



A PUBLICATION OF THE NAVAL CENTER FOR COMBAT AND OPERATIONAL STRESS CONTROL

Multiple childhood traumas associated with decreased mental and physical health in adulthood

Key Findings:

Among never-deployed young male Marines, 46.3% reported a history of childhood trauma, while 24.9% reported experiencing multiple types of childhood trauma. Results found that as number of trauma types in childhood increased, PTSD and depression symptoms increased, and mental health and physical health-related quality of life decreased significantly. History of childhood trauma showed no significant effects on current tobacco or alcohol abuse.

Study Type:

Prospective study with self-report and clinician-rated measures

Sample:

Young male Marines who had never deployed and

were enrolled in the Marine Resiliency Study (n = 1254)

Implications:

Results display the large number of service members who have experienced childhood trauma, and suggest that increased exposure to multiple types of childhood trauma has a cumulative effect on adult physical and mental health. The current findings support previous theories proposing that early life stress and trauma lead to dysregulation of the hypothalamic-pituitary-adrenal axis, increase vulnerability to stress, and alter psychophysiological reactivity. Future research with a larger sample is needed to identify biological pathways specific to early trauma.

Agorastos, A., Pittman, J.O.E., Angkaw, A.C., Nievergelt, C.M., Hansen, C.J., Aversa, L.H., ...Baker, D.G. (2014). The cumulative effect of different childhood trauma types on self-reported symptoms of adult male depression and PTSD, substance abuse and health-related quality of life in a large active-duty military cohort. *Journal of Psychiatric Research*, In Press, doi: 10.1016/j.jpsychires.2014.07.014

Self-awareness, perceived social support, and self-integration of moral injury in personal schemas associated with PTSD recovery

Key Findings:

A group of PTSD-recovered participants were compared to a group of participants with ongoing PTSD symptoms to examine levels of self-awareness of mental states, perceived social support, and self-integration of moral injury in personal schemas. Results showed that all three outcome variables were key processes in the recovery from PTSD. Specifically, participants with low self-integration of moral injury in personal schemas and low self-awareness of mental states exhibited higher severity of depression and PTSD symptoms. Participants with higher perceived social support showed lower depression but not PTSD symptoms. Level of combat exposure predicted PTSD symptoms; yet, self-integration of moral injury in personal schemas, and self-awareness of mental states more strongly predicted PTSD symptoms. Participants who were in the recovered group showed higher frequencies of moral injury, higher self-awareness, higher perceived social support, and higher self-integration of moral injury into personal schemas. When participants with moral injury were compared to those without moral injury, no significant differences were found in depression or PTSD symptoms.

Study Type:

Cross-sectional study with qualitative and quantitative methods

Sample:

Portuguese war veterans (n = 60); Divided into a non-recovered group (n = 30) and a recovered group (n = 30)

Implications:

Results suggest that reconciling morally distressing

to identify psychological states may aid in recovery from PTSD and depression in veterans. Treatments that encourage identification of emotions and processing of moral injury may be indicated for this population. Future longitudinal research with clinician-administered measures is needed to examine how self-awareness of mental states and self-integration of moral injury in personal schemas are related to each other.

Ferrajao, P.C., & Oliveira, R.A. (2014). Self-awareness of mental states, self-integration of personal schemas, perceived social support, posttraumatic and depression levels, and moral injury: A mixed-method study among Portuguese war veterans. *Traumatology*, 20(4), 277-285. doi: 10.1037/trm0000016

A machine learning approach to predicting PTSD trajectory may be preferred to general linear modeling

Key Findings:

General Linear Modeling (GLM) is typically the method used to predict PTSD trajectory. However, GLM is limited by several factors including: the assumption of normality, need for large sample-to-variable ratio, and inability to analyze and integrate multiple variables simultaneously. Machine Learning (ML) is a method of outcome forecasting that allows for use of a large and complex datasets with heterogeneous distributions. The current study examined the use of ML to predict the trajectory of non-remitting PTSD from data collected within 10 days of a traumatic event. Three methods of ML forecasting were compared to determine which was the most accurate. The three methods included: features selected by ML, all available features, and acute stress disorder (ASD) symptoms. When using the ML features, the predictive potential of the data was exhausted. However, accuracy of prediction from ML features was not significantly different from that of prediction from all available information. Additionally, prediction from ASD symptoms was not significantly different than

predicting from chance. ML better predicted symptom trajectory of the non-remitting PTSD group than that of the remitted group at 15 months post-trauma.

Study Type:

Fifteen-month longitudinal study

Sample:

Adult trauma survivors who had been admitted to the emergency department following traumatic events (n = 957)

Implications:

Results show that an ML approach is feasible and capable of predicting PTSD based on early responses to trauma, and may be more useful than the GLM framework. Results also show that the failure to predict PTSD trajectory from ASD symptoms may be due to the high frequency with which ASD symptoms are endorsed immediately post-trauma. Future research with independent datasets is needed to replicate the current findings and to test their accuracy in classifying PTSD outcomes.

Galatzer-Levy, I.R., Karstoft, K.I., Statnikov, A., & Shalev, A.Y. (2014). Quantitative forecasting of PTSD from early trauma responses: A machine learning application. *Journal of Psychiatric Research*, 59, 68-76. doi: 10.1016/j.psychires.2014.08.017

Preliminary evidence supports the temporal stability of the PCL-5 in longitudinal research

Key Findings:

The current study examined baseline, post-intervention, and three-month follow-up data from a clinical trial of "VetChange" (an online-based cognitive behavioral treatment for combat stress and alcohol abuse in OEF/OIF/OND veterans). The current results are the first to show that DSM-5 PTSD symptoms are stable over time when

measured with the Posttraumatic Checklist, Fifth edition (PCL-5). The new DSM-5 four-factor model of PTSD (Intrusions, Avoidance, Negative alterations of cognitions and mood, and Hyperarousal) demonstrated adequate fit to the data at post-intervention, and at three-month follow-up. The items of the PCL-5 assessing psychogenic amnesia and recklessness/self-destructive behavior had weak, yet significant factor loadings compared to the other items.

Study Type:

Secondary analysis of self-report measures from a randomized clinical trial

Sample:

Combat-exposed veterans of OEF/OIF enrolled in an online intervention for alcohol use and combat stress (n = 507)

Implications:

Results confirm previous research supporting the DSM-5 model of PTSD symptoms. Additionally, results suggest that the new PTSD symptoms in DSM-5 (distorted sense of blame, and strong negative beliefs) capture an aspect of this disorder that was not previously accounted for by the DSM-IV model. This is the first study to demonstrate the temporal stability of the PCL-5, suggesting that it can reliably be used in longitudinal studies as it measures the same construct over time. Future research is needed to examine the utility of the PCL-5 psychogenic amnesia item, and the recklessness/self-destructive behavior item in defining PTSD.

Keane, T.M., Rubin, A., Lachowicz, M., Brief, D., Enggasser, J.L., Roy, M...Rosenbloom, D. (2014). Temporal stability of DSM-5 posttraumatic stress disorder criteria in a problem-drinking sample. *Psychological Assessment*, Advance Online Publication. doi: 10.1037/a0037133

Distress is strongly associated with suicidality and difficulty controlling violence in veterans

Key Findings:

The current study examined the structure of psychiatric comorbidity in a sample of OEF/OIF veterans (some with comorbid psychiatric disorders, and others with only one diagnosis). The main disorders examined in this study included alcohol use disorder, substance use disorder, nicotine dependence, depression, PTSD, panic disorder, social phobia, specific phobia, and obsessive-compulsive disorder. Results of a factor analysis found that a three-factor model provided an excellent fit to the data. The three factors included externalizing-substance use disorder (SUD), distress, and fear. Alcohol-use disorders, nicotine dependence, and SUDs loaded on the externalizing-SUD factor, while depression and PTSD loaded on the distress factor. Additionally, panic disorder, specific and social phobia, and obsessive-compulsive disorder loaded on the fear factor. Structural equation modeling was used to examine the associations between the three factors, and four other outcome variables; difficulty controlling violent behavior, incarceration, suicidality, and suicide attempts. History of incarceration was strongly related to the externalizing-SUD factor, while current suicidality and history of suicide attempts were strongly related to the distress factor. Suicidality, difficulty controlling violence, and suicide attempts were independently predicted by the distress factor. Contrary to expectations, no significant relationship was identified between the externalizing-SUD factor and difficulty controlling violence.

Study Type:

Cross-sectional study with self-report and clinician-rating measures

Sample:

Diverse sample of OEF/OIF veterans participating in the VA Mid-Atlantic Mental Illness Research

Education and Clinical Center (MIRECC) registry database studying post-deployment mental health (n = 1897)

Implications:

Results suggest that the experience of distress in OEF/OIF veterans, especially those with depression and PTSD may be at risk for suicidality, suicide attempts, and trouble controlling violence. While difficulty controlling violence was not significantly related to the externalizing-SUD factor, contrary to expectations, both difficulty controlling violence, and PTSD loaded on the distress factor. Results support the findings of previous research showing that PTSD may be associated with aggressive behavior. Additionally, other research shows that aggression and suicidality share many of the same risk factors. Interventions aimed at reducing violence may need to focus on decreasing level of distress, while treatments for SUDs may need more focus on antisocial traits, implied by the link between incarceration and antisocial traits. Future prospective research using national databases and random sampling is needed to replicate the current findings to increase generalizability, and to examine the etiology of suicidality and violence.

Kimbrel, N.A., Calhoun, P.S., Elbogen, E.B., Brancu, M., & Beckham, J.C. (2014). The factor structure of psychiatric comorbidity among Iraq/Afghanistan-era veterans and its relationship to violence, incarceration, suicide attempts, and suicidality. *Psychiatry Research*, 220, 397-403. doi: 10.1016/j.psychres.2014.07.064

Critical Warzone Experiences scale is brief, reliable, and valid in OEF/OIF veteran sample

Key Findings:

Three independent samples were used to examine the psychometric properties of the Critical Warzone Experiences (CWE) scale. Examination of data from the first sample found that the CWE exhibited good internal consistency ($\alpha = 0.80$), with high test-retest reliability at one year ($r = 0.73$). Results also

provided support for the convergent validity of the CWE with the MHAT Combat Experiences Scale, the DRR1 Combat Experiences Scale and Post-Battle Experiences Scale, the Clinician-Administered PTSD Scale, the Posttraumatic Checklist-Military version, the Beck Depression Inventory-II, the Depression-Anxiety-Stress Scales, and the World Health Organization Disability Assessment Schedule-II. Principal components analysis showed that one unitary factor accounted for about 47% of the variance. Analysis of data from the second sample found evidence for good internal consistency of the CWE ($\alpha = 0.85$), and fit indices supported the one-factor model. Structural equation modeling demonstrated the CWE's predictive validity with regard to anxiety, PTSD and depression. Analysis of data from the third sample showed further evidence of the CWE's high internal consistency ($\alpha = 0.85$), and correlations between symptom severity measures (anxiety, depression, PTSD, stress, and functional impairment), and the CWE were significantly higher than those in the first two samples. Additionally, CWE scores for veterans with current PTSD were significantly higher than those of veterans without PTSD.

Study Type:

Cross-sectional analysis of three independent samples using self-report and clinician-rating measures

Sample:

Three different samples of OEF/OIF veterans (Sample one: $n = 130$ veterans enrolled for healthcare at the VA; Sample two: 212 veterans; Sample three: 50 veterans participating in a large study of PTSD genetics)

Implications:

With only seven items, the CWE appears to be a brief, reliable, and valid measure of critical warzone experiences among three different samples of OEF/OIF veterans. While future prospective research is needed to replicate these results in a more diverse sample, the CWE may be a significant

improvement in the measurement of combat and warzone experiences due to its brevity, and its ability to predict development of PTSD, depression and anxiety. Future research should also focus on the CWEs predictive power with regard to other diagnoses such as alcohol misuse, suicide, TBI, and violence.

Kimbrel, N.A., Evans, L.D., Patel, A.B., Wilson, L.C., Meyer, E.C., Gulliver, S.B., & Morissette, S.B. (2014). The critical warzone experiences (CWE) scale: Initial psychometric properties and association with PTSD, anxiety, and depression. *Psychiatry Research*, 220, 1118-1124. doi: 10.1016/j.psychres.2014.08.053

60-minute prolonged exposure with 40-minute imaginal exposures effective in treating PTSD symptoms

Key Findings:

While 90-minute sessions with 40-minute imaginal exposures have been standard protocol for Prolonged Exposure (PE), results of the current study found that 60-minute sessions of PE with 20-minute imaginal exposures were not inferior, and effectively treated PTSD symptoms when compared to the 90-minute sessions. Participants in both conditions (90 minute PE versus 60 minute PE) experienced significant reductions in PTSD symptoms, with no significant differences between groups. Those receiving 40-minute imaginal exposures experienced greater within- and between-session habituation than those receiving 20-minute imaginal exposures. Both groups experienced decreases in negative cognitions and in PTSD symptoms, and decreases in negative cognitions were associated with decreases in PTSD symptoms. Notably, no significant differences were found between treatment groups in the reduction of negative cognitions.

Study Type:

Longitudinal study with self-report and clinician-rating measures

Sample:

Adult veterans with chronic PTSD (n = 39), randomly assigned to either 90-minute (n = 19), or 60-minute (n = 20) sessions of PE

Implications:

Results suggest that 60-minute sessions of PE with 20-minute imaginal exposures may be as effective as 90-minute sessions with 40-minute imaginal exposures in reducing PTSD symptoms. Additionally, 60-minute sessions may be more feasible in some clinical settings where adherence to a standard, or shorter session duration is expected. Results should be replicated with a larger and more diverse sample to ensure generalizability.

Nacasch, N., Huppert, J.D., Su, Y.J., Kivity, Y., Dinshtein, Y., Yeh, R., & Foa, E.B. (2015). Are 60-minute prolonged exposure sessions with 20-minute imaginal exposure to traumatic memories sufficient to successfully treat PTSD? A randomized noninferiority clinical trial. *Behavior Therapy, Advance Online Publication*. doi: 10.1016/j.beth.2014.12.002

Combat stress not associated with physical health symptoms after accounting for PTSD

Key Findings:

While many studies have found a relationship between traumatic stress and physical health issues, the current study took into account other variables such as gender, type of physical health issue, and type of trauma when examining this relationship. Combat stress was significantly associated with physical health symptoms (both pain-related and non pain-related). Yet, once the effect of PTSD was accounted for, combat stress no longer provided unique variance in physical health symptoms. Harassment stress (e.g., challenging or prejudicial situations with fellow service members, or sexual harassment experiences) during deployment was significantly related to pain and non-pain physical symptoms in both men and women. Notably, this relationship was not fully explained by PTSD. Harassment stress predicted

pain symptoms for women, and non-pain symptoms for women and men

Study Type:

Cross-sectional study with self-report measures

Sample:

OEF/OIF veterans (n = 2332), equally represented by men and women

Implications:

Consistent with findings of previous literature, the current results show that PTSD symptoms and harassment stress may account for the development of physical health problems. It is possible that factors other than PTSD symptoms mediate the relationship between harassment stress and physical health problems. Future prospective research with stratified sampling and clinician-rated measures should examine other possible mediators in this relationship.

Nilni, Y.I., Gradus, J.L., Gutner, C.A., Luciano, M.T., Shipherd, J.C., & Street, A.E. (2014). Deployment stressors and physical health among OEF/OIF veterans: The role of PTSD. *Health Psychology, 33*(11), 1281-1287. doi: 10.1037/hea0000084

Analysis of linguistic characteristics may predict PTSD

Key Findings:

Linguistic characteristics of non-trauma narratives written by trauma-exposed individuals with and without PTSD were analyzed. Results found that those with PTSD used more singular pronouns and death-related words, and fewer plural pronouns than those without PTSD. Within the PTSD group, increased severity of re-experiencing symptoms was associated with greater use of singular pronouns and lower level of cognitive flexibility. Increased severity of avoidance symptoms was associated with lower use of death words, while increased severity of hyperarousal symptoms was associated with less frequent use of anxiety words.

The linguistic variables measured in this study accounted for 53% of the variance in PTSD symptom severity.

Study Type:

Cross-sectional study with clinician-rating measures and qualitative interviews

Sample:

Trauma-exposed individuals with PTSD (n = 23), and without PTSD (n = 30)

Implications:

Results are consistent with previous research showing that language use is a strong predictor of PTSD psychopathology, and may allow for earlier identification and intervention. Future research with a larger sample, and assessment of past PTSD symptoms is needed to replicate and extend the current findings. Additionally, research should focus on the relationship between linguistic characteristics and different types of trauma.

Papini, S., Yoon, P., Rubin, M., Lopez-Castro, T., & Hien, D.A. (2014). Linguistic characteristics in a non-trauma-related narrative task are associated with PTSD diagnosis and symptom severity. *Psychological Trauma: Theory, Research, Practice, and Policy*, Advance Online Publication. doi: 10.1037/tra0000019

Insomnia shows unique indirect effect on physical health symptoms in soldiers post-deployment

Key Findings:

This study examined the relationship between combat exposure and physical health symptoms (measured using 12 items from the patient health questionnaire [PHQ-15]). No direct association between combat exposure and physical symptoms was identified when other variables (PTSD, depression, insomnia) were included in the model. However, a significant indirect association was found between combat exposure and physical

symptoms through depression, PTSD, and insomnia. PTSD, depression, and insomnia all accounted for unique variance in the relationship between combat exposure and physical symptoms. Notably, the indirect relationship between combat exposure and physical health symptoms that was attributable to insomnia was statistically independent of that attributable to depression and PTSD symptoms.

Study Type:

Cross-sectional study with self-report measures

Sample:

U.S. soldiers who returned from a 15-month deployment three months prior to data collection (n = 587)

Implications:

Results suggest that insomnia is an independent risk factor for physical health symptoms post-combat deployment. Considering that rates of insomnia are increasing rapidly, results provide implications for both clinicians and researchers in the identification and treatment of physical health symptoms. Results also lend support for embedded mental health professionals in primary care settings to help with sleep-related issues. These findings may influence future VA policies regarding assessment and treatment of physical symptoms, potentially mitigating costly chronic physical health problems associated with deployment. Future prospective research is needed to determine the sequential nature of the relationship between physical and behavioral health.

Quartana, P.J., Wilk, J.E., Balkin, T.J., & Hoge, C.W. (2015). Indirect associations of combat exposure with post-deployment physical symptom in U.S. soldiers: Roles of post-traumatic stress disorder, depression and insomnia. *Journal of Psychosomatic Research*, 78, 478-483. doi: 10.1016/j.psychores.2014.11.017

Narrative therapy decreases symptoms of PTSD and depression

Key Findings:

This is the first pilot study to examine the efficacy of Narrative Therapy in treating trauma survivors who had rejected empirically-supported treatments prior to their involvement in the current study. Narrative therapy includes 12 one-hour weekly sessions of individual therapy, and has been found to reduce distress by helping clients examine alternate ways to interpret the trauma, form new alternative narratives, and encourage actions consistent with the newer narratives. No recounting of the trauma is necessary. Among the 11 veterans who completed up to 12 sessions of narrative therapy, seven showed a clinically significant reduction in PTSD symptoms, while three participants no longer met DSM-IV criteria on the Clinician-Administered PTSD Scale, and experienced reductions on PTSD self-report measures. Furthermore, results showed a 23.8% reduction in pre-post-depression scores, low dropout rate (21.4%), and high level of treatment satisfaction compared to that of previous studies

Study Type:

Pre-post-treatment study with self-report and clinician-administered measures

Sample:

Veterans (n = 14) in outpatient treatment for chronic PTSD with at least one military traumatic event, who refused empirically-supported PTSD treatments prior to enrollment in the current study

Implications:

Results suggest that narrative therapy may be an effective alternative to existing PTSD treatments, especially for individuals who are not interested in, or refuse to partake in other empirically-supported treatments such as prolonged exposure or cognitive processing therapy. While patients in the current study were not required to recount their

trauma, all patients voluntarily disclosed traumatic events during at least one session. Recounting the traumatic experience, placebo effects, and passage of time may have contributed to favorable outcomes. Although promising, results should be interpreted with caution due to the small sample, non-randomization, and lack of generalizability to other veteran groups. A randomized study with a larger sample and more diverse traumas, with and without comorbid depression is needed to evaluate treatment efficacy and long-term treatment gains.

Erbes, C.R., Stillman, J.R., Wieling, E., Bera, B., Leskela, J. (2014). A pilot examination of the use of narrative therapy with individuals diagnosed with PTSD. *International Society for Traumatic Stress Studies*, 27, 730-733. doi: 10.1002/jts.21966

Comorbid alcohol dependence and PTSD vary in clinical presentation but not treatment response

Key Findings:

Prior research shows that PTSD is often the primary diagnosis when comorbid with alcohol dependence (AD)-PTSD. However, the current study found that the same number of PTSD patients had AD first (AD-f), as those who had PTSD first (PTSD-f). This study examined the effect of order of PTSD-AD onset on clinical presentation and response to treatment. All participants received 18- weekly to bi-weekly, 30 to 40 minute sessions of BRENDA (Biopsychosocial evaluation, Reporting to the patient, Empathy for the patient, a Needs assessment, Direct advice, and an Assessment of the progress in treatment), a medication management and supportive intervention to enhance treatment compliance. Participants were randomized to one of four treatment groups; PE plus Naltrexone (PE+NAL), PE plus pill placebo (PE+PBO), NAL, and PBO. Results showed no significant difference in number of sessions attended, or drop-out rates, regardless of treatment group or primary diagnosis. AD-f individuals were more likely to be diagnosed with personality disorders (anti-social and borderline), PTSD due to

physical/other assault (accident), and to attribute their behaviors to alcohol and drugs. In addition, the AD-f group showed a non-significant trend towards greater self-blame as the cause for their trauma. Individuals in the PTSD-f group considered sexual/combat trauma to be the cause of their PTSD, and reported a greater number of mental health visits. Females were equally likely to develop PTSD-f as they were to develop AD-f. Following treatment, both groups showed significant improvements in PTSD symptoms and alcohol use, regardless of treatment group or primary diagnosis.

Study Type:

Randomized control study with clinician-administered and self-report measures

Sample:

Adults (n = 165) receiving treatment for PTSD and comorbid alcohol dependence

Implications:

The results suggest that that AD-first may be associated with lower income and personality disorders, contributing to barriers to seeking care and hindrance to treatment. Additionally, those with AD-f were intoxicated with drugs/alcohol at the time of trauma and were likely to blame themselves to be the cause for the trauma. Those with PTSD-f, who were more likely to attribute PTSD symptoms to sexual/combat experiences, may be using alcohol and/or drugs as an avoidance strategy. Despite diverse clinical presentations, the two groups did not vary in treatment response. The sample included treatment-seeking, predominantly male participants, thus, limiting generalizability. Future prospective research using clinician observation rather than self-report is needed to more accurately determine the age of onset of each disorder.

McLean, C.P., Su, Yi-Jen., Foa, E.B. (2014). Posttraumatic stress disorder and alcohol dependence: Does order of onset make a difference? *Journal of Anxiety Disorders*, 28, 894-901.
doi:10.1016/j.janxdis.2014.09.023

Shame and aspects of guilt associated with PTSD symptoms in victims of intimate partner violence

Key Findings:

The current study examined the relationships among shame, guilt, and PTSD in women exposed to Intimate Partner Violence (IPV). Results found that shame, guilt-related cognitions, and guilt-related distress, yet not global guilt, were significantly and positively correlated with PTSD. High levels of dominance/isolation (dominant perpetrator who isolates partner from seeking social support), and high levels of emotional/verbal abuse both interacted with a high level of shame in their relationship with PTSD. However, the relationships between PTSD and guilt-related cognitions, and PTSD and guilt-related distress were not moderated by specific types of abuse.

Study Type:

Cross-sectional study with self-report and clinician-administered measures

Sample:

Women in mental health treatment (n = 63) for trauma due to intimate partner violence

Implications:

Results suggest that shame, and only specific aspects of guilt are associated with PTSD in women with a history of IPV. Previous research shows that guilt is more associated with depression, potentially explaining why global guilt was not associated with PTSD in this study. Clinicians should be aware that shame and certain aspects of guilt are associated with PTSD, and may need to be addressed during treatment. This sample included only women, limiting generalizability since males and females may experience different negative emotions following trauma. Prospective research is needed to replicate the current findings using a larger sample, including both males and females, with more diverse types of trauma.

Beck, G.J., McNiff, J., Clapp, J.D., Olsen, S.A., Avery, M.L., Hagewood, J.H. (2011). Exploring negative emotion in women experiencing intimate partner violence: Shame, Guilt and PTSD. *Science Direct*. 42, 740-750. doi:

Computerized attention-bias modification program may reduce symptoms of PTSD and depression

Key Findings:

Service members who display threat-related attention bias may be at increased risk for PTSD symptoms. The current study examined whether modifying this bias by using the Attention Bias Modification (ABM) program as an add-on treatment to standard care (CPT/PE/ medication) resulted in a decrease of PTSD symptoms compared to the Attention Control Condition (ACC). In ABM, two words were presented on a computer screen; one threat word and one neutral word. Next, a probe (either the letter E or F) replaced the neutral word, and the participant responded either E or F in the ABM condition. For the control condition, the probe replaced the threat word and the neutral word with equal frequency. Results showed a decrease in both PTSD symptoms and depression over time for both groups, with a significantly larger decrease in the ABM group. No change in static attention bias was found between groups, while plasticity of attentional bias was found to decrease over time for the ABM group only. Plasticity of attentional bias mediated the relationship between treatment and symptom reduction, while static attention bias away from threat at baseline moderated the relationship between treatment and symptom reduction.

Study Type:

Randomized-controlled study with self-report measures

Sample:

Active duty service members (n = 29) receiving treatment at an inpatient community hospital specializing in chemical dependency and behavioral

services. ABM (n = 20); ACC (n = 17)

Implications:

Results suggest that ABM may be a promising augmentation to standard PTSD therapies in decreasing PTSD and depression symptoms. Future research with a larger sample is needed to replicate the current findings with use of clinician-rating measures. Future research should also examine change in specific PTSD symptom clusters as a result of ABM treatment augmentation and settings other than inpatient.

Kuckertz, J.M., Amir, N., Boffa, J.W., Warren, C.K., Rindt, S.E.M., Norman, S.....Mclay, R. (2014). Behaviour Research and Therapy. The effectiveness of an attention bias modification program as an adjunctive treatment for Posttraumatic stress disorder. 63, 25-35. doi: 10.1016/j.brat.2014.09.002

Mindful non-judging negatively associated with PTSD symptoms

Key Findings:

The relationship between mindful awareness, mindful non-judging, and PTSD symptoms was examined and revealed significant group differences between combat veterans with PTSD, and combat and non-combat control groups. Veterans with PTSD had lower scores on mindful non-judging than those without PTSD or combat experiences. There were no between group differences on mindful awareness. Additionally, when mindfulness was included in the regression model for PTSD symptom clusters it accounted for a significant amount of variance in PTSD symptoms (re-experiencing 23%, numbing-avoiding 19%, hyperarousal 16%), beyond the effects of combat exposure. However, only mindful non-judging was significant in the model.

Study Type:

Cross-sectional study with self-report measures and structured clinical interviews

Sample:

Vietnam War veterans (n = 45): combat veterans with PTSD (n = 15), combat veterans without PTSD (n = 15), and non-combat veterans (n = 15)

Implications:

Results are consistent with research suggesting that higher severity of PTSD symptoms is associated with increased negative judgement of memories, thoughts, and feelings. Mindfulness-based treatment programs for PTSD may show improvements in outcomes by placing greater emphasis on mindful non-judging. Clinicians who work with PTSD patients should be educated on mindful non-judging and trained on ways to enhance mindful non-judging in treatment. Further prospective research is needed to examine the effects of mindful non-judging treatments on overall outcomes in combat veterans with PTSD.

Wahbeh, H., Lu, M., & Oken, B. (2011). Mindful awareness and non-judging in relation to posttraumatic stress disorder symptoms. *Mindfulness*, 2(4), 219-227. doi: 10.1007/s12671-011-0064-3

Increased focus is needed on the partners of veterans with PTSD

Key Findings:

Significant others of veterans living with PTSD provided written feedback about their experiences, including how PTSD impacts partners and families, coping strategies, and mental health services. Partners described the intricacies of living with someone who has difficulty with anger management, poor communication skills, and is emotionally withdrawn. Many expressed feelings of sadness, isolation, anger and chronic stress related to their deteriorating relationships. Partners frequently discussed mental health services and indicated a desire to be more involved in the veteran's treatment of PTSD. Additionally, partners expressed a need for services to help them manage their own distress such as support groups for

spouses or family members and individual therapy. Partners often expressed uncertainty related to initiating treatment for themselves.

Study Type:

Retrospective and qualitative study using thematic analysis

Sample:

Partners of veterans (n = 252) diagnosed with and seeking treatment for PTSD

Implications:

Results suggest that a Veteran's PTSD symptoms significantly impact the wellbeing of his or her partner, indicating that their partners may benefit from mental health services as well. The military should consider more concentrated outreach efforts for partners who are struggling with the effects of living with individuals with PTSD. Results also suggest that there may be a need to increase the number of supportive services that are offered to partners. Clinicians working with PTSD patients should be aware of the resources that are available for partners and they should consider including significant others in treatment. These efforts may help to enhance the quality of life of partners of veterans with PTSD, which in turn may improve the veteran's quality of life.

Mansfield, A.J., Schaper, K.M., Yanagida, A.M., & Rosen, C.S. (2014). One day at a time: The experiences of partners of veterans with Posttraumatic Stress Disorder. *Professional Psychology: Research and Practice*, 45(6), 488-495. doi: 10.1037/a0038422

Peritraumatic negative cognitions about oneself increase risk of acute stress disorder and PTSD posttrauma

Key Findings:

Risk factors including peritraumatic dissociation, peritraumatic panic, tonic mobility, anxiety

sensitivity, negative cognitions about the world, and negative cognitions about self were examined to identify possible common pathways to the development of Acute Stress Disorder (ASD) and posttraumatic stress disorder (PTSD). All of the above risk factors were significantly associated with severity of both ASD and PTSD. However, only anxiety sensitivity, peritraumatic panic, and negative cognitions about self were identified as common risk factors for both ASD severity and PTSD severity when controlling for the effect of other risk factors. Additionally, negative cognitions about self were identified as the strongest common risk factor for ASD and PTSD.

Study Type:

Quasi-prospective study with self-report measures

Sample:

Danish bank employees (n = 450) exposed to bank robbery

Implications:

The findings indicate that negative cognitions about self may play an important role in the development of ASD and PTSD and they provide support for the inclusion of negative cognitions in the DSM-5 PTSD diagnosis. The results suggest that it may also be important to include negative cognitions in the diagnosis of ASD. More research is needed across different trauma populations in order to better understand the development of ASD and PTSD and help identify areas to focus prevention and treatment efforts for both acute and long-term posttraumatic symptoms.

Hansen, M., Armous, C., Wittmann, L., Elkit, A., & Shelvin, M. (2014). Is there a common pathway to developing ASD and PTSD symptoms? *Journal of Anxiety Disorders*, 28, 865-872. doi: 10.1016/j.janxdis.2014.09.019

PTSD patients show deficits in their ability to use contextual information to modulate fear expression

Key Findings:

Extinction recall and fear renewal were examined using a modified functional Magnetic Resonance Imaging (fMRI) paradigm in order to test for a general deficit in contextual processing and underlying neurocircuitry in posttraumatic stress disorder (PTSD). PTSD patients showed impaired extinction recall in the safety context and they also showed impaired fear renewal in the danger context compared with combat controls. Combat controls displayed appropriate contextual modulation of memory recall, with extinction memory prevailing in the safety context and fear memory prevailing in the danger context. PTSD patients were not able to use the safety context to maintain suppression of the extinguished fear memory, and they were also unable to use the danger context to enhance fear. A general pattern of heightened fear expression was not observed in PTSD patients but instead a general pattern of diminished capacity to use contextual information to modulate fear expression was noted.

Study Type:

Non-randomized controlled study with self-report measures and structured clinical interviews

Sample:

Treatment seeking male OEF and OIF veterans (n = 28) (with PTSD n = 14) (combat controls n = 14)

Implications:

Results suggest that PTSD patients may have general difficulties using context to help regulate appropriate memory expression. These findings may help explain why some patients who are exposed to repeated traumas are unable to recognize danger (deficits in recognizing danger contexts) and also why some patients are in a

COMBAT & OPERATIONAL STRESS
RESEARCH QUARTERLY

constant state of perceiving threat and hyperarousal (deficits in recognizing safety contexts). Further exploration of contextual modulation and neurobiological explanations for PTSD symptoms is warranted.

Garfinkel, S.N., Abelson, J.L., King, A.P., Sripada, R.K., Wang, X., Gaines, L.M., & Liberzon, I. (2014). Impaired contextual modulation of memories in PTSD: An fMRI and psychophysiological study of extinction retention and fear renewal. *The Journal of Neuroscience*, 34(40), 13435-13443. doi: 10.1016/j.janxdis.2014.09.019

**Navy Bureau of Medicine and Surgery
 Naval Center for Combat &
 Operational Stress Control
 (NCCOSC)**

Views expressed in this publication are not necessarily those of the Department of Defense

Research Quarterly is written and produced the NCCOSC Research Facilitation Department and Strategic Communications Department.

Research Facilitation Dept. Head
 Jennifer Webb-Murphy, PhD

Editor and Writer
 Erin Miggantz, PhD

Writers
 Erin Miggantz, PhD
 Jagruti Bhakta, PhD
 Vasudha Ram, MPH

**Strategic Communications Dept. Head/
 Public Affairs Officer**
 Amy Rohlfs

**Senior Strategic
 Communications Specialist**
 Jenny Collins

Graphic Design
 Randy Reyes

All issues of the *Combat & Operational Stress Research Quarterly* are available online.

Contact us at nccosc.owner@gmail.com to receive this publication in your inbox, need assistance pursuing a research study involving combat and operational stress or have a submission you would like to have included in an edition.

