

EMDR: Why the Controversy?

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Eye-movement Desensitization and Reprocessing (EMDR) has been widely supported in the literature for its effectiveness in treating Post-traumatic Stress Disorder (PTSD) and a variety of other diagnoses and symptoms. The variable findings regarding whether its effects are for reasons unique to this treatment, however, have become the focus of extensive discussion and debate. The following article reviews the studies targeting this question, and proceeds to consider why these studies' findings, and other findings in the EMDR literature, vary so vastly. Implications of the EMDR controversy for the process of psychological research at large are considered.

Key Words: Eye Movement Desensitization and Reprocessing, EMDR, PTSD, treatment, controversy

Introduction

Today, just over ten years after its birth, Eye Movement Desensitization and Reprocessing (EMDR) treatment still has not shed the controversy surrounding it. The attention it has gained from the field of psychology at large comes not only from the often dramatic and immediate positive results demonstrated by this treatment in many empirical outcome studies, but from the fact that not all studies replicate these findings. In addition, it is no longer used only to treat Post-traumatic Stress Disorder (PTSD), but also Panic Disorder, Obsessive-Compulsive Disorder, Dissociative Disorders, and Dysmorphic Body Disorder, as well as depression, grief, addictions, eating disorders, body image disturbances, issues of self-esteem, morbid jealousy, chronic pain, test anxiety, personality disorders, public-speaking anxiety, somatoform disorders, substance abuse, and some aspects of Attention-Deficit/Hyperactivity Disorder (processing condition-related distressing experiences and learning self-management skills) (Greenwald, 1996; Herbert et al., 2000; MacCluskie, 1998; Parnell, 1997; Shapiro, 1999, 2002).

Studies demonstrating the outcomes of EMDR in treating PTSD and trauma or memory-related symptoms are now so abundant and positive that the general effectiveness of EMDR no longer seems the issue in debate. The current controversy about EMDR treatment seems to hover around two other questions. First, is EMDR effective for the same reasons as are other PTSD treatments (therapeutic alliance, exposure, etc.)? Second, why are there inconsistencies in research findings on this treatment? This article begins by reviewing some of the studies attempting to answer the first question, then looks at how opponents and proponents of EMDR answer the second question. Though perhaps ideally the authors of the articles that make up the EMDR literature are proponents of science alone, and they may be, it seems acceptable to refer to EMDR as having "opponents" and "proponents," as many of the same authors repeatedly find either positive or negative results and critique those who find the opposite (Lohr,

Tolin, & Lilienfeld, 1998; Lohr, Lilienfeld, Tolin, & Herbert, 1999; Shapiro, 1999, 2002). Ultimately, the persistence of controversy over such a long time, and after methodological concerns about the research have been addressed in the more recent studies, raises questions about how research is conducted in psychology in general, and about the process by which a PTSD treatment becomes empirically supported.

Is EMDR effective for unique reasons?

It is apparent how much of the EMDR protocol draws on techniques already used by psychologists. Attending to client history, making treatment plans, building a therapeutic alliance, and conceptualizing the case based on symptoms, behaviors, and history are all part of the EMDR protocol and of many traditional techniques as well. Emotional and physiological responses to memory also are addressed in the EMDR treatment. In addition, education in the therapeutic process and a component of therapeutic expectation appear to play a role in treatment. Perhaps a more obvious aspect of EMDR that also plays a role in existing techniques is cognitive reprocessing. EMDR includes a cognitive component which helps clients identify negative cognitions associated with the upsetting event targeted, and, after processing those, helps them identify positive cognitions and pair them with the event. This process clearly draws on cognitive techniques that could arguably be effective in themselves. Perhaps most central to the current debate over whether EMDR is effective for unique reasons is its inclusion of exposure to the traumatic event. Exposure, a primary component of the EMDR desensitization process, leads many to wonder whether *exposure*, the effective component of exposure therapies for PTSD, is not the effective component of EMDR as well.

Lohr et al. (1999) comment: “Had EMDR been put forth simply as another variant of extant treatments, we suspect that much of the controversy over its efficacy and mechanisms of action could have been avoided” (201). Although it is readily apparent that components which are effective in some other treatments also play a role in EMDR, Shapiro assumedly includes those elements in the protocol for that exact reason. Still, Rogers and Silver (2002) claim: “the structure of EMDR is unlike that of flooding/implosion, systematic desensitization, or cognitive therapy” and describes the vast differences in process and target experience between exposure techniques and EMDR (56). One way to answer the question of whether or not EMDR is effective for unique reasons is to compare its outcomes to treatments whose techniques overlap those of EMDR. The approach more often used, however, has been to take the main component unique to EMDR, bilateral eye movements or another form of bilateral stimulation, and study treatment effects with variations of, and in absence of, this component.

Both Montgomery and Ayllon (1994) and Wilson et al. (1996) found that eye movements added significantly to positive treatment outcomes. Without saccadic eye

movements (or any other bilateral stimulation), EMDR did not lead to a decrease in the subjective distress of the clients, but it did do so with them (Wilson et al., 1996). Wilson et al. (1996) also showed that those in an EMDR treatment group had greater change in relaxation (measured by respiration, galvanic skin response, systolic blood pressure, heart rate, and finger tip temperature) than those in a time interval condition involving exposure, or than those in a tapping alternate phalanges EMDR-variant condition. In the former group 64.7% of participants wept during treatment, while 8.3% of participants in the latter two groups did. Montgomery and Ayllon (1994) found that adding eye movements increased the improvement made by clients over that of repeated exposure and cognitive restructuring without eye movements.

Renfrey and Spates (1994) found that the EMDR protocol with the standard eye movements, with eye movements engendered by a light tracking device, and with fixed visual attention without eye movements, all led to significant positive change. The three conditions were not significantly different, although the speed of improvement for those with standard eye movements was almost significantly ($p < .06$) faster than the EMDR condition with fixed eye position. Sharpley, Montgomery, & Scalzo (1996) compared the effectiveness of EMDR-style eye-movements in reducing the vividness of a memory with both a relaxation procedure in which participants were instructed to roll their eyes up instead of move them from side to side, and another relaxation procedure designed to decrease the intensity of traumatic images without eye movements. The first two procedures, involving the eyes, were significantly effective in decreasing the vividness of the traumatic image, as measured by the Vividness of Image Scale (VOI), a self-report scale, while the simple relaxation method was not. The EMDR condition, however, was significantly more effective in lowering VOI than either of the other two conditions. Similarly, Van den Hout, Muris, Salemink, & Kindt (2001) asked participants to recall either a positive or negative memory and rate it as to vividness and emotionality. After eye movements parallel to those used in EMDR, vividness ratings decreased, and emotionality behind memories moved closer to neutral (both positive and negative feelings became less intense). This finding was not present in either a control or a finger-tapping condition, suggesting that eye-movement is the effective component in reducing the vividness of images.

In contrast, Dunn, Schwartz, Hatfield, & Weigele (1996) found no significant difference in outcome of distress ratings, frontalis EMG, finger skin temperature, Skin Conductance Level (SCL), or heart rate (HR) between those with a traumatic memory treated with EMDR and those treated with a fixed-eye version of EMDR. Other studies also found no significant differences in outcomes between EMDR and the EMDR protocol without eye-movements (Deville, Spence, & Rapee, 1998; Pitman, Orr, Altman, Longpre, Poire, & Macklin, 1996). In addition, Boudewyns and Hyer (1996) found that after eight sessions those with combat-related PTSD in both the EMDR and an imagery exposure control group showed significantly lower distress ratings, anxiety, and heart rate levels than those in a no-imagery control group, but that the differences between the former two groups were not significant. Isolating a different aspect of EMDR, Cusack &

Spates (1999) found that an EMDR group versus an EMDR group without the cognitive components of the treatment, both led to significant reduction in participants' PTSD symptoms, but not differentially so, suggesting EMDR's effectiveness is not based on its cognitive component.

Much of the research to discover whether the bilateral stimulation in EMDR is the unique ingredient compares treatment with eye movements to treatment with another form of stimulation. These other forms of stimulation are often ones now utilized by EMDR therapists as viable alternatives to the eye movements (such as bilateral tapping or audio tones). Although Shapiro originally thought that eye-movements specifically were the active component of the treatment, she has since reported that EMDR is "an integrated form of therapy incorporating aspects of many traditional psychological orientations...[while making] use of a variety of bilateral stimuli besides eye movements" (Shapiro, 1999). Studies that find no difference between the eye movement condition and another bilateral stimuli condition, then, do not refute the theory as it currently stands. However, some of the studies comparing eye movements with other alternating stimuli do find significant outcome differences, further confusing the matter (Wilson et al., 1996).

Nonetheless, newer studies, as presented, have compared EMDR treatments with and without bilateral stimulation, providing some means of evaluating whether bilateral stimulation in general is the effective part of EMDR. If, however, it is the added layer of stimulation, not even needing to be bilateral, that is the effective component, then studies finding no significant difference between bilateral stimulation and some non-bilateral form of stimulation may not show that EMDR's stimulation condition is not its effective component. This idea is consistent with the theory that adding a distraction that changes the experience or facilitates an observer's perspective is behind the outcomes found in EMDR treatment. Or, to confuse matters further, Pitman et al. (1996) claim that even a fixed eye condition could be bilaterally stimulating, as "the optic nerve is crossed to both hemispheres so maintaining the focus demands bilateral muscle stimulation to hold the gaze" (957).

MacCluskie (1998) puts forth an interesting proposal to account for varied findings in studies comparing different forms of stimulation: "Perhaps the most salient sensory memories of the trauma are most responsive to re-conditioning if the distracter is presented in the same sensory modality as the most intense and disturbing aspect of the memory" (127). Critics express frustration about the evolution of the EMDR theory because it makes disproving its having unique effective components difficult. They raise the issue that in the field of psychology in general there is a necessity of putting forth theories in a way in which they can be empirically refuted, possibly requiring theory to proceed method. Although this concern appears valid, the issue is complicated by the fact that it seems important both to explore a technique which seems effective, even when

the theory behind it is lacking or nonexistent, as well as to create and adjust the theory as empirical data is collected.

A particularly interesting technique with which to compare EMDR is exposure therapy because critics often claim EMDR is a variant of this treatment: that its effects are based on its exposure component. A few central differences in technique between exposure therapy and EMDR are that EMDR is more associative than directive and that it focuses on one trigger to the traumatic memory network (Rogers & Silver, 2002). It also includes brief exposures (Rogers & Silver, 2002). Exposure therapy, in contrast, is highly directive and moves chronologically through an entire traumatic memory with the client, utilizing prolonged exposure (Rogers & Silver, 2002). The following groupings of studies, one on EMDR and the other on exposure therapy, use similar measures to calculate effect. Characteristic of the sometimes dramatic effects of EMDR, four of five recent controlled studies of EMDR “with civilian populations found that 77-100% of the single-trauma victims no longer met diagnostic criteria for PTSD after 3-6 hours of treatment” (Shapiro, 2002, 4). In comparison, the diagnosis of PTSD was no longer present in only 55% of clients after about 25 hours of exposure therapy (Foa, Olasov Rothbaum, Riggs, & Murdock, 1991), and in 80% of clients after 50 hours (Richards, Lovell, & Marks, 1994), or 100 hours (Marks, Lovell, Noshirvani, Livanou, & Thrasher, 1998) of exposure therapy. Van Etten & Taylor (1998) conducted a more direct comparison of the two treatments in terms of the time they took to relieve symptoms. They found that symptoms are relieved in three to six sessions with EMDR and fourteen sessions in exposure therapy.

In contrast to this large apparent advantage of EMDR over exposure therapy in treating PTSD, a recent meta-analysis by Davidson and Parker (2001), reviewing 34 published studies, did not show a significantly greater over-all effect size for EMDR compared to exposure therapies. This analysis, however, including “all the studies in the literature, with the exception of those that have fatal methodological flaws,” and six dissertation studies with unpublished results, did find EMDR significantly more effective than no treatment or a grouping of other treatments, including rapid induction and relaxation, biofeedback-assisted relaxation, active listening, “routine” individual treatment, and applied muscle relaxation.

What accounts for inconsistent research findings?

Proponents and critics of EMDR answer this question differently. Critics ridicule proponents for explaining away less-positive outcomes, while they do the same thing with dramatically positive outcomes. Proponents point to lack of treatment fidelity and short treatment length to explain studies not demonstrating positive effects, while critics point to the effective components of other treatments incorporated into EMDR and the use of self-report measures to explain the outstanding positive findings in other studies.

Taking the proponents' side first, Shapiro claims that the full EMDR protocol, complete with all its phases, is not always employed by research conductors. One must evaluate whether a given study actually utilized the treatment of EMDR or some inadequate substitute. Although critics argue that much of the research uses therapists trained in EMDR, training does not assure execution of the full treatment protocol. A study investigating the relationship between treatment fidelity and outcome supported Shapiro's claim (Pitman, Orr, Altman, Longpre, Poire, & Macklin, 1996). It found a significant positive correlation between the two, indicating that adherence to treatment protocols corresponded with better observed treatment outcome for EMDR. Similarly, Maxfield and Hyer (2002) found a significant correlation between effect size and treatment fidelity, and that more rigorous methodological studies according to the Gold Standard (GS) scale (Foa & Meadows, 1997, as cited by Maxfield & Hyer, 2002) yielded a significantly larger effect size. Greenwald (1996) explains that the "EMDR protocol refers both to the basic, standard procedure and to an expanded repertoire of intervention options guided by a set of decision-making principles" (69).

Shapiro (1999) analyzed the effect of treatment adherence on study outcome by examining a number of studies on the effectiveness of EMDR in treating phobias. Trained EMDR therapists, blind to the results of the studies, rated the methods sections of the studies according to their treatment fidelity in terms of the number of steps in the EMDR protocol actually utilized in the study. Studies using five or more found that subjects' initial complaints were completely relieved. With less than five of the steps present, clients experienced partial remission. If no steps were adequately applied, the study found no effect of EMDR in treating phobias. Shapiro also identifies a number of other ways (besides not administering every step of the protocol) that treatment protocols in many studies of EMDR are violated (Shapiro, 1999).

Some studies, proponents claim, include too few sessions to demonstrate the effectiveness of EMDR. Concerning subjects, such as combat veterans, having experienced multiple traumatic events, more sessions may be needed to find adequate results than are often provided in research studies (Greenwald, 1996; Shapiro, 1999; Cahill, Carrigan, & Frueh, 1999). A study using a large number of EMDR sessions (12) with combat veterans found that 75% of the subjects no longer met the criteria for PTSD nine months after treatment (Carlson, Chemtob, Rusnak, Hedlund, & Muraoka, 1998). This finding exceeds the success shown by any other PTSD treatment for this often severely-traumatized population (Shapiro, 1999).

Still, the argument that more sessions are needed to find the above results, is contradicted by much of the initial and on-going research showing dramatic improvement even with severe PTSD clients in only a few sessions. One case study of a 46-year-old Vietnam veteran, for instance, reported that in one 60-minute session of EMDR, a

“dramatic resolution of 2 traumatic memories” occurred. Nine months later the effects were maintained and the client reported no “intrusive images” or “fearfulness” (Young, 1995, 282). In addition to treatment length, it is difficult to imagine that all phases of treatment could be fully adhered to in the time of one session, though it feasibly could be within three or four sessions (the length of some other studies showing this kind of dramatic effect, such as Rothbaum (1997) and Wilson et al. (1995, 1997)). It would seem that treatment protocol adherence and treatment length should be considered in pursuing an answer to the question of why EMDR research results are inconsistent. In addition to a consistent EMDR protocol, consistent administration of protocols for cognitive-behavioral interventions used in comparative studies might also decrease the variance in findings of comparative efficacy found in these studies (Shapiro, 2002).

Critics refer to EMDR’s over-lap in technique with other treatments as an explanation for its positive effects, an idea which has been both refuted and supported by the literature discussed (both dismantling studies and comparisons of EMDR with other exposure techniques). Regarding the conflicting findings previously discussed as to what make up the effective components of EMDR, Shapiro notes the importance of using participants predicted to be responsive to the treatment, such as those with a single trauma, so that which components are effective can be more consistently demonstrated (Shapiro, 2002).

Another explanation raised by critics for the extreme positive effects in many studies, and therefore for the gap between findings, is that many of the most positive outcomes demonstrated rely heavily on self-report measures (Lohr, Tolin, & Lilienfeld, 1998). Since this concern has been raised, however, many other outcome measures, such as collecting an array of physiological data and administering standardized instruments, have been used in studies reporting EMDR as comparatively more effective than other treatments (Levin, Lazrove, & Van Der Kolk, 1999; Rogers, Silver, Goss, Obenchain, Willis & Whitney, 1999). In addition, self-report indices are also used in studies of other treatments, particularly in studies of exposure therapy. Adding a twist to the issue, MacCluskie (1998) claims that a client’s reaction to a treatment and report on its efficacy is no small matter: “perhaps clients’ self-reported [distress] reduction,” greater than that found using other treatments, “is ample justification to use the EMDR technique” (130). Still, both the effective components of a treatment and the kind of outcome measures used should be considered in evaluating positive research outcomes.

Implications

These conflicting perspectives raise issues about research and empirical validation, providing the opportunity to define our expectations for treatment research. Herbert et al. (2000) list some of the non treatment-specific factors that often affect outcome and make treatment research so complicated: “treatment credibility, expectation

for improvement, experimental demand, therapist-experimenter enthusiasm, therapist-experimenter allegiance, [and] effort justification” (950). The fervor expressed in the literature from writers, both critics and proponents, seems to reflect unusual personal investment in one side of the debate or the other, possibly increasing the likelihood that unintentional bias in findings and interpretations also plays a role in varied research findings. Perhaps these extreme perspectives are partially explained by the radically different ways individuals respond to novelty, considering the high level of both positive and negative energy directed toward the question of the uniqueness of EMDR process and theory (Perkins and Rouanzoin, 2002). Foa, Davidson, and Frances (2000), for instance, point out: “History and the philosophy of science tell us that new approaches often receive widespread opposition from those wedded to previous approaches” (785).

An example of the kind of biting and unfounded criticisms that can be found in the EMDR literature is Herbert et al.’s (2000) statement about Shapiro’s names for concepts in her theory (such as “cognitive interweave” and “saccade sets”). He accuses her of using “obscurantist language to compensate for an absence of content and to discourage would-be skeptics” (960). In a less extreme example, Muris and Merckelbach (1999), in a criticism of Shapiro for discovering EMDR by chance rather than from a pre-conceived theory, use the term “lively” to describe Shapiro’s description of EMDR’s discovery. The scientific context which makes the term “lively” appear condescending highlights the seemingly unfounded description of EMDR by some opponents as “pseudoscience” (Herbert et al., 2000). Instances such as these make believable Greenwald’s (1996) comment that EMDR proponents “regularly” receive “overt bias and downright rudeness” in “otherwise civilized professional settings” (306).

Some critics of EMDR (Herbert et al., 2000), however, claim that it is the proponents of EMDR, who bring the “personal arena of ad hominem assault” into the “theoretical and empirical issues at hand” (960). They claim proponents have “attacked” critics, questioning “their professional training, ulterior motives, and competence” (Herbert et al., 2000). Still, it appears ironic that the bulk of that article is aimed at showing EMDR to be “pseudoscience,” which seems to do what they criticize the proponents for doing (questioning the competence of their colleagues in the field). An example of the strong language that is apparent in the proponents’ literature as well, however, is Greenwald’s (1996) criticism of Van Ommeren (1996), stating that he “apparently chose to ignore the bulk of the research, which supports EMDR’s efficacy, to focus on a single clearly flawed study and on a relatively tangential and unresolvable problem (method-neutral fidelity raters)” (306).

Because ten years of controversy around EMDR does not appear to have accounted for the gaps in findings, it seems important that we allow this debate to raise questions about how treatments are validated and to remind us of the need for caution in interpreting research findings in general. Discovering why outcomes vary in the body of EMDR research may reveal important lessons about how to increase research precision in

the future. It may still be proven, however, that the reason for the variability in findings is unique to this body of research. MacCluskie (1998) suggests: "EMDR may elicit differential treatment effects based on idiosyncratic client variables that have yet to be identified" (128). This factor, uncontrolled for and affecting studies nonrandomly, could lie behind some of the conflicting findings. If this hypothesis is correct, we learn a critical lesson that applies psychological research at large: not to underestimate the effect of individual differences in participants in research, and in people to whom treatments are administered.

Discussion

As EMDR grows in popularity and in the number of treatment situations in which it is applied, the debate about its effective components may continue. Perhaps it will be soon, however, when research in this area may begin to be consistent and trusted, alleviating some of the controversy that now surrounds it: "The quality of research on EMDR has improved enormously over the years. Most of the recently-published studies, but certainly not all, have addressed many of the weaknesses identified by critics of EMDR" (Cahill, Carrigan, & Freuh, 1999, 25). To the extent that initial concerns (treatment fidelity, large random samples, comparisons with existing treatments, incorporation of non-self-report measures, attention to the number of sessions necessary, etc.) have been addressed already and that disagreement remains in the literature, researchers must develop other hypotheses to explain conflicting findings in EMDR research.

As suggested previously, perhaps there is yet some factor playing into the conflicting findings which has not been identified. The fact that our most conservative methodological considerations have not succeeded in ending the EMDR controversy and that empirical findings vary so widely, raises questions at large about whether our research methods are sophisticated enough for use with the material to be studied and how much trust can be put in findings when it comes to something as complex as psychological healing. Furthermore, researchers must attend ever more carefully to the role of individual differences in participants when studying treatments and look persistently for factors affecting person by person outcomes, rather than averaging over large numbers of participants? At present, clinicians are encouraged to continue to evaluate EMDR as a promising treatment, while also considering questions about psychological research in general brought to light by the EMDR controversy.

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