

Efficacy and mechanisms of action of EMDR as a treatment for PTSD.

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Declaration

This thesis contains no material which has been accepted for the award of any other degree in any other university and, to the best of my knowledge or belief, contains no material previously published or written by another person, except when due reference is made in the text.

Christopher Lee

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Abstract

The first aim of this thesis was to describe the characteristics of Posttraumatic Stress Disorder (PTSD) and to elucidate its place as a symptom disorder that sometimes develops when people are exposed to a traumatic event. The current major theoretical approaches to account for why some people who are exposed to trauma develop PTSD and the mechanisms by which this occurs were described. Three classes of theories were reviewed: conditioning/learning approach; information processing theories with a particular focus on the meaning of the trauma event; and biological models with an emphasis on recent neurocircuitry and neurochemistry models.

Successful treatment approaches were then reviewed which indicated two major contenders for the most efficacious treatment for PTSD: traditional cognitive behaviour therapies (CBT) using either stress inoculation or prolonged exposure; and eye movement desensitisation and processing (EMDR). Prior to the first study (Lee, Gavriel, Drummond, Richards, & Greenwald, 2002), a review of the literature indicated equivalent effects for EMDR and CBT. There had been very few direct comparison studies and each had serious methodological flaws, particularly with respect to random assignment and treatment fidelity. Therefore, the first study ensured adequate attention to these areas and involved a direct comparison between the two procedures using a sample of 24 participants diagnosed with PTSD. EMDR and stress inoculation training with prolonged exposure were found to lead to similar symptom improvement at the end of treatment, apart from a slight advantage for EMDR on intrusion symptoms. Both treatments led to significantly greater symptom reduction than a wait list control condition. At follow-up, EMDR led to greater gains on both

self-report and observer rated measures of PTSD and self-report measures of depression. Overall, the findings were similar to those described in previously published studies, with a suggestion that EMDR was slightly more efficient than the standard CBT approach.

Given that the evidence suggested that EMDR was a more efficient treatment, it became critical to understand the underlying processes. A process study was undertaken that examined the responses of people with PTSD receiving EMDR treatment (Lee, Taylor, and Drummond, 2006). Guided by process studies of other treatments and theories that might account for why EMDR is effective, participants' responses were examined to see which models better accounted for symptom improvement. The main analysis tested whether or not the responses were consistent with processes that occurred during traditional CBT treatment, which prior research had identified as reliving, or whether they were more consistent with Shapiro's proposal that enhanced information processing occurs because there is a dual focus of attention (that is, the person simultaneously focuses on an external stimulus and on the traumatic memory) (Shapiro, 1995). The responses made by 44 participants were coded by an independent rater according to whether they were primarily reliving, distancing, affect or material other than the primary trauma. The coding system was found to have satisfactory inter-rater reliability. Greatest improvement occurred when the participant processed in a more detached or distant manner, whereas reliving responses were not associated with improvement. Cross-lagged panel correlations suggested that processing in a more detached manner was a consequence of the EMDR procedure rather than a measure that co-varied with improvement. The findings underscored a difference in the processes that underlie EMDR and traditional CBT.

The major question left unanswered from this second study was what causes this distancing process? Competing views were that it was facilitated by eye movement; alternatively, the therapist's instructions to participants might have precipitated this distancing phenomenon. The third study tested these ideas by randomly assigning 48 participants to either an eye movement or a no eye movement condition under two types of therapist instructions (reliving or distancing). Participants recalled personal distressing memories, and measures of distress and vividness were taken after treatment and at follow up. Only the eye movements made a significant difference to people's level of distress.

This conclusion appeared at odds with some of the previous literature that had tested the effects of eye movement on levels of distress. A meta-analysis of some of this research had suggested that there was no significant advantage of including eye movement in EMDR treatment unless the person had been diagnosed with PTSD. However, a close examination of this meta-analysis indicated some major methodological flaws in the computation; therefore, this was recalculated. The conclusion from this fourth study was consistent with study three in that EMDR with eye movement was found to lead to significantly greater improvement than EMDR without eye movement.

The results of these four studies were then discussed in terms of their implications for the theoretical models presented in Chapter 1. Aspects of learning theory that might account for EMDR efficiency were discussed as well as the failure of this model to account for treatment gains following EMDR. Information processing models were seen to better account for some of the phenomena observed in

EMDR and for the findings from the four studies. Some suggestions of how eye movements might facilitate improved information processing were presented.

Finally, the relative merits of EMDR and CBT treatments were discussed and suggestions made for when to combine approaches. The conclusions highlight the point that EMDR appears to be the most promising treatment for PTSD.

Refereed Articles

Lee, C., Gavriel, H., Drummond, P., Richards, J., & Greenwald, R. (2002). Treatment of PTSD: Stress inoculation training with prolonged exposure compared to EMDR. *Journal of Clinical Psychology, 58*(9), 1071-1089.

Lee, C. W., Taylor, G., & Drummond, P. (2006). The active ingredient in EMDR; is it traditional exposure or dual focus of attention? *Clinical Psychology & Psychotherapy, 13*, 97-107.

Articles Under Review

Lee, C. W., & Drummond, P. (under review). Does eye movement contribute to EMDR's effect?: a randomized control study and a meta-analysis. *Journal of Consulting and Clinical Psychology*.

These articles are reproduced in the thesis in their full, original state (Chapters 2, 3 and 4). This accounts for the small degree of repetition and some minor inconsistencies in Anglo/American spelling throughout the thesis.

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