

# The memory reconsolidation paradigm in the EMDR-work with children

EMDR Europe Den Haag 18<sup>th</sup> June 2016

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# EMDR is

*like watching a movie with popcorn*

The WHO describes the advantages of EMDR as follows:

- no detailed description of the trauma is necessary
- the clients current convictions are not directly provoked
- EMDR does not require a distressing long-lasting exposition
- no homework (WHO, 2013a)
- furthermore EMDR can be implemented in a playful way and use childlike symbolization methods (drawings, sand pictures, (scenic) stories)
- little precondition from the clients' side needed (IQ <60; subject does not have to be told; independent of age: 0-18 years)

# Adaptive Information Processing model (AIP-model)

„The Adaptive Information Processing model is offered as a working neurophysiological *hypothesis* because current understanding of brain physiology is not sufficient to verify its accuracy.“

(Shapiro, 2001; p. 54)

# The origins of the AIP model are client-centered

## 1 – Psychopathology arises from dysfunctional processing of experiences

- „**Psychological maladjustment** exists when the organism denies to awareness, or distorts in awareness, **significant experiences**, which consequently **are not accurately symbolized and organized into the gestalt of the self-structure**, thus creating an incongruence between **self and experience**.“ (Rogers, 1959; p. 204)
- „Problems arise when an experience is inadequately processed.“  
“(Solomon & Shapiro, 2008; p. 316)

# The origins of the AIP model are client-centered

## 2 – Natural self-healing capacity

- „*The actualizing tendency is the inherent tendency of the organism to develop all its capacities* in ways which serve to maintain or enhance the organism. ... It is development toward autonomy ... .“  
(Rogers, 1959; p. 196)
- „The AIP model states that there is an innate physiological system that is designed to transform disturbing input into an adaptive resolution.“ (Shapiro, 2001; p. 54)
- „*This movement toward a positive state* when the information-processing system is maintained in dynamic form through the use of EMDR *is certainly consistent with conjectures by Rogers (1951) and Maslow (1970).*“ (Shapiro, 2001; p. 19)

# Memory reconsolidation

*“As noted by Shapiro (2007a), the AIP hypothesis appears consistent with recent neurobiological theories of reconsolidation of memory, which propose that an accessed memory can become labile and restored in an altered form.” (p. 317)*

Solomon, R.M., & Shapiro, F. (2008). EMDR and the adaptive information processing model: Potential mechanisms of change. *Journal of EMDR Practice and Research*, 2(4), 315-325.

„...**memory reconsolidation** is the primary mechanism underlying EMDR`s effects.“

(Shapiro, 2007; p. 8)

Shapiro, F. (2007a). EMDR and case conceptualization from an adaptive information processing perspective. In F. Shapiro, F. Kaslow, & L. Maxfield (Eds.), *Handbook of EMDR and family therapy processes* (pp. 3–36) . New York: Wiley.

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(Solomon & Shapiro, 2008; p. 315)

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# By the way

- Memory Reconsolidation is the neurobiological verification of the *Active Factor Modell* of psychotherapy formulated by Klaus Grawe (1998; engl. 2004).
- (Emotional?) actualization + resource activation are both needed to transform maladaptive psychic material.
- **But:** Grawe refer to the *extinction paradigm* and don't relate to the *memory reconsolidation model* of change.

# Extinction paradigm

- Create a counter-force **new memory** mostly by exercise and training of skills and hope, it will be stronger than the original maladaptive stored memory
- **Counter-active strategy of change**

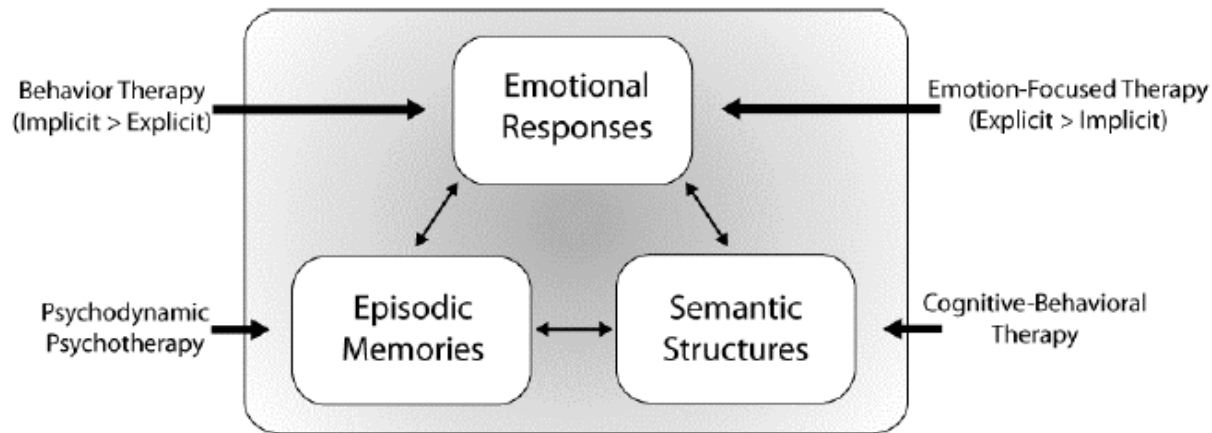
# Memory reconsolidation

„By this view, psychotherapy is a process that not only provides new experiences, but also changes our understanding of past experiences in fundamental ways through the manipulation of memory.“ (Lane et al., 2015; p. 13)

Lane, R. D., Ryan, L., Nadel, L. & Greenberg, L. (2015). **Memory reconsolidation**, emotional arousal and the process of change in psychotherapy: New insights from brain science. *Behavioral and Brain Sciences* , 1-64.

# Framework of psychotherapy integration

Figure 1



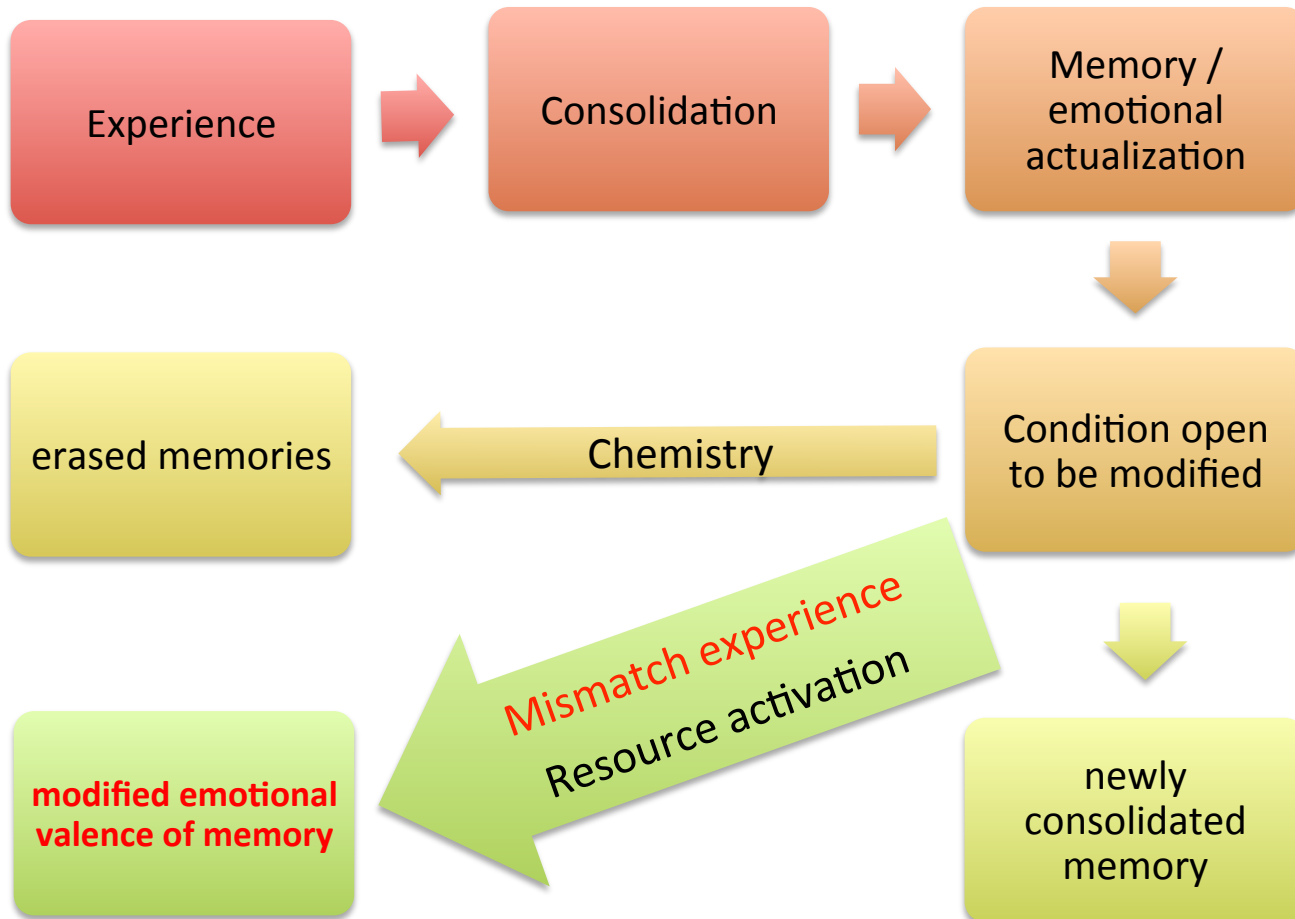
Caption Figure 1

Points of entry into the integrated memory structure for four types of psychotherapy.

Lane, R. D., Ryan, L., Nadel, L. & Greenberg, L. (2015). **Memory reconsolidation**, emotional arousal and the process of change in psychotherapy: New insights from brain science. *Behavioral and Brain Sciences*, 1-64.

# Modification of Memories

(Nadel et al., 2012)



# The **three** basic aspects of memory reconsolidation

- **Exposure** ({emotional?} actualization)
- **Dual attention/dual focus/distraction** (for example: **bilateral stimulation**)
  - Dis-identification + Acceptance (Non-avoidance)
  - Stay within the „Window of tolerance“ to process
- **Felt experience of mismatch/discrepancy/ predicting error experience** (Ecker et al., 2012) (**specific resource activation**)
  - incompatible with the old (emotionally and cognitive) dysfunctional experience

# The necessary circumstances

- Repetition of the procedure may be needed
- short (NOT long lasting) exposure (Lee et al., 2009)
- time window of 4-5 hours after actualization (Björkstrand et al., 2015).
- strong/old memories need strong activation (Suzuki et al., 2004)

# Resource activation in the light of reconsolidation

- Resource activation has to be **specific** in a way to create an **immediate felt mismatch experience**:
  - Juxtaposition experience
  - Experiential disconfirming
  - Contradictory knowledge
  - Prediction error

That means, that the client has to feel (and recognize) that his old perception pattern (of the world and himself) is fundamentally not compatible with the actual situation.



# Understanding reconsolidation

- This both-at-once experience of the stressor and vivid contradictory knowledge needs the simultaneous activation of the two as co-present conscious experiences.
  - commuting between trauma and resource
  - holding both qualities in the awareness at the same time
- „Thus, conscious, subjective awareness and attention appear to function as the arena where separate, differing schemas (learnings, knowings, representations of reality) can come into mutual contact ... for a revision of one schema by the other through the reconsolidation process.“ (Ecker, 2015 ;p. 28)

Ecker, B. (2015). Memory reconsolidation understood and misunderstood. *International Journal of Neuropsychotherapy*, 3 (1), 2-46.

Transformation is an autonomous  
process within the client

It's neither the therapist nor the  
method that heals but the client  
heals himself in a structured and  
secure context.

(Plassmann, 2007)

# Misunderstanding reconsolidation

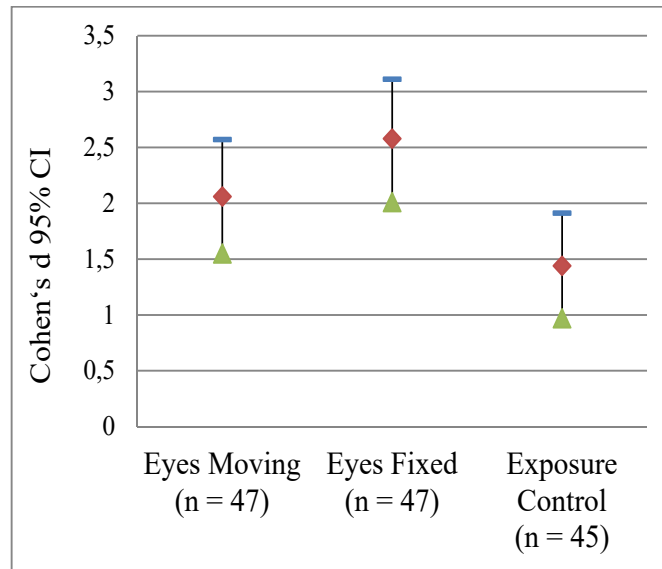
- „The reconsolidation and erasure process **does not inherently involve or require emotion** in either the target learning or the new learning that is juxtaposed with and nullifies it.“ (Ecker, 2015; p. 29)
- The reconsolidation process can happen on all levels (physiological, chemical, emotional, by insight, **without** consciousness, ...) **Babies!**
- **Memory reconsolidation process does not require eye movements!** (RCT-study: Staring et al., 2016))

# Dual attention and not eye movements enhances symptom reduction during Eye Movement Desensitization and Reprocessing (EMDR) - for PTSD – results from a randomized clinical trial

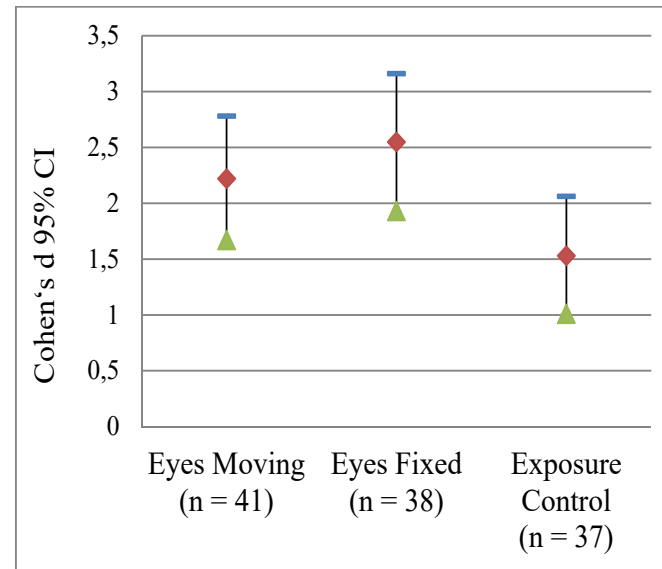
Sack, Martin MD<sup>a</sup>; Zehl, Stefanie PhD<sup>a</sup>, Otti, Alexander MD/PhD<sup>a</sup>, Lahmann, Claas MD<sup>a</sup>; Henningsen, Peter MD<sup>a</sup>, Kruse, Johannes MD<sup>b</sup>, Stingl, Markus PhD<sup>b</sup> (2016 in press)

**Figure 2.** Effect sizes of Clinician-Administered PTSD Scale (CAPS) per treatment condition.

### A. Intention-to-treat sample



### B. Completers sample



Abbreviations: PTSD = Posttraumatic stress disorder, CI = confidence interval.

**Self-esteem treatment in anxiety:** A randomized controlled crossover trial of Eye Movement Desensitization and Reprocessing (**EMDR**) versus Competitive Memory Training (**COMET**) in patients with anxiety disorders.

Staring, A. B. P., van den Berg, D. P. G., Cath, D. C., Schoorl, M., Engelhard, I. M. & Korrelboom C. W. (2016)

*Behaviour Research and Therapy*, 82, p. 11-20

- **RCT (adults):** EMDR (5 sessions: proof memories) vs Competitive Memory Training (COMET) (5 sessions) (51% PTSD)
  - Results: COMET: 1.25 EMDR .46 (significant difference!)
- **Central Component of COMET:** **Creating a juxtaposition experience or „counter-evidence“ („ Activate positive representations and associate them to the relevant conditioned stimulus (CS).“** Staring et al., 2016; p. 12)
- **No Reference to „memory reconsolidation“ was made**

# Effects of a psychotherapy that is based on the reconsolidation paradigm

(Ecker, Ticic & Hulley, 2012)

Erasing/overwriting a dysfunctional experience from the memory causes that:

1. **symptomatics are permanently dissolved**
2. **no relapses are to be expected**
3. **effortless trigger freedom**

This is exactly the outcome of EMDR with children!

In contrary to that, counter-active strategies need permanent repetition and efforts to deal with the “old patterns”.

What does **memory reconsolidation** mean for our clinical EMDR-work (not only) with children and adolescence?

- At first glance there does not seem to be so much difference to the actual official position:
  - We know how important resources are and we try to implement them into the protocol.
  - We use cognitive interweave techniques (if necessary).
  - We use resource-oriented procedures (like the resource-protocol (absorption))

➤ **But:**

# The difference

## More degrees of freedom in facilitating the process and using resources to create mismatch-experiences.

- The actual paradigm (is challenged):
  - Don't disturb the process of the client, follow the process, intervene as softly as possible.
  - Only cognitive interweave.
  - Develop a new protocol for any case and situation.
- The new duties and possibilities using the memory reconsolidation paradigm:
  - Explicit resource-work at different positions in the standard protocol to create a mismatch experience. Don't wait too long! Intervene more active und specific!
  - Take care, that both poles of the juxtaposition are in the field of awareness AND facilitate the process in a way, that the dual attention is ensured during processing.
  - When the memory is open for change for 4-5 hours, that means, the process could be interrupted (for resource installation) at any time and continued later without any impairment.
  - Instead of „protocol fixation“ develop flexibility in creating felt discrepancy experiences.



# Implementing *memory reconsolidation* into the standard protocol

## ➤ Phase two (*Preparation Phase*):

- The main topic in this phase shifts from *stabilization* to *creating a specific (mismatching) resource*. There are already approaches (*Resource Connection*, Brurit Laub, 2001; *The Inner Space processing*, Barbara Wizansky) available.

## ➤ Phase three (*Assessment Phase*):

- Enhancing the resource-work: RIT (Resource Integration into trauma processing, Leutner, 2014); Enhancing the positive cognition into a felt sense resource (Lipke, 2001); **the pc is mostly not a resource (mismatch experience)**

## ➤ Phase Four (*Processing Phase*):

- Support the child actively by presenting resources. **Create actively mismatch experiences**. Don't wait too long!!
- *Safe Place* is often counter-productive (supporting avoidance).

# Video examples

- 1: Urzt 77y (5 minutes)
- 2: Lara 6 Y (6 minutes)
- 3: Aladin 9 y (autistic boy)(6 minutes)
- 4: Seline 6 y (10 minutes)