILITARY PERSONNEL"/	17451
5.	CINAHL	exp WAR/	15250
6.	CINAHL	"HOSPITALS, MILITARY"/	2063
7.	CINAHL	"MENTAL HEALTH"/	37640
8.	CINAHL	(1 OR 4)	30200
9.	CINAHL	(2 OR 5 OR 6)	30398
10.	CINAHL	(3 OR 7)	125921
11.	CINAHL	(8 AND 9 AND 10)	720
12.	CINAHL	11 [DT 2015-2020] [Languages eng]	229
13.	PsycINFO	(army OR military).ti,ab	30206
14.	PsycINFO	(war OR "armed conflict" OR "armed combat" OR battlefield OR battlefront OR battle OR "Military action" OR "field hospital" OR "military hospital").ti,ab	35646
15.	PsycINFO	("mental health").ti,ab	173377
16.	PsycINFO	exp "MILITARY PERSONNEL"/	29562
17.	PsycINFO	exp WAR/	13947
18.	PsycINFO	exp "MENTAL HEALTH"/	64502
19.	PsycINFO	(13 OR 16)	44368
20.	PsycINFO	(14 OR 17)	38250
21.	PsycINFO	(15 OR 18)	187449
22.	PsycINFO	(19 AND 20 AND 21)	1031

	Source	Criteria	Results
23.	PsycINFO	22 [DT 2015-2020] [Languages English]	280

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