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Outcomes From Eye Movement Desensitization and Reprocessing in Active-Duty Service Members With Posttraumatic Stress Disorder

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Objective: Eye movement desensitization and reprocessing (EMDR) is one of the therapy interventions recommended by the Veterans Affairs and Department of Defense Clinical Practice Guidelines. However, the literature concerning the effectiveness of this treatment modality in military service members is sparse. This study investigated the efficacy of EMDR in active-duty service members. ***Method:*** We conducted an effectiveness study with a record review from active-duty military mental health clinics where clinical outcomes had been monitored over a 10-week period using self-report measures of posttraumatic stress and disability. Symptom scores were examined over time in 331 service members who met presumptive criteria for the disorder on the PTSD Checklist—Military Version (PCL–M), who were in psychotherapy, and who received ($n = 46$) or didn't receive ($n = 285$) EMDR. ***Results:*** Results indicated that patients receiving EMDR had significantly fewer therapy sessions over 10 weeks but had significantly greater gains in their PCL–M scores than did individuals not receiving EMDR. ***Conclusions:*** Randomized, controlled trials are still needed, but these findings provide further support for the use of EMDR in service members with PTSD.

Keywords: eye movement desensitization and reprocessing therapy, military, behavioral health treatment, posttraumatic stress disorder, depression

Most evidence-based treatments for posttraumatic stress disorder (PTSD) were first developed and tested in individuals with noncombat trauma. Berg et al. (2007) concluded that there was insufficient evidence on whether military PTSD varies significantly from other forms of PTSD in terms of how it should be treated. Some have suggested that clinical trials targeting veterans may not generalize to active-duty service members (Hoge, 2011), and meta-analysis of trials for PTSD have indicated that the effect of treatment is not as great in veterans as in other populations (Watts et al., 2013). Nevertheless, Department of Defense and Veterans Affairs (DoD/VA) guidelines recommend the same treatments to service members as are offered in civilian populations, with the caveat that additional information is still needed concerning effectiveness in military populations (Management of Post-Traumatic Stress Disorder Working Group [Management of PTSD WG], 2010).

One of the treatments for PTSD recommended by the DoD/VA guidelines is eye movement desensitization and reprocessing (EMDR) therapy. EMDR is a trauma-focused therapy first described by Shapiro (1989). In treatment, patients are encouraged to recall their trauma experience, identify body sensations and cognitions, and hold the traumatic image in mind while the clinician presents an alternating stimulus from side to side. It is distinct from other trauma-focused therapies both because of its use of alternating stimulus and because it does not require verbalization of the trauma or the prolonged, continuous exposure that is thought to result in habituation (Russell, 2008). Several randomized trials have been conducted using EMDR in veterans with combat-related PTSD (Boudewyns & Hyer, 1996; Carlson, Chemtob, Rusnak, Hedlund, & Muraoka, 1998; Devilly, Spence, & Rapee, 1998). These studies suggested that improvements in PTSD may occur after as little as a single session of EMDR (Rogers et al., 1999).

EMDR has been controversial because it is not clear that the signature aspect of the therapy, alternating eye movements, is actually necessary to the treatment (Lee & Cuijpers, 2014). Also, some exaggerated claims were made about EMDR, which caused some reviewers to group the technique with so-called power ther-

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apies, treatments that claim almost magical results based on the use of a particular aspect of intervention (Rosen, Lohr, McNally, & Herbert, 1998). Despite these issues with the theoretical basis for EMDR, clinical trials have supported its use in treating PTSD, and most meta-analyses and reviews have agreed that EMDR should be classified as an evidence-based treatment on par with other therapies such as selective serotonin reuptake inhibitors, cognitive processing therapy (CPT), and prolonged exposure (Bradley, Greene, Russ, Dutra, & Westen, 2005; Ursano et al., 2004). Some studies have indicated that EMDR may produce longer term benefits than does medication (e.g., van der Kolk et al., 2007), and head-to-head trials have also indicated that EMDR produces as good or better results than does eclectic therapy (Nijdam, Gersons, Reitsma, de Jongh, & Olff, 2012), which combines aspects of multiple evidence-based therapies. This latter finding may be particularly important, given that most patients outside study settings receive eclectic therapy (Foa, Gillihan, & Bryant, 2013). However, a review of studies by Albright and Thyer (2010) concluded that "these studies present very limited evidence supporting the effectiveness of EMDR in reducing PTSD in combat veterans" (p. 13).

The gold standard to determine whether EMDR should be included as part of treatment for service members with combat-related PTSD would be agreement from multiple efficacy trials, that is, from studies that randomly assign participants with clearly defined PTSD to either EMDR or some treatment that is conducted under controlled and monitored conditions. An alternative method to get at the same question is tracking naturalistic outcomes via an effectiveness study. Effectiveness research examines outcomes from a particular treatment as it is conducted in a natural setting, sometimes comparing this with other treatments that might be offered as an alternative. Such trials suffer from these disadvantages: Unlike randomized study participants, patients tracked in an effectiveness trial may select into particular treatments in a way that confounds the result; studied treatment may not be consistently applied; in some cases it may be difficult to ensure that entry criteria and/or outcomes measures are verified; and equal sample size cannot be guaranteed. However, despite these limitations, some have argued that efficacy trials may not provide accurate representation of how well treatment works under real-world conditions and that effectiveness research offers a useful alternative in considering what treatments to offer (Glasgow, Lichtenstein, & Marcus, 2003).

This study set out to examine the effectiveness of EMDR for posttraumatic stress (PTS) in active-duty service members seeking treatment in mental health clinics. To do this, we made use of a database generated by the Psychological Health Pathways (PHP), a clinical tracking system developed by the Naval Center for Combat and Operational Stress Control that was beta-tested in approximately 10% of the patient population seen in the mental health clinics at the Naval Medical Center San Diego (NMCSD) and Naval Hospital Camp Pendleton. Patients completed standardized, valid measures of PTSD, depression, sleep, and functioning upon entering PHP and at 10-week intervals throughout treatment. Although PHP data could not definitively state who had PTSD, could not verify exactly what happened within treatment sessions, and was not taken from a randomized sample, the database did allow PTS symptoms to be tracked in patients who said they received EMDR versus those who said that they received other aspects of evidence-based treatment.

This study tested the hypothesis that service members with a presumptive diagnosis of PTSD on the basis of self-report measures, and who received EMDR as part of their psychotherapy treatment, would experience significantly greater decreases in PTS symptoms than would individuals who did not receive EMDR. We conducted the following as secondary measures: (1) examined reductions in self-reported disability; (2) studied how different forms of therapy predicted improvement in PTS; and (3) examined confounders such as demographics, combat exposure, and number of sessions to determine whether the population receiving EMDR might be significantly different from service members with PTS who received different treatment. For descriptive purposes, we also examined the percentage of individuals who, with or without EMDR, fell below criteria for PTSD on the PTSD Checklist—Military Version (PCL–M) after treatment and who fell below this threshold and also reported only a mild or less degree of disability.

Method

Psychological Health Pathways Database

A retrospective study was conducted analyzing the self-report data and treatment reviews collected as part of PHP between March 2009 and February 2012. The database contains information from 2,372 individuals at intake (Time 1 [T1]), of whom 807 had completed at least one follow-up assessment (T2) and treatment review. Of these, 521 met strict criteria for PTS on the PCL–M at T1 and reported some combat exposure. From that 521, there were 339 for whom information was available concerning whether they had received EMDR. For eight of these patients, no form of psychotherapy could be identified as part of their treatment. These were eliminated, leaving a final sample size of 331. Not all individuals who participated in PHP completed all measures at all time points. This study was approved by the NMCSD Institutional Review Board.

Standardized Measures

PTSD Checklist—Military Version (PCL–M; Weathers, Litz, Herman, Huska, & Keane, 1993). The primary outcome for this study was tracked with the PCL–M, a self-report measure in which patients rate their severity of disturbance for the 17 symptoms of PTSD according to the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.; *DSM–IV;* American Psychiatric Association, 1994) on a scale ranging from 1 (*not at all*) to 5 (*extremely*) over the past month. Total scores on the PCL–M can range from 17 to 85. To meet *DSM–IV,* or "loose," criteria for PTSD on the PCL–M, a respondent must rate as 3 (*moderately*) on at least one symptom from Criterion B, three symptoms from Criterion C, and at least two symptoms from Criterion D. According to early reports (Blanchard, Jones-Alexander, Buckley, & Forneris, 1996), a respondent is considered as having met "strict" criteria for PTSD if loose criteria are met and the total severity score is 50 or higher. Other studies have used different cutoff points for the PCL–M (e.g., Bliese et al., 2008), but here we used the earlier definitions for loose and strict criteria. In early tests of the PCL–M, the instrument showed internal consistency (alpha

coefficient) of .96 for all 17 symptoms. Item total correlations ranged from .52 to .80 (Weathers et al., 1993). Previous studies have found that the PCL–M has a high correlation with the Clinician-Administered PTSD Scale for *DSM–IV* and is an accurate reflection of PTSD symptom severity (e.g., Monson et al., 2008). Despite this, because the PCL–M does not involve a clinician rating or link the reported symptoms to a particular trauma, it cannot be guaranteed that individuals who meet criteria on the PCL–M actually have PTSD. Therefore, in reporting outcomes, we refer to loose and strict criteria for PTS rather than PTSD.

Combat Experiences Scale (CES; King, King, Vogt, Knight, & Samper, 2006). The CES is a 15-item self-report scale that assesses exposure to stereotypical warfare experiences, such as firing a weapon, being fired on (by enemy or friendly fire), witnessing injury and death, and going on special missions and patrols that involved such experiences. Combat experiences reflect objective events and circumstances and do not include personal interpretations or subjective judgments of the events or circumstances (King et al., 2006). Each combat item is rated 0 if it is not present and 1 if it is, giving a total CES range of 0–15.

Demographics. Demographic information was gathered on age, race (grouped as White vs. non-White), gender, marital status (grouped as married vs. unmarried), number of deployments, military branch, and rank (grouped as officer vs. enlisted). Of note, due to data entry methods, individuals who reported more than six deployments were classified as having six deployments. We would expect that having more than six deployments would be a rare event, but this could have biased the number reported for the average number of deployments. Details of demographics for the population are given in Table 1.

Session count. The amount of treatment received was taken from a variable found on the treatment review form. The variable classified session frequency according to whether an individual received *1–3 sessions, 4–6 sessions, 7–10 sessions,* or *more than 10 sessions.* These were coded as "treatment amount" 1–4, respectively.

Inclusion criteria. We selected for inclusion in this study active-duty service members who met "strict" criteria for PTS on the PCL–M at time of entry, who had a repeated PCL–M at follow-up, who reported some combat experiences (CES >0), who had received at least one form of identified psychotherapy in the previous 10 weeks, and who had indicated whether they had or had not received EMDR in PHP treatment review records.

Other psychotherapy. This study examined, for secondary analysis, forms of therapy other than EMDR. This was taken from information reported by the treatment provider. For purposes of this review, we classified treatment into cognitive–behavioral therapy (CBT), cognitive processing therapy (CPT), some form of exposure therapy (ET), and a broad category for non-trauma-focused therapy (NTFT) such as psychodynamic, supportive, biofeedback, and process group. We also examined whether providers reported providing psychiatric medication management (Meds). From the sample size of 331 patients, 260 (78.5%) had received more than one type of psychotherapy and 52 of the 331 (15.7%) had received more than one of the evidenced-based therapies (CBT, CPT, ET, or EMDR). Details concerning therapy types provided are given in Table 2.

Statistics

For the primary outcome (PCL–M), a repeated-measures analysis of variance (ANOVA) examining symptom changes over time, with presence or absence of EMDR as the grouping variable, was calculated. To compare baseline differences between groups, we compared proportions of categorical variables (married, race, and receiving a type of therapy) by chi-square and compared continuous variables (age, number of deployments, CES, amount of treatment received) by Student's *t* tests. As a secondary analysis to examine how baseline characteristics and different types of therapy might combine to influence improvements in PTS severity, a stepwise linear regression model was calculated to predict change in PCL–M score from T1 to T2 on the basis of the demographic variables, baseline PCL–M score, presence or absence of psychotropic medications, and different psychotherapies offered.

Results

A repeated-measures ANOVA showed that there was a significant effect of time ($p < .001$) and group ($p < .05$) as well as a significant Time × Group interaction ($p < .001$) when examining the effect of EMDR across time. This indicates that average PCL–M scores significantly decreased across time for all patients but that those decreases were more dramatic in those who received EMDR.

Baseline statistics were largely similar between individuals who received EMDR and those who had not (see Table 1). The exception was that those who received EMDR reported more combat experiences. Therapy experiences between the groups were significantly different (see Table 2), with individuals in EMDR less likely to receive other forms of evidence-based treatment (Meds, CPT) and receiving fewer mental health treatments overall (see Table 2).

A stepwise linear regression model was successfully calculated to predict change in PCL–M score on the basis of the available information from 311 patients ($R = .328$, $p < .001$, standard error

Table 1
Baseline Descriptive Statistics of the Study Population

Variable	No EMDR ($n = 285$)		EMDR ($n = 46$)	
	M (*SD*)	%	*M* (*SD*)	%
Age (years)	29.7 (7.0)		29.2 (7.3)	
Gender (female)		7		10
Race (White)		47		55
Married		58		45
CES	8.4* (4.0)		9.8* (3.9)	
No. of deployments	2.0 (1.2)		2.4 (1.4)	
Marines		53		75
Navy		37		20
Army		9		5
Air Force, Coast Guard, or Public Health		1		<1
Enlisted rank		95		96

Note. EMDR = eye movement desensitization and reprocessing; CES = Combat Experiences Scale.
* $p < .05$.

Table 2
Therapy Experiences in Individuals Who Did, or Did Not, Receive Eye Movement Desensitization and Reprocessing

Variable	No EMDR (n = 285)		EMDR (n = 46)	
	M (SD)	n (%) in Tx	M (SD)	n (%) in Tx
CBT		128 (45)		16 (35)
ET		23 (8.1)		3 (6.5)
CPT		102* (36)		4* (8.7)
NTFT		248 (87)		23 (50)
Meds		113* (40)		6* (13)
No. of therapy types	2.2 (1.0)		2.1 (1.0)	
More than one EBT		31 (11)		20 (43)
Tx sessions[a]	3.46* (0.16)		3.02* (0.06)	

Note. EMDR = eye movement desensitization and reprocessing; CBT = cognitive–behavioral therapy; ET = exposure therapy; CPT = cognitive processing therapy; NTFT = non-trauma-focused therapy; Meds = psychiatric medication management; Tx = treatment; EBT = evidence-based therapy (CBT, ET, CPT, or EMDR).
[a] 1 = *1–3 sessions,* 2 = *4–6 sessions,* 3 = *7–10 sessions,* and 4 = *more than 10 sessions.*
* $p < .05$.

of the estimate = 13.1). The sample was smaller (311 vs. 331) because individuals for whom all data were not available were eliminated from the calculation. Age, gender, marital status, treatment sessions, number of types of therapy, number of deployments, baseline PCL–M score, CES, and the presence or absence of psychotropic medications were all found to be nonsignificant (all $ps > .1$) predictors of change in PCL–M score. For psychotherapy, the presence or absence of CPT or ET were not significant predictors. Conversely, the use of EMDR predicted a greater (8.7 points, $SE = 2.4$, $p < .001$) improvement in PCL–M, whereas the use of CBT (-4.3, $SE = 1.5$, $p > .01$) and NTFT (-5.0, $SE = 2.1$, $p < .05$) both predicted less improvement.

All individuals who were included in the study met *DSM–IV* cluster criteria for PTSD, had a symptom severity score of greater than 50 on the PCL–M at T1, and met "strict" criteria on the PCL–M at this time point. For descriptive purposes, we examined PCL–M scores in patients who had received different types of therapy. We also described how many individuals had shown at least a 10-point decrease in PCL–M over the course of therapy, as well as how many had decreased this much and also no longer met "loose" criteria for PTS on the PCL–M at the end of treatment. These results are given in Table 3. The reasoning for using 10 points as the cutoff for indicating improvement is based on National Center for PTSD guidelines for this instrument (National Center for PTSD, 2016).

Discussion

In a retrospective effectiveness trial, the use of EMDR was found to be associated with significant improvements in PCL–M over time in active-duty service members with PTS who were receiving some form of psychotherapy. Advantages of EMDR were seen despite baseline demographics that indicated more-diverse combat exposure in the group that received EMDR and had fewer sessions of therapy overall. Because the extent to which different combat experiences alter the need for or course of treatment is still not known, and because we saw no clear dose–response curve for therapy, it is not clear whether these differences altered the outcome. However, outcomes did seem to be better with EMDR. Sixty-three percent of patients receiving EMDR showed a clinically significant improvement of 10 points on the PCL–M, compared to only 39% of those who received other psychotherapy without EMDR. Similarly, 39% of patients who received EMDR fell below the "loose" criteria for PTSD on the PCL–M, compared with 21% of patients who had therapy that did not include EMDR. The overall effectiveness of EMDR observed here is similar to what has been reported in other populations (Bradley et al., 2005). What is distinct to this study is that advantages of EMDR that were over and above what was seen for other evidence-based therapy for PTSD were observed.

Most patients had received more than one type of therapy, presumably as part of the eclectic approach that is often used in real-world practice (Chambless & Hollon, 1998). EMDR remained a significant predictor of PCL–M improvement in a stepwise linear regression model that examined the different extent to which demographics and other forms of therapy might contribute to improvements in PCL–M over time. The finding with EMDR contrasts with use of CBT and NTFT, the use of which were

Table 3
Descriptive Statistics Showing Improvements Associated With Different Forms of Therapy

Variable	PCL–M at T1: M (SD)	PCL–M at T2: M (SD)	Improved 10 points on PCL–M (%)	Improved and not meeting "loose" criteria for PTSD on PCL–M (%)
EMDR (n = 46)	67.4 (9.2)	48.3 (17.9)	63.0	39.1
No EMDR (n = 285)	65.7 (8.0)	57.6 (14.4)	39.0	21.4
CBT (n = 145)	66.3 (7.9)	58.8 (13.5)	34.5	15.2
No CBT (n = 186)	65.7 (8.5)	54.3 (16.3)	48.4	30.6
CPT (n = 106)	65.3 (8.3)	56.5 (14.6)	42.5	27.4
No CPT (n = 225)	65.8 (8.2)	56.3 (15.6)	42.3	23.3
ET (n = 26)	68.3 (8.2)	56.6 (17.9)	42.3	30.8
No ET (n = 305)	65.8 (8.2)	56.3 (15.1)	42.3	23.3
NTFT (n = 271)	65.7 (8.2)	57.2 (14.6)	41.0	21.4
No NTFT (n = 60)	67.2 (8.4)	52.3 (17.8)	48.3	35.0

Note. PCL–M = PTSD Checklist—Military Version; T1/T2 = Time 1/2; PTSD = posttraumatic stress disorder; EMDR = eye movement desensitization and reprocessing; CBT = cognitive–behavioral therapy; CPT = cognitive processing therapy; ET = exposure therapy; NTFT = non-trauma-focused therapy.

associated with less improvement in PTS severity. This latter finding is unsurprising because general CBT and NTFT are not specifically targeted at PTS. This is not to say that CBT and NFTF did not help. On average, the entire population receiving psychotherapy showed improvement in PTS symptoms over time. Rather, the model indicated only that those receiving CBT and NTFT did worse than the average therapy patient in the study, the remainder of whom were receiving CPT, ET, or EMDR. It was interesting that neither the amount of therapy administered nor the number of varieties of therapy offered altered outcomes significantly in this study. These findings contrast with other studies of PTSD outcomes, in which a dose response has been observed (Taylor et al., 2003).

Another interesting negative finding was that the use of psychotropic medications was not found to have a significant effect on outcome. Again, this does not mean that medications are not beneficial. All the patients studied in this trial were already in psychotherapy, so any detectable medication effect would have had to be above and beyond that of therapy alone. Also it is not clear whether medications were prescribed for PTSD or for other conditions such as depression. In the absence of knowing for what and when medications were given, it is difficult to infer how they might have contributed to the outcome. Some studies have previously indicated that there is little additional benefit to adding psychotropic medication to psychotherapy for PTS (e.g., Simon et al., 2008), whereas others have found additional efficacy by combining such treatments (e.g., Schneier et al., 2012). Those were efficacy studies. In this effectiveness study, an effect of combination treatment would have been even more difficult to detect, because other co-occurring variables are not controlled and there is a natural "regression to the mean," meaning that sicker patients tend to get more treatment.

Given the issues with effectiveness studies, it is interesting that advantages were seen for EMDR even over other evidence-based psychotherapies. Most reviews have indicated that the effect size of EMDR is similar to that of other therapy intended to help PTSD (Benish, Imel, & Wampold, 2008; Bradley et al., 2005; Gerger et al., 2014). Some reviewers, most notably the Institutes of Medicine, have said that the evidence for treatments is lacking (Berg et al., 2007), but this is more because of inadequate research into PTSD treatments than because of small effect sizes for therapy. The DoD/VA guidelines (Management of PTSD WG, 2010), which specifically address PTSD for service members, ranks treatments by both the quality of the evidence and the clinical significance of the treatment effect. In these guidelines, EMDR is rated equally with other "trauma-focused psychotherapy that includes components of exposure and/or cognitive restructuring" (Management of PTSD WG, 2010, p. 115), with the highest rating for both benefit and quality of evidence. These types of review, however, generally take into account only randomized controlled trials and thus may neglect benefits and disadvantages that may appear under less-controlled conditions.

The merits of efficacy versus effectiveness studies have been outlined extensively in the literature (e.g., Glasgow et al., 2003). We believe that both are more important to helping service members find treatments that can help them with their PTSD. The results of this effectiveness study would seem to particularly support the use of EMDR, but there are several limitations that need to be taken into account in interpreting the results. Some of these are common to effectiveness studies: lack of randomization, lack of standardized treatment, absence of blinding, and the possibility of therapist effect, for example. There are also limitations that are relatively distinct to this trial: unbalanced group sizes, the fact that the diagnosis of PTSD was not confirmed by clinical interview, the use of a self-report measure to track outcomes, and a population that was largely made up of male Marines from the enlisted ranks.

One of the biggest limitations of this study comes in regard to verifying what was actually being compared. Although EMDR is a relatively specific therapy, with a manualized and copyrighted series of steps, other evidence-based psychotherapies are less well defined. For example, both prolonged exposure therapy and CPT can be classified as CBT, but the term *CBT* may encompass a variety of other techniques that may or may not be designed to address PTSD (Blagys & Hilsenroth, 2002). Similarly, the terms *exposure therapy* and *medication management* may have a number of different meanings, depending on who is providing the treatment or who is interpreting the notes (Berg et al., 2007). EMDR is distinctive enough that it would be difficult to mistake it for another form of treatment, but in regard to the treatment against which EMDR was compared, we are less confident that these can be adequately identified on the basis of the information solicited and provided.

Even if there were universal agreement on what constituted different forms of therapy, we cannot verify what actually occurred in sessions. Many therapists adapt techniques to their own style and to patient needs (Ablon & Jones, 1998). Even in the case of those who reportedly received EMDR, we have no direct evidence of what happened in sessions. This is a common weakness not just in retrospective review but also in some prospective trials of psychotherapy (Perepletchikova, Treat, & Kazdin, 2007).

Another weakness of this study includes the reliance on archived self-report measures both to determine the presence of PTSD and to track outcomes. Studies have indicated that the PCL–M is generally a good reflection of PTSD diagnosis and symptomatology (Blanchard et al., 1996), but we cannot be sure that, on an individual basis, the correct diagnosis was given. Also, although the starting characteristics of the populations who did or did not receive EMDR were similar, we did not specifically case-match patients. We believed that having a larger control population would provide a better basis for comparison overall, but it is possible that those individuals who naturally go into EMDR treatment are distinct from the wider PTSD population.

Strengths of the study include a relatively large study group compared with those in previously published studies about the use of EMDR in active-duty populations (Russell, 2006; Russell, 2008; Wesson & Gould, 2009) and the use of a clearly defined and combat-exposed population. Also, this study was conducted from the larger PHP project, which means it will be possible in the future to reexamine these findings in larger and more-diverse populations.

Overall this study adds evidence that EMDR may be a useful intervention for PTS in service members. It demonstrates that under real-world conditions, people receiving this psychotherapy did get better. It does not prove that EMDR was the definitive cause of this improvement. That will require randomized controlled trials with proper blinding, randomization, and monitoring of the therapy provided. It also does not indicate that EMDR is a

panacea. A substantial proportion of the population in EMDR, as well as other psychotherapies, failed to respond to treatment. Thus, future efficacy studies of EMDR in active-duty populations, as well as modification studies that seek to improve the technique, will be needed. We hope all lines of evidence will eventually come together to indicate what treatments offer the best options for individuals with combat-related PTS. Because this study indicates that the results could, however, be different among the different types of studies, it will also be important to test the evidence for evidence. That is to say, it is important to conduct larger and more-diverse effectiveness studies to ensure that the methods that work in controlled trials translate to real-world gains for service members and veterans.

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