Effect Size & Methodological Rigor In EMDR: A Reply To Lipke's Comment

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The basic premise of Lipke's concerns regarding the distraction hypothesis for EMDR is that he believes "many of the very studies ... [Devilly] ... cites as demonstrating his position actually refute it". He is also concerned that there has been "reporting of non-significant or even trivial results as meaningful", and further that this paper somehow corrupts students, scientists and behavior therapy. These are grave claims and worthy of attention, but the evidence below should help an audience in reaching their own conclusions regarding any "misrepresentations".

Lipke refers to mean changes over time which, of course, do not take into account the variability in client responses. This is why effect sizes are computed. As can be seen from Table 1, the original claim that some studies "display a lowering of effect size over time for treated participants (participant type and domain of reduction in effect size)" (Devilly, 2001) is justified. This table lists only those studies, and domains of concern, cited in the original paper. In fact, upon further examination, a deterioration was evident on more domains than claimed in that paper. As can be seen, these effect sizes all decreased, in line with the distraction hypothesis. As those who read the paper will know, it was <u>not</u> stated that this deterioration was evident on all measures in all studies. Effect sizes were computed using the following, generally accepted, formula for meta-analytic appraisals:

$$ES = \frac{Mean_{t1} - Mean_{t2}}{\sqrt{(SD_{t1}^2 + SD_{t2}^2)/2}}$$

where: SD = standard deviation and t = assessment time point.

The fact that on various measures some studies show a decrease in effect size from post-treatment to follow-up is an important observation, even if on some indices this deterioration is not apparent or reversed. As has been shown with other treatments of anxiety disorders, an effective treatment should maintain therapeutic gains over time and preferably improve upon them. As discussed in the original paper, studies have implied that distraction can impede exposure to a full affective cue set and, therefore, prevent long term extinction of the fear response. Some EMDR studies have shown that effect sizes following this form of treatment reduce to near zero and can even fall into the negative (e.g. Macklin et al., 2000). It is argued that this is not a "trivial result".

Lipke also refers to waitlist treated participants in the Rothbaum (1997) study who did not deteriorate over time. However, I am sure that upon reflection he is now aware that a waitlist introduces extraneous variables and for this reason the group statistics following treatment are assessed independently and with caution.

I also disagree with Lipke's implication that the original paper (and by extension, this exchange) stifles innovation within our profession and the continuing education of students. In addition to the tenets of the original paper, this exchange is a good example of why we stress the importance of methodological and statistical knowledge to our students during Graduate training.

<u>Table 1. Study Effect Sizes For Claims Made In Devilly (2001).</u>

Study	Population	Follow-up Length	Measures	Effect Size	
				pre-post tx	pre-follow-up
Forbes et al. (1994)	veteran PTSD	3 months	SCL-90-R (GI)	0.47	0.37
			BDI	0.58	0.25
			IES (Avoidance)	1.58	1.48
Vaughan et al. (1994)	generic PTSD	3 months	HRSD	1.45	1.20
			BDI	1.50	0.86
			STAI-S	1.82	1.17
			IES (Intrusion)	2.32	1.55

Feske and Goldstein (1997)	panic disorder	3 months	MI (Alone)	0.55	0.45
			MI (Accompanied)	0.81	0.41
			PAI (C)	0.52	0.39
			BAI	1.12	1.02
			BDI	1.15	0.77
			BSI	0.97	0.74
			SAS-SR	1.00	0.74
Rothbaum (1997)	rape PTSD	3 months	BDI	1.80	1.74
			STAI-S	1.45	1.17
			STAI-T	1.46	1.28
Devilly et al. (1998)	veteran PTSD	6 months	MPTSD	0.37	0.11
			BDI	0.54	0.15
			STAI-T	0.63	0.33
Carlson et al. (1998)	veteran PTSD	3 months	STAI-S	1.34	0.88
			STAI-T	1.57	1.42
			BDI	1.96	1.35
Macklin et al. (2000)	veteran PTSD	5 years	CAPS	0.26	-0.82
			IES (Intrusion)	0.74	0.01
			IES (Avoidance)	1.60	0.37
			MPTSD	-0.30	-0.64
			SCL-90-R (GI)	0.15	-0.36
Devilly and Spence (1999)	generic PTSD	3 months	IES	0.79	0.28
			PSS-SR	0.75	0.31
			MPTSD	0.75	0.27
			SCL-90-R (GI)	0.47	0.00
			BDI	0.68	0.35
			STAI-T	0.79	0.28
Largo-Marsh and Spates (in submission)	generic PTSD	1 month	SCL-90-R (GI)	0.51	0.32
			STAI-T	0.92	0.55

Note. BAI = Beck Anxiety Inventory; BDI = Beck Depression Inventor; BSI = Brief Symptom Inventory; CAPS = Clinician Administered PTSD Scale; HRSD = Hamilton Rating Scale for Depression; IES (Total or Intrusion / Avoidance subscales) = Impact of Events Scale; MCPTSD = Mississippi Scale for PTSD; MI (Alone / Accompanied) = Mobility Inventory for Agoraphobia; PAI (C) = Panic Appraisal Inventory (Coping); PSS-SR = Post Traumatic Stress Scale - Self Response; SAS-SR = Social Adjustment Scale, Self-Report; SCL-90-R (GI) = Symptom Checklist-90-Revised (Global Severity Index); SI-PTSD = Structured Interview for PTSD; STAI-(S/T) = Spielberger State-Trait Anxiety Inventory (State / Trait Form).

References

Devilly, G.J. (2001). The roles of popularised distraction during exposure and researcher allegiance during outcome trials. The Behavior Therapist, 24, 18-21.

All other references are in the original paper (Devilly, 2001).