Transforming traumatic memories: The Reconsolidation of Traumatic Memories (RTM) protocol

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Transforming traumatic memories: The Reconsolidation of Traumatic Memories (RTM) protocol

The Research and Recognition Project

(a 501(c)(3) organization)

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Targeted: Intrusive symptoms: nightmares, flashbacks, and sympathetic reactivity

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- It has successfully treated complex traumas including combat trauma, sexual trauma, military sexual trauma, childhood sexual abuse, first responder trauma, and other issues.
- It has treated late onset and continuing PTSD symptoms from the Vietnam and Korean Wars, as well as more recent conflicts.

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- During that period, The memory's importance can then be strengthened or weakened (salience), and its emotional tone or content may be changed.
- A long-term memory is confronted with information that contradicts some essential element of the memory (but not the entire memory), or novel information (Prediction Error [PE]; Pedreira, et al. 2004)

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- RTM restructures the visual representations of a trauma memory as a past, non-threatening memory, by changing elements of the memory.
- These changes include, from a dissociated perspective, the loss of color, the loss of depth cues, increased distance, as well as, visual and temporal distortions
- RTM makes these format changes in a labilization window created by a very brief, non traumatizing exposure. In this dissociated window these format changes block normal reconsolidation of the trauma memory separating the traumatic memory from the traumatic feeling.
- Reconsolidation allows for fast and robust de-traumatization to the memory measured out to one year and surveyed out to 5 years.

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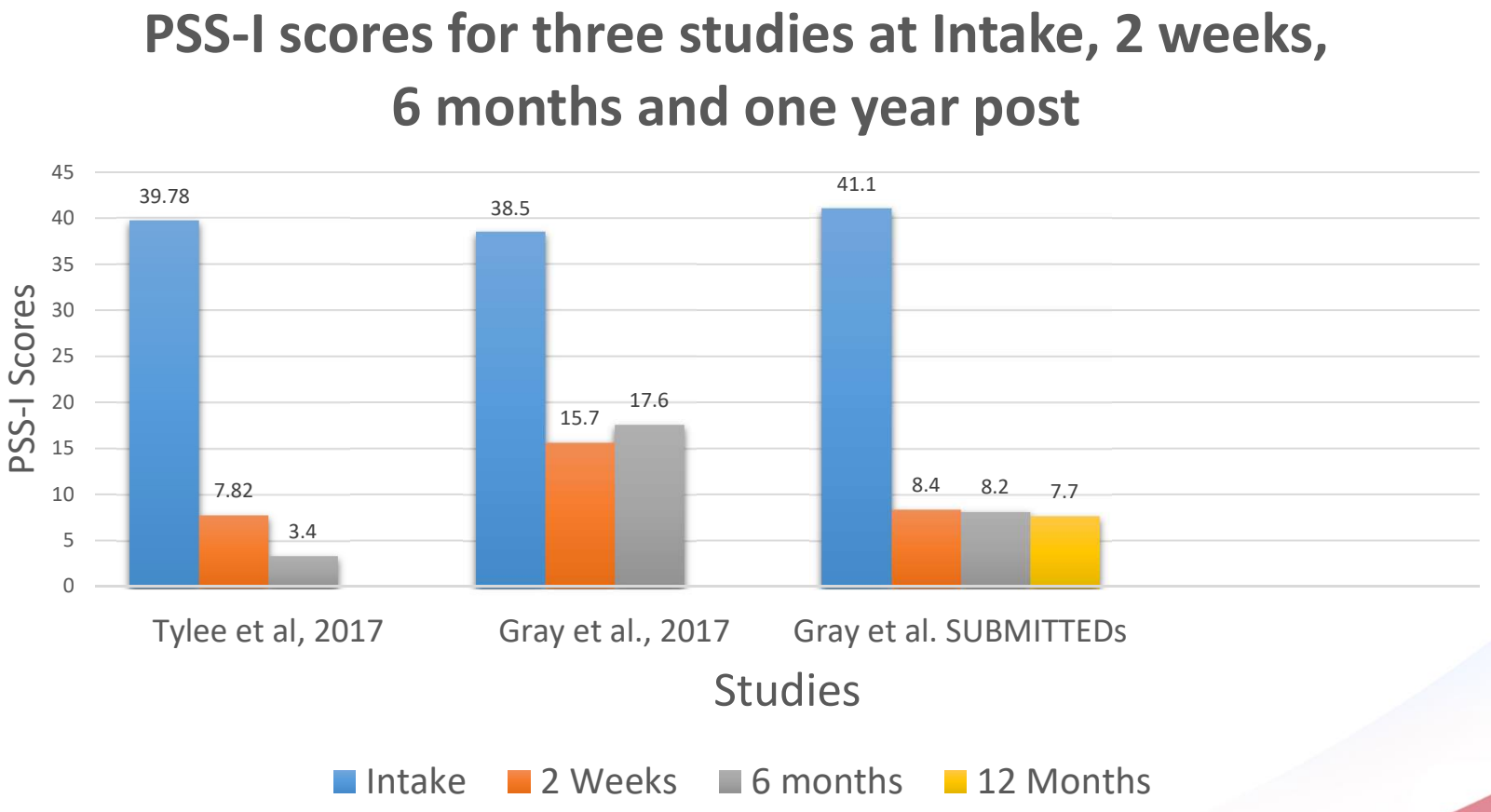
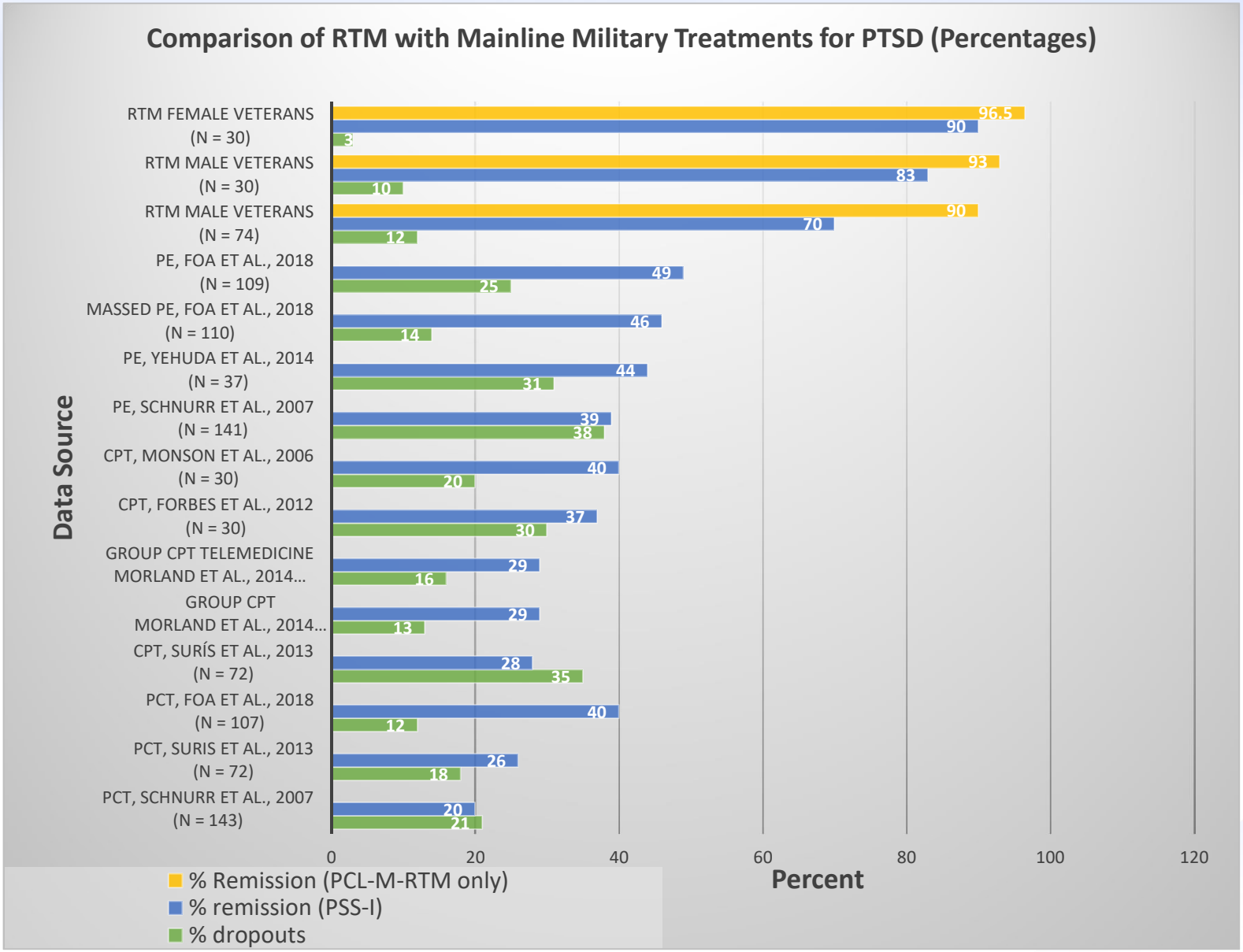
SUDs assessments serve as checks on client progress through the cycles of treatment.

Success Criteria

- Symptom scores drop below clinical and diagnostic cut-offs; most clients fail to endorse DSM criteria
- Flashbacks and nightmares relation to the events treated cease
- Event narrative fails to evoke negative sympathetic arousal
- The event is recalled easily with richer details
- The event is recalled like *JUST* another memory
- The event takes on different significance in the client's life; it is spontaneously reappraised
- Family members report observed changes
- Previous Trauma Triggers no longer activate responses
- Results have stayed robust across one year follow-ups

RTM creates dramatic reductions in symptom severity





RTM RESEARCH RESULTS:

Pilot Study (Gray & Bourke, 2015; NY $300,000 Grant**).**

- Thirty-person RCT with 26 treatment completers. Requiring a pre-existing Dx of PTSD and prior month flashback or nightmare for inclusion.
- Mean intake score: 61; **mean post Tx PCL reduction: 44.7 ± 15.8 points**; final mean PCL-M score of 28.8 ± 7.5 at 6 weeks or the last measure reported.
- 6 week **Hedges' g 2.9** (CI 99% [26.05, 33.71]).

RTM RESEARCH RESULTS:

First Replication Study *Tylee et al. (2017)* .

- 94% of 30 male veterans were **symptom free** at all follow-ups ***to one year post***.
- **Mean reduction of 39.8 points** (**PCL-M;** cumulative intake mean = 66.5 ± 8.27) for all treatment completers, with a final mean PCL-M score of 26.8 ± 13.08 at 6 months**. Hedges' g =3.59** for all treatment completers at 6-months post (CI 99% [22.06, 33.54]).
- **Experimental comparison:** Waitlisted controls at week 6 vs RTM Group at two weeks post: **Hedges g = 3.663** (95% CI [6.013−1.314]).
- **Twelve-month mean PCL-M scores** for treatment completers, with 81.5% reporting, were **20.9 (± 4.2), a reduction of 46.5 points.**

RTM RESEARCH RESULTS:

Second Replication Study. 30 Females (Gray et al. Submitted manuscript.)
Waitlist RCT with ITT analysis.

- **96%** of the **30 women** were **symptom and diagnosis free at all follow-ups to 1 year** despite extensive histories of complex PTSD with **MST, rapes, and repeated childhood traumas**
- **Mean symptom score reduction of 43 points PCL-M and 34 points PSS-I.** Two-week pooled results PSS-I Mean = 7.172 ± 9.289; PCL-M Mean = 26.993 ± 13.473) compared to baseline (PSS-I Mean = 41.1 ± 6.093; PCL-M Mean = 70.3 ± 7.831) were statistically significant ($P<0.001$). Scores for six weeks, six-months, and one-year did not change significantly from 2-week measures.
- **Experimental comparison:** Untreated waitlist participants at end of the period (PSS-I Mean = 38.6 ± 6.456; PCL-M Mean = 67.13 ± 8.46) vs treatment subjects two-weeks post (PSS-I Mean = 9.667 ± 11.703; PCL-M Mean = 25.43 ± 8.06), were **significantly different** in the expected direction ($p < 0.001$).

  Effect size for experimental comparison: Hedges' g (PSS-I g = 3.0; 95% CI [-0.4 to 6.4; PCL-M g = 3.4. 95% CI [-0. 7 to 7.4].

RTM RESEARCH RESULTS:

Third Replication Study. (NY $800 K Grant); Gray, Budden-Potts, & Bourke (2017).

- 90% of the 64 male veterans completing treatment scored below diagnostic threshold on the PCL-M at two wks, 6 wks, and 6 months post treatment
- **Primary measure: PSS-I mean symptom score reductions of 23 points at 6 months**. Mean PSS-I intake score was 38.5 ± 6.783. final mean scores at 6 months were 15.38 ± 15.23 ($p < 0.001$).
- **Experimental comparison:** Untreated waiting list controls compared to treatment group at equivalent time points, differed significantly ($p. < 0.001$) in the expected direction

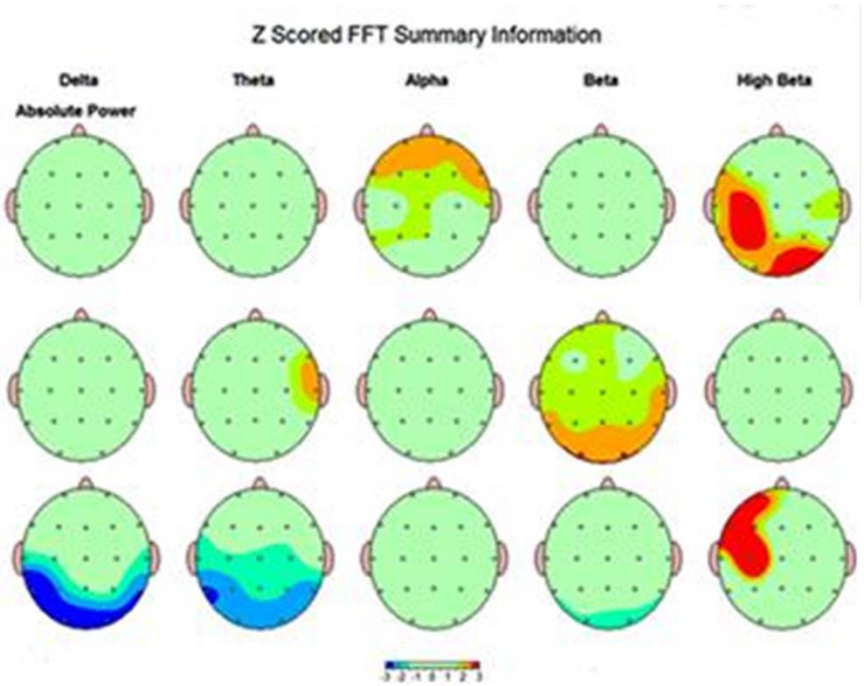
RTM RESEARCH RESULTS:

Investigation of RTM treatment with pre-post EEG Measures. (NM private funders). Submitted for publication.

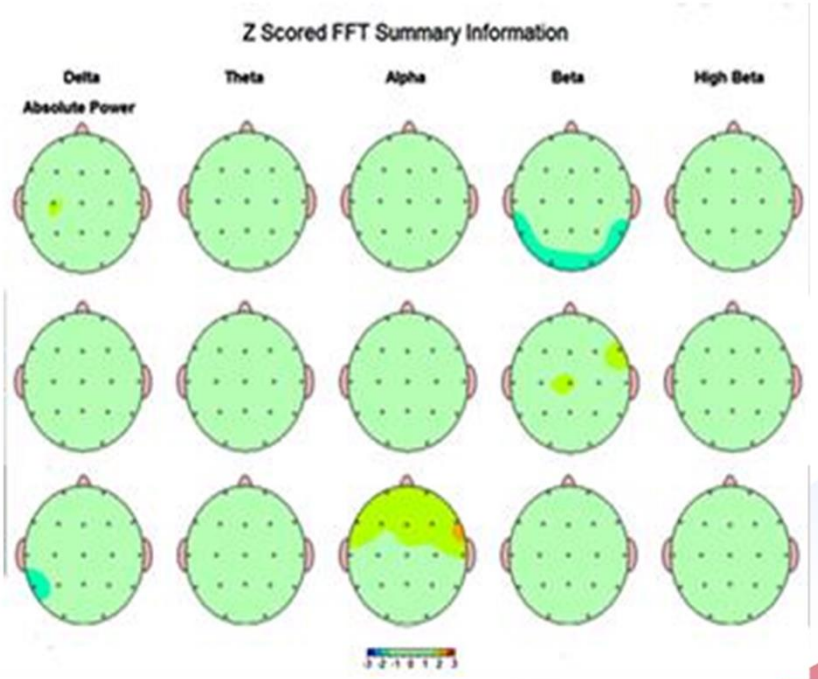
- The lead author had previously identified an EEG footprint for PTSD as strong high beta activation in resting temporal lobe and dPFC
- A group of 12 males and 15 females from a population of Veterans, Active military and first responders previously diagnosed with PTD were compared to a previously collected sample of 30 Neurotypical adults
- PTSD subjects with and without aberrant high Beta responding, responded well to RTM
- Among those showing the PTSD signature, there were dramatic reductions in post treatment high-Beta response

QEEG Results Pre- Post- RTM Treatment

Pre RTM Treatment Baseline qEEG



5 Days Post-RTM Treatment qEEG



Training Initiatives

- Since last year R&R has provided training for more than 150 service providers from VA Centers and private organizations.
- A review of those trainees' work with RTM finds that they are able to replicate the results of our studies after a brief 4-day training.
- Evaluations of all trainings to date rate the training and the clinical effectiveness of the RTM protocol at 9.5 or above (10 point scale).

Pending Research

- Undertaking a two-year research study funded by the Center for Neuroscience and Regenerative medicine (CNRM) at the Uniformed Services University, Walter Reed National Military Medical Center, under the Leadership of Dr. Michael Roy, MD, PhD.
- King's College London, fund by the Governments, Forces in Mind Trust (FiMT), has begun a randomized control trial of RTM for ex-Service personnel with PTSD at three clinics in Belfast Northern Ireland.

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