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## PCL-S diagnostic cutoff scores may be lower for active duty service members

### Key findings:

The current study examined diagnostic cutoff points on the Posttraumatic Checklist-Specific version (PCL-S) that best identified full PTSD, stringent partial-PTSD (P-PTSD), and lenient partial PTSD (lenient P-PTSD) among recently deployed OEF/OIF Marines and Sailors. Results showed that a cutoff score of 39 on the PCL was optimal for identifying full PTSD, while PCL cutoff scores of 33 and 38 were optimal for identifying lenient P-PTSD and stringent P-PTSD respectively.

### Study type:

Marine Resiliency Study; Longitudinal cohort study with self-report assessments at one month pre-deployment, and one, five, and eight months post-deployment

### Sample:

Male OEF/OIF active-duty U.S. Sailors and Marines from
Male OEF/OIF active-duty U.S. Sailors and Marines from
infantry battalions assessed approximately three months post-deployment (n = 1,016)

### Implications:

Results suggest that a PCL-S cutoff value of 50 may be too high for active-duty service members, yet may be appropriate for Vietnam Veterans; the population examined in previous research. Active duty service members may underreport PCL scores due to stigma, or fearing the denial of advancement opportunities. Female service members were not included in this study which may limit generalizability. Future research and clinical work with the active duty population may consider using lower PCL-S cutoff scores, and should examine cutoff scores for the other forms of the PCL. Future research should also examine the effects of active duty status on diagnostic utility of other self-report measures.

Dickstein, B.D., Weathers, F.W., Angkaw, A.C., Nievergelt, C.M., Yurgil, K., Nash, W.P.,...Litz, B.T. (2015). Diagnostic utility of the Posttraumatic Stress Disorder (PTSD) Checklist for identifying full and parital PTSD in active-duty military. *Assessment, 22*(3), 289-297. doi: 10.1177/1073191114548683

## Auricular acupuncture for insomnia in veterans with combat-PTSD improves self-reported sleep quality

### Key findings:

Active duty service members in a residential treatment program received standard care or standard care plus Auricular Acupuncture (AA). Standard care included individual and group Cognitive Processing Therapy (CPT), psychoeducation, exercise, and community involvement in a residential treatment setting. Service members who received standard care plus AA experienced self-reported improvements in overall sleep quality and decreases in daytime dysfunction compared to those who only received standard care. However, wrist actigraphy measurements and sleep time diaries showed no significant differences between groups.

### Study type:

Randomized controlled feasibility study with wrist actigraphy and self-report measures

### Sample:

Active duty OEF/OIF service members (n = 29) in a 10-week residential treatment program for combat-related PTSD. Standard care plus nine sessions of AA administered over three weeks, (n = 15); Standard care only (n = 14)

### Implications:

While wrist actigraphy did not show significant group differences, self-report of sleep improvement in those receiving AA suggests that AA may augment standard care, and may be a useful alternative to pharmacological treatment for PTSD. Future research with a larger sample that controls for use of sleep medications, uses a randomized design and includes a sham control group is needed to replicate the current results.

King, H.C., Spence D.L., Hickey, A.H., Sargent, P., Elesh, R., Connelly, C.D. (2015). Auricular acupuncture for sleep disturbance in Veterans with Posttraumatic Stress Disorder: A feasibility study. *Military Medicine, 180(5)*, 582-590. doi: 10.7205/MILMED-D-14-00451

## Unwanted sexual contact associated with mental health problems and substance misuse in active duty females

### Key findings:

The current study analyzed factors associated with unwanted sexual contact in female active duty service members. Results found that 13.4% of active duty women reported unwanted sexual contact since joining the military. Three independent factors; military work stress, family and personal stress, and stress related to being a female in the military, were associated with a two-fold increase in reporting unwanted sexual contact, and screening positive for depression, PTSD, psychological distress, suicidal ideation/suicide attempts, and misuse of tranquilizers and/or muscle relaxants, in the past year.

### Study type:

Cross-sectional study with anonymous self-report measures

### Sample:

Random stratified sample of active duty women (n = 7,415) from the 2008 Department of Defense Survey of Health Related Behaviors

### Implications:

Results support that of previous research suggesting that military sexual trauma is associated with substance abuse and poorer mental health. Results identified associations between unwanted sexual contact and high levels of military and gender-related stress. Due to the cross-sectional nature of this study, causal relationships cannot be inferred. More policies are needed in the military to prevent sexual harassment, and to reduce hostility toward women in the work environment. Future longitudinal research is needed to identify barriers to care for female service members who have been exposed to sexual trauma.

Stahlman, S., Javanbakht, M., Cochran, S., Hamilton, A.B., Shoptaw, S., Gorbach, P.M. (2015). Mental health and substance use factors associated with unwanted sexual contact among Active duty service women. *Journal of Traumatic Stress, 28(3)*, 167-173. doi: 10.1002/jts.22009

## Cognitive deficits in blast-exposed veterans related to PTSD

### Key findings:

Neuropsychological test performance was examined

among veterans diagnosed with mTBI due to blast exposure, blast-exposed veterans with no history of mTBI, veterans with no history of blast exposure, and a civilian matched control group. Analyses suggest no significant differences in neuropsychological test results between blast-exposed veterans with and without mTBI. However, when comparing blast-exposed veterans with and without mTBI to that of non-blast exposed veterans, cognitive test performance was significantly different in areas such as learning and memory, spatial abilities, and executive function. Additionally, PTSD symptoms mediated the relationship between blast-exposure and cognitive deficits.

## Study type:

Cross-sectional study with medical record review, clinical interview, clinician-administered measures, and self-report measures

## Sample:

OIF/OEF combat veterans registered at the Portland VA between 2008 and 2011; blast exposed with mTBI (n = 49), blast exposed, no mTBI (n = 20), and no blast exposure, no mTBI (n = 23). Matched civilian controls obtained from the neuropsychological assessment battery's normative sample (n = 40)

## Implications:

Results suggest that while blast-exposure, rather than mTBI, is associated with poor performance on neuropsychological tests, it is the co-occurring PTSD symptoms that actually account for these cognitive deficits. Therefore, PTSD symptoms should be assessed and treated in veterans presenting with blast-exposure. Future longitudinal research with a larger sample, pre-deployment screening, a non-deployed veteran control group, and brain imaging tests to more accurately identify mTBI is warranted.

Storzbach, D., O'Neil M.E., Roost, S.M., Kowalski, H., Iverson, G.L., Binder, L.M., Fann, J.R., Huckans, M. (2015). Comparing the Neuropsychological Test Performance of Operation Enduring Freedom/Operation Iraqi Freedom (OEF/OIF) Veterans with and without Blast Exposure, Mild Traumatic Brain Injury, and Posttraumatic Stress Symptoms. *Journal of the International Neuropsychological Society, 21(5)*, 353-363. doi: 10.1017/S1355617715000326.

# Outcome expectancy associated with self-reported PTSD treatment response

## Key findings:

The relationship between pre-treatment outcome expectancy (belief that treatment will decrease psychological symptoms), and treatment response was examined in combat veterans with PTSD. Results found that pre-treatment level of outcome expectancy was negatively associated with self-reported and clinician-rated measures of PTSD symptoms after six weeks of virtual reality exposure treatment. However, outcome expectancy was associated with magnitude of change during treatment only on self-reported measures. Additionally, outcome expectancy was not associated with treatment response on biological measures such as fear potentiated startle and cortisol reactivity.

## Study type:

Secondary data analysis of a clinical trial for PTSD

## Sample:

Combat veterans (n = 116) receiving virtual reality exposure therapy for military-related PTSD

## Implications:

Results suggest that positive pre-treatment outcome expectancy may enhance self-reported and clinician-rated PTSD treatment response. Strategies to increase outcome expectancy in patients with PTSD may improve treatment outcome. While outcome expectancy may minimally impact biological indices of arousal, it may reduce negative perceptions of such arousal, allowing for increased engagement in treatment, and improved outcome. Future research is needed with a larger sample to examine the relationship between outcome expectancy and biological measures of symptom change.

Price, M., Maples, J.L., Jovanovic, T., Norrholm, S.D, Heekin, M., & Rothbaum (2015). An investigation of outcome expectancies as a predictor of treatment response for combat veterans with PTSD: Comparison of clinician, self-report, and biological measures. *Depression and Anxiety, 32(6)*, 392-399. doi: 10.1002/da.22354

## Sense of belonging protects against depression in military personnel

### Key findings:

Relationships among PTSD, depression, and sense of belonging were examined in a sample of active duty service members at five time points during a deployment cycle; pre-deployment, and then one month, three months, six months, and 12 months post-deployment. Results revealed that self-reported level of depression was low and stable throughout the deployment cycle, and PTSD severity significantly contributed to depression severity at every time point. Sense of belonging was associated with lower level of depression severity at every time point. Notably, the effect of one's sense of belonging on level of depression was direct, and was not mediated by PTSD severity.

### Study type:

Longitudinal study with self-report assessments

### Sample:

Active duty Air Force convoy operators (n = 168) who participated in a nine-month combat mission to Iraq

### Implications:

Results suggest that a stronger sense of belonging may protect against depression in service members, regardless of level of co-occurring PTSD symptoms. Implementation of programs that foster social support and strengthen unit cohesion may function as a protective factor against depression. Clinicians should be encouraged to employ treatment techniques that promote a sense of belonging, and foster development of social connections. Future research is needed to further examine the relationship between belonging and depression in military personnel.

Bryan, C.J. & Heron E.A. (2015). Belonging protects against postdeployment depression in military personnel. *Depression and Anxiety, 32(5)*, 349-355. doi: 10.1002/da.22372

## A longitudinal examination of post traumatic growth in military veterans

### Key findings:

The longitudinal course and predictors of post-traumatic growth (PTG) were examined in a nationally representative sample of U.S. Veterans. Five different PTG trajectories were identified over a two year period; Consistently Low (33.6%), Moderately Declining (19.4%), Increasing (16.8%), Dramatically Declining (15.7%), and Consistently High (14.5%). Over half of those who reported at least moderate PTG from their "worst" trauma maintained their level of PTG two years later. However, more than one third of veterans experienced a moderate or greater decline in PTG. Several factors significantly predicted the maintenance of or increase in PTG over time, including PTSD symptoms, medical conditions, purpose in life, altruism, active lifestyle, and active reading.

### Study type:

The National Health and Resilience in Veterans Study (NHRVS); a prospective nationally representative study with web-based survey administrations at two timepoints; 2011 and 2013

### Sample:

U.S. Veterans (n = 1,838) who experienced at least one potentially traumatic event

### Implications:

Results suggest that there are heterogeneous courses of PTG over time, and indicate that positive psychological growth can occur and be maintained in the face of adversity. Results also highlight a number of predictive factors for clinicians to consider when aiming to facilitate PTG in trauma patients. Additionally, veterans with PTSD and physical health problems may particularly benefit from opportunities that facilitate post-traumatic growth. Future research is needed to examine the efficacy of interventions that facilitate PTG in the military.

Tsai, J., Sippel, L.M., Mota, N., Southwick, S.M. & Pietrzak, R.H. (2015). Longitudinal course of posttraumatic growth among U.S. military veterans: results from the national health and resilience in veterans study. *Depression and Anxiety, 33(1)*, 9-18. doi: 10.1002/da/22371

## PTSD symptom level variability is highest in the month following deployment

### Key findings:

Variations in PTSD symptom presentations were

examined at four time points across the deployment cycle. Results displayed heterogeneity in PTSD symptom presentation at all time points, and degree of heterogeneity differed at each time point. Three different classes of heterogeneity were identified at pre-deployment, six classes at one month post-deployment, and three classes by eight months post-deployment. The largest class across all time points was characterized by uniformly low probability of endorsement of all clusters of PTSD symptoms. However, one month post-deployment, the percentage of Marines in the uniformly low endorsement class decreased significantly from 75% to 46%, increased to 57% five months post-deployment, and up to 64.4% eight months post-deployment. Hypervigilance and exaggerated startle response were commonly endorsed one month post-deployment in both PTSD and non-PTSD classes. Overall, prior lifetime trauma, avoidant coping, and greater combat exposure predicted poorer outcomes.

## Study type:

Marine Resiliency Study; Longitudinal cohort study with self-report assessments at one month pre-deployment, and one, five, and eight months post-deployment

## Sample:

Infantry Marines deployed to Afghanistan during a time of heavy unrest (n = 892)

## Implications:

Results suggest that while PTSD symptom presentation is highly variable upon return from war, this variability tends to stabilize over time into groups of low, medium, and high PTSD symptoms. Results also suggest that early post-deployment mental health screenings may detect higher levels of hypervigilance and exaggerated startle response, implicating PTSD. However, such symptoms may be a result of anxious arousal symptoms common in the early post-deployment phase, which diminish over time into more typical presentations. Future research with clinician-administered measures and inclusion of female service members is needed to improve accuracy and increase generalizability of the current results.

Steenkamp, M.M., Boasso, A.M., Nash, W.P., Larson, J.L., Lubin, R.E., & Litz, B.T. (2015). PTSD symptoms presentation across the deployment cycle. *Journal of Affective Disorders,176*, 87-94. doi: 10.1016/j.jad.2015.01.043

# Veteran satisfaction with pre-treatment orientation and PTSD treatment preference

## Key findings:

Veterans at a VA PTSD specialty clinic attended an orientation group aimed at educating them about their treatment options. Veterans reported overall satisfaction with the orientation, and found the content helpful in making informed treatment decisions. Psychotherapy plus medications was the most preferred type of treatment, chosen by 63.4% of veterans, while 30.1% preferred psychotherapy only, 3.8% preferred no treatment, and 2.7% preferred medication only. Among those who endorsed a psychotherapy preference, 51.0% selected Cognitive Processing Therapy (CPT) as their first choice, while 20.4% and 18.5% chose Cognitive-Behavioral Conjoint Therapy for PTSD (CBCT) and Prolonged Exposure (PE), respectively. Less than 7% preferred Present-Centered Therapy (PCT), Nightmare Resolution Therapy (NRT), or Virtual Reality Exposure Therapy (VRE) as their first choice.

## Study type:

Cross-sectional survey

## Sample:

U.S. military veterans (n = 183)

## Implications:

While clinic orientation groups are commonly used in VA settings, no studies have been conducted that examine veteran satisfaction with these groups. Understanding patient preferences may improve treatment response through better treatment engagement and lower rates of dropout. Given the limited sample of the current study, these findings may not be generalizable to those who are not male or Caucasian and may not generalize to active duty or other non-veteran populations. Further research with more diverse samples is needed, and should include treatment outcome measures to explore how attending orientation groups may impact treatment response.

Schumm, J.A., Walter, K.H., Bartone, A.S., & Chard, K. (2015). Veteran satisfaction and treatment preferences in response to a posttraumatic stress disorder specialty clinic orientation group. *Behavior Research and Therapy, 69*, 75-82. doi: 10.1016/j.brat.2015.04.006

## Improvements in sleep and depression result from a brief sleep treatment modified for veterans

### Key findings:

The current study evaluated a treatment for veterans to reduce nightmares and improve sleep; Exposure, Relaxation, and Rescripting Therapy (EERT). EERT has been effective with civilian populations in decreasing nightmares and sleep disturbances. ERRT was modified for the current study (EERT-Military; ERRT-M) by adding one session and including mindfulness. Findings show that treatment response, defined as no nightmares in the past week at the 2-month follow up, yielded a 50% response rate. Those who did not respond to treatment reported significantly more sleep problems at baseline compared to treatment responders. Both groups from pre- to post-treatment reported significant improvements in nightmares per week, nightmare distress, sleep quality, fear of sleep, insomnia severity, and depression. However, many of these changes were not maintained at follow-up for non-responders.

### Study type:

Prospective study across three time-points: pre-treatment, post-treatment (1-week follow-up), and 2-month follow-up

### Sample:

Military veterans (n = 18) who met Criterion A for PTSD (DSM-IV-TR) and reported at least one nightmare per week for the past month

### Implications:

Sleep problems are both risk factors for and symptoms of PTSD. Furthermore, symptoms of PTSD and sleep disturbance often persist post-treatment. EERT-M shows promise in decreasing the frequency of nightmares, improving various sleep indicators, and reducing depression for military veterans. The mechanism of treatment success is unclear since many different strategies are used within EERT-M. Therefore, future research with a larger sample is needed to better identify the mechanism of change in EERT-M, and to examine the efficacy of combining sleep and nightmare treatments with PTSD treatments to address PTSD symptoms other than sleep disturbance.

Balliett, N.E., Davis, J.L., & Miller, K.E. (2015). Efficacy of a brief treatment for nightmares and sleep disturbances for veterans. *Psychological Trauma: Theory, Research, Practice, and Policy*. Advance online publication. http://dx.doi.org/10.1037/tra000005

## Couple treatment for alcohol use and PTSD shows promise for military veterans with a relationship partner

### Key findings:

Couple Treatment for Alcohol use disorder and Posttraumatic stress disorder (CTAP) is a 15-session, evidenced based, manualized psychotherapy that aims to reduce problematic alcohol use and symptoms of PTSD while improving couples' relationship functioning. As a whole, participants who received CTAP reliably improved on PTSD measures and percentage days of heaving drinking (PDHD). Participants also showed significant decreases in depression. However, on a measure of relationship satisfaction, similar proportions of participants showed improvement, no change, and worsening.

### Study type:

Uncontrolled prospective trial with measures collected at baseline and approximately six-to-seven weeks post-treatment

### Sample:

Male U.S. military veterans (n = 9) diagnosed with PTSD and AUD, and their female partners

### Implications:

Rates of co-occurring PTSD and AUD are highly prevalent among military veterans, and can be disabling. Veterans with co-occurring PTSD and AUD experience more physical health complaints, work absences, and poorer treatment response and relationship functioning compared to those with one or neither disorder. CTAP may be a promising intervention for such veterans whose partners are also willing to engage in treatment. Regarding the impact of CTAP on relationship adjustment, participants had relatively high pre-treatment relationship adjustment, potentially decreasing the opportunity for improvements in this area. Results are limited by the small sample size. Further research should include a larger sample size,

also examine the efficacy of CTAP for veterans with substance problems other than alcohol, and the effects of CTAP on distressed versus non-distressed couples.

Schumm, J.A., Monson, C.M., O'Farrell, T.J., Gustin, N.G., & Chard, K.M. (2015). Couple treatment for alcohol use disorder and posttraumatic stress disorder: Pilot results from U.S. military veterans and their partners. *Journal of Traumatic Stress, 28*, 247-252. doi: 10.1002/jts.22007

## Adjunctive aripiprazole reduces symptoms of PTSD and depression in veterans resistant to antidepressant treatment

### Key findings:

Treatment-resistant military veterans with PTSD who received aripiprazole (a second generation antipsychotic medication) as an adjunctive treatment to antidepressant medication demonstrated non-significant reductions in PTSD, depression, and psychotic symptoms compared to those in a placebo group. Furthermore, aripiprazole was well tolerated by participants in that reported side effects were of low frequency and intensity.

### Study type:

10-week randomized, placebo-controlled, double-blind trial

### Sample:

U.S. military veterans who served after 11 September 2001, met diagnostic criteria for PTSD, reported combat-related trauma, and were receiving an antidepressant for PTSD symptoms (n = 16)

### Implications:

Despite treatment with antidepressant medications, a significant percentage of those with PTSD continue to experience symptoms. Aripiprazole's impact on dopaminergic neurotransmission makes it a viable adjunctive option with antidepressant treatment for chronic PTSD and depression. This is the first randomized, placebo-controlled study showing that aripiprazole is well tolerated by individuals with PTSD. Although changes in PTSD, depression, and psychotic symptoms were not significant, treatment was associated with clear improvements on all symptoms compared to the placebo group. The primary limitation of this pilot trial is the small sample. Replication with larger cohorts is warranted.

Naylor, J.D., Kilts, J.D., Bradford, D.W., Strauss, J.L., Capehart, B.P., Szabo, S.T...Marx, C.E. (2015). A pilot randomized placebo-controlled trial of adjunctive aripiprazole for chronic PTSD in US military Veterans resistant to antidepressant treatment. International Clinical Psychopharmacology, 30, 167-174. doi: 10.1097/YIC.00000a00000000061

## CPT-C and PCT decrease combat-related PTSD symptoms in active duty Soldiers

### Key findings:

Previously deployed active duty soldiers were randomized to one of two PTSD group treatments; Cognitive Processing Therapy-Cognitive version (CPT-C), or Present-Centered Therapy (PCT). Results demonstrated that PTSD symptoms could be significantly decreased by both treatments, similar to findings of previous research with veterans and civilian populations. However, compared to those receiving PCT, those receiving CPT-C experienced higher rates of PTSD symptom improvement, as well as significantly decreased levels of depression, a finding that remained stable at 12-month follow-up.

### Study type:

Randomized clinical trial with self-report and clinician-administered measures

### Sample:

Active duty male and female Soldiers seeking treatment for PTSD who had been deployed to Afghanistan or Iraq (n = 100 men; 8 women)

### Implications:

Results provide support for the use of group PTSD treatments (especially CPT-C) for active duty military personnel. Additionally, a second study is currently under way that is comparing the efficacy of group CPT-C with that of individual CPT-C for active duty service members. One limitation of the current study is the format of CPT-C, in which one session builds upon the last. This format makes it difficult for participants who miss a session to catch up, and such participants in the current study were therefore dropped. Further research should continue to examine different types and formats of combat-related PTSD treatments to obtain higher remission rates.

Resick, P.A., Wachen, J.S., Mintz, J., Young-McCaughan, S., Roache, J.D., Borah, A.M.…Peterson, A.L. (2015). A randomized clinical trial of group cognitive processing therapy compared with group present-centered therapy for PTSD among active duty military personnel. *Journal of Consulting and Clinical Psychology*, Advance Online Publication. doi: 10.1037/ccp0000016

## Relationship between perceived stress and PTSD symptoms stronger for service members high in neuroticism and level of psychotherapy stigma

### Key findings:

The current study sought to examine the shared factors that explain symptoms of PTSD and Alcohol Use Disorder (AUD). Service members who screened positive for PTSD were more likely to also screen positive for AUD. Higher perceived stress was significantly related to higher symptoms of PTSD, yet not to higher symptoms of AUD. Additionally, the significant positive relationship between perceived stress and PTSD was significantly stronger among those with higher levels of psychotherapy stigma. Results also showed that a positive relationship between AUD and perceived stress only existed when participants were high in level of psychotherapy stigma. Higher level of neuroticism was associated with higher level of PTSD symptoms. Additionally, the positive relationship found between PTSD and perceived stress was stronger for those with a high level of neuroticism. Contrary to previous research, level of resilience did not moderate the association between PTSD and perceived stress, or the association between AUD symptoms and perceived stress.

### Study type:

Cross-sectional study with self-report measures

### Sample:

Service members (mostly men, ages 18-24 serving in the U.S. Army or Navy; n = 465) stationed at the Guantanamo Bay Naval Base detention facility (Joint Task Force Guantanamo Bay; JTF-GTMO)

### Implications:

Results improve our understanding of factors that contribute to AUD and PTSD. Considering the function of psychotherapy stigma found in this study, anti-stigma campaigns should be enhanced, and perhaps created in less formal settings to decrease barriers to care. Additionally, work conditions involving high stress such as that at JTF-GTMO may reduce the buffering effect of resilience that has been found in previous research. Generalizability of this study may be limited due to the unique population studied. Additionally, no causal associations can be made due to the cross-sectional nature of this study. Future prospective research with the addition of clinician-administered measures is warranted.

De La Rosa, G.M., Delaney, E.M., Webb-Murphy, J.A., & Johnston, S.L. (2015). Interactive effects of stress and individual differences on alcohol use and post traumatic stress disorder among personnel deployed to Guantanamo Bay. *Addictive Behaviors, 50*, 128-134. doi: 10.1016/j.addbeh.2015.06.016

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**Research Facilitation Dept. Head**
Jennifer Webb-Murphy, PhD

**Editor and Writer**
Erin Miggantz, PhD

**Writers**
Jagruti Bhakta, PhD
Jennifer Webb-Murphy, PhD
Vasudha Ram, MPH
Eileen Delaney, PhD
Erin Miggantz, PhD

**Senior Strategic Communications Specialist**
Jenny Collins

**Graphic Design**
Randy Reyes

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