

fulbrightaustria

Sigm. Freud



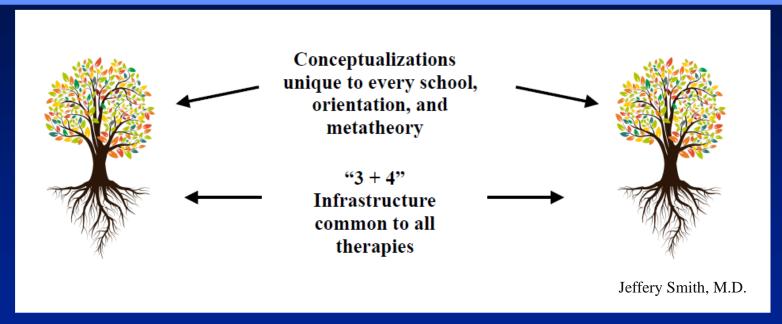




Lecture #9 Therapeutic Implications of Memory Reconsolidation

- Integration of memory reconsolidation (MR) with emotion processing
- The challenge of proving MR in the context of psychotherapy
- Not all psychotherapy works by MR, e.g. CBT
- MR as a potentially unifying paradigm for enduring change across modalities
- Application of MR to Time Limited Dynamic Psychotherapy (Becky/Hanna Levenson)
- Application of MR to psychoanalytic case material
- Implications of MR for Freud's concept of nachträglichkeit

Mission of the Society for the Exploration of Psychotherapy Integration (SEPI): Convergence and Integration



3 Final Pathways

New Learning (outcompetes)

Extinction (suppresses)

Memory Reconsolidation

(updates)

3 Key Steps

Reactivate

Revise

Reinforce

4 Facilitating Factors

Arousal regulation

Motivation

Safety

Relationship

Cognitive-Behavioral Therapy

- Currently the most popular method of psychotherapy
- CBT focuses on reducing symptoms or maladaptive behavior
- Focuses on what maintains symptoms, not their origin
- Patterns in social relationships (IWM) not a major focus
- Treats emotion as a symptom, not a mechanism of change
- Inhibiting symptoms (exposure therapy/extinction) and learning alternative behaviors are a primary focus
- Memory reconsolidation (MR) doesn't fit with CBT very well
- Enduring change in CBT may be limited: for anxiety 50% response rate; for depression 40% relapse rate at 6 yrs

Loerinc, A. G., Meuret, A. E., Twohig, M. P., Rosenfield, D., Bluett, E. J., & Craske, M. G. (2015). Response rates for CBT for anxiety disorders: Need for standardized criteria. *Clinical psychology review*, 42, 72-82.

Requirements for Demonstrating Memory Reconsolidation (Elsey, Van Ast and Kindt, 2018)

- Reactivation x Manipulation interaction
- Time dependency
 - intervene within time window of 4-6 hours
- Memory specificity
- Dissociation of immediate and delayed effects
 - sleep is necessary for reconsolidation
 - demonstrate altered memory the next day and in long-term follow-up (e.g. 1 year)

Elements to Include in a Case Report Consistent with MR

- Establish the stability of the current maladaptive pattern
- Retrieve autobiographical memories that contributed to what is now personal semantic knowledge about the self (expressed in beliefs and procedures in multiple settings)
- Recall and experience the old memories and the painful affect
- Specify the new information that is introduced whether it be facts or emotions (provided by the therapist or the client); it must be inconsistent with what was previously learned and be unexpected (and therefore create a prediction error)
- Juxtaposition: new information must be experienced while the old memory and old feelings are actively recalled and experienced
- Have repeated experiences of construing and responding differently
- Demonstrate stability of the more adaptive pattern in long-term follow up

Bruce Ecker: Pioneer in Applying Memory Reconsolidation Neuroscience to Psychotherapy



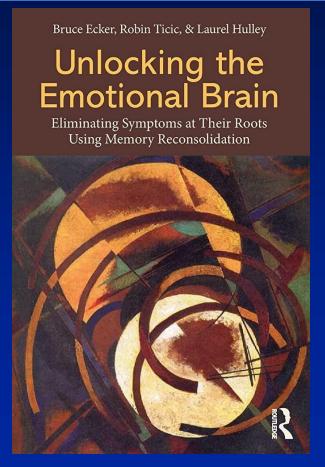


 Table 11.1 Clinical Symptoms Observed to be Eliminated by Nullifying Specific
 Emotional Learnings Through the Reconsolidation Process as Carried Out in Coherence Therapy

Symptoms Dispelled

Aggressive behavior Food / eating / weight problems Grief and bereavement problems Agoraphobia

Alcohol abuse

Anger and rage Anxiety

Attachment-based behaviors and distress

Attention deficit problems

Co-dependency

Complex trauma symptomology Compulsive behaviors of many kinds

Couples' problems of conflict / communication / closeness

Depression

Family and child problems

Fidgeting

Guilt

Hallucinations Indecision

Low self-worth, self-devaluing

Panic attacks Perfectionism

Post-traumatic symptoms Procrastination / Inaction

Psychogenic / psychosomatic pain

Sexual problems

Shame

Underachieving

Voice / speaking / singing problems

Note: A bibliography of published Coherence Therapy case examples, indexed by symptom, is available at https://bit.ly/2tKXdyX.

Case Vignette from Bruce Ecker: Illustration of Coherence Therapy

- 51 yr old man dissatisfied with his occupational accomplishment & salary
- Had a history of changing jobs every few years
- Asked to imagine not having the symptom; this produced anxiety
- Anxiety linked to the memory of his father who worked in a factory for 30y
- Father's job provided adequate salary but father was miserable
- Father frequently said: "Never stay in a job for too long."
- Having identified the target problematic implicit learning, contradictory information was identified: he knew some teachers who were gratified in their long careers
- Juxtaposed target learning and contradictory information and experienced it
- Successful outcome: happy as a college teacher at 6 yr follow up

A Proposed Universal Template for Transformational Therapeutic Change

Table 11.2 The Therapeutic Reconsolidation Process, Proposed as a Universal Template that Translates Reconsolidation Research for Facilitating Transformational Therapeutic Change

Therapeutic Reconsolidation Process

Preparation phase

- A. Symptom identification
- B. Retrieval of memory contents generating symptom (target emotional learning/mental model/schema)
- C. Identification of contrary, disconfirming knowledge or experience

Erasure sequence (ECPE)

- 1. Reactivation of target learning
- 2. Destabilization of target learning: Activation of contrary knowledge mismatches target schema
- 3. Nullification of target learning: A few repetitions of mismatch for counterlearning during remainder of session

Verification phase

- V. Verification of target learning erasure:
 - Symptom cessation
 - · Non-reactivation of target learning
 - Effortless permanence

Ecker (2012) and Lane et al (2015): Areas of Convergence and Divergence

Convergences

- Lasting change is due to memory reconsolidation
- The interaction of episodic memory, semantic memory and emotion in implicit emotional learning is the critical mechanism in symptom creation and in the change process in psychotherapy
- A paradigm for integration and unification of the psychotherapy field

Divergences

- Destabilization: reactivation alone vs. exposure to prediction error
- The nature of counter-learning: facts vs. emotions
- Is emotional arousal necessary for MR?

Potential for Unification of The Fragmented Field of Psychotherapy

- Coherence Therapy
- Emotion Focused Therapy
- Accelerated Experiential Dynamic Psychotherapy
- Schema Therapy
- Rescripting Therapy
- EMDR
- Psychedelic/Psycholytic Therapy
- Propranolol-Assisted MR
- Psychodynamic Psychotherapy
- Psychoanalysis

EMDR: Eye Movement Desensitization and Reprocessing

EMDR and the Adaptive Information Processing Model

Potential Mechanisms of Change

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Eye movement desensitization and reprocessing (EMDR) is a therapeutic approach guided by the adaptive information processing (AIP) model. This article provides a brief overview of some of the major precepts of AIP. The basis of clinical pathology is hypothesized to be dysfunctionally stored memories, with therapeutic change resulting from the processing of these memories within larger adaptive networks. Unlike extinction-based exposure therapies, memories targeted in EMDR are posited to transmute during processing and are then again stored by a process of reconsolidation. Therefore, a comparison and contrast to extinction-based information processing models and treatment is provided, including implications for clinical practice. Throughout the article a variety of mechanisms of action are discussed, including those inferred by tenets of the AIP model, and the EMDR procedures themselves, including the bilateral stimulation. Research suggestions are offered in order to investigate various hypotheses.

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.

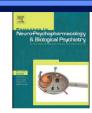
Hallucinogens + Psychotherapy



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MDMA-assisted psychotherapy for PTSD: Are memory reconsolidation and fear extinction underlying mechanisms?



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ABSTRACT

MDMA-assisted psychotherapy for treatment of PTSD has recently progressed to Phase 3 clinical trials and received Breakthrough Therapy designation by the FDA. MDMA used as an adjunct during psychotherapy sessions has demonstrated effectiveness and acceptable safety in reducing PTSD symptoms in Phase 2 trials, with durable remission of PTSD diagnosis in 68% of participants. The underlying psychological and neurological mechanisms for the robust effects in mitigating PTSD are being investigated in animal models and in studies of healthy volunteers. This review explores the potential role of memory reconsolidation and fear extinction during MDMA-assisted psychotherapy. MDMA enhances release of monoamines (serotonin, norepinephrine, dopamine), hormones (oxytocin, cortisol), and other downstream signaling molecules (BDNF) to dynamically modulate emotional memory circuits. By reducing activation in brain regions implicated in the expression of fear- and anxiety-related behaviors, namely the amygdala and insula, and increasing connectivity between the amygdala and hippocampus, MDMA may allow for reprocessing of traumatic memories and emotional engagement with therapeutic processes. Based on the pharmacology of MDMA and the available translational literature of memory reconsolidation, fear learning, and PTSD, this review suggests a neurobiological rationale to explain, at least in part, the large effect sizes demonstrated for MDMA in treating PTSD.

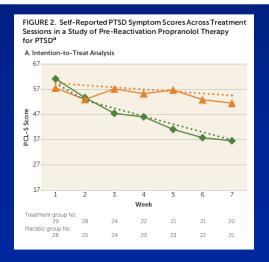
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Use of Propranolol to Promote Reconsolidation of Traumatic Memories

Reduction of PTSD Symptoms With Pre-Reactivation Propranolol Therapy: A Randomized Controlled Trial

Alain Brunet, Ph.D., Daniel Saumier, Ph.D., Aihua Liu, Ph.D., David L. Streiner, Ph.D., Jacques Tremblay, M.D., Roger K. Pitman, M.D.



American Journal of Psychiatry 2018: 175(5), 427-433

Memory Reconsolidation in the Context of Time-Limited Dynamic Psychotherapy

12

Viewing Psychodynamic/Interpersonal Theory and Practice Through the Lens of Memory Reconsolidation

Hanna Levenson, Lynne Angus, and Erica Pool

Table 12.1 The Eight Rs of Memory Reconsolidation

- Retrieve and reactivate old memories and associated feelings—with or without
 conscious awareness or intention.
- Concurrently, respond with (or facilitate awareness of) disconfirming (novel) knowledge that constitutes an experiential mismatch re-encoding old memories (emotional semantic structures) through reconsolidation.
- Repeat and reinforce the strength of new memories by facilitating new ways of behaving and experiencing the world in a variety of contexts.
- Reassess for shifts in client (e.g., more adaptive behavior, lack of reactivation, new understanding).

Corrective Emotional Experiences (Implicit) and New Insights (Explicit) in TLDP

1. FO	CUS ON RE-ENACTMENTS IN	N THERAPY
Activate	Novel Information	$Mismatch \rightarrow Reconsolidation$
	Implicit	
Emotionally learned pattern through transferential enactments	Therapist disembeds, unhooks through the therapeutic relationship	Corrective Emotional Experience
	Explicit	
Emotionally learned pattern through transferential enactments	Name, explore dyadic shifts; interpret	Emotional insight
2. FOCU	S NOT ON THERAPEUTIC RE	ENACTMENTS
	Explicit	
Emotionally learned pattern; semantic memory	Contradictory information/ knowledge	Emotional Insight
	Implicit	
Emotionally learned pattern; semantic memory	Novel delivery (nonverbal, prosody)	Corrective Emotional Experience

Example of a Recurrent Maladaptive Pattern: The Case of Becky

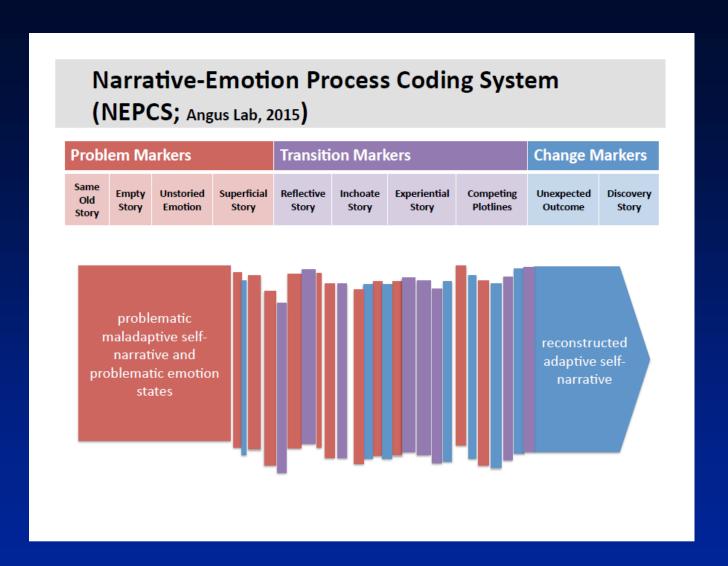
(Hanna Levenson – APA Video)

- Mother was alcohol dependent and Becky learned that she needed to attend to mother's needs and not her own
- Father was demanding and expected top performance
- Becky became perfectionistic and learned not to impose her needs on others for fear of rejection if she did
- She loved her boyfriend but he was often inconsiderate
- She kept her feelings to herself and often cried herself to sleep
- Therapy involved paying attention to her emotional pain, recognizing her needs, coming to feel that she was worthy of being treated well, and taking action in her relationships to increase the likelihood that her needs would be met

TLDP Video

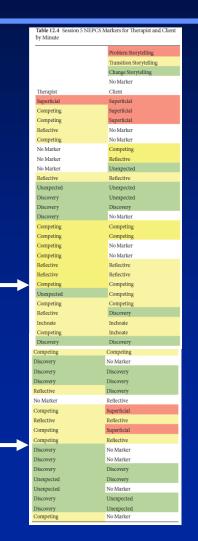
Illustration of Step 1:
 Activation of old memories and the associated painful emotion

• Illustration of Step 2: Corrective emotional experience



NECPS captures manner and quality of narrative organization and emotional processing in therapy sessions

Isomorphism Between TLDP, Memory Reconsolidation and Findings From the Narrative Emotion Process Coding System



- Session 5: Minute by minute NECPS coding of therapist and client
- NECPS markers capture the degree to which a person is stuck in the old pattern, transitioning, or discovering something new
- A narrative is a description of how experience is encoded, corresponding to a memory or schema
- A corrective experience constitutes a prediction error
- The findings from this independent coding are consistent with the conclusion that interactions in Session 5 facilitated change through MR

Comparison of Contemporary Account of CEE and Mark Solms' Neuro-Psychoanalytic Account

Table 12.2 Components and Specifications of the Corrective Emotional Experience (CEE)

- Client must have experienced traumatic events which were not dealt with successfully in the past.
- 2. Client must be re-exposed to these emotional situations.
- Reexposure must occur in more favorable circumstances.
- 4. Client must face the reexposure.
- 5. Re-exposure does not need to occur with therapist.
- Therapist (or another significant person) expresses an attitude different from that displayed by the person in the original event.
- 7. Client must handle or react to this novel situation in a different manner.
- May take repetitions before a new ending occurs.
- 9. Insight is neither necessary nor sufficient to bring about the CEE.
- Patient may have insight into this CEE, but the experiential component holds predominance.
- 11. Trauma becomes "repaired" in some way
- 12. Results of CEE should generalize.

- Working within the transference essential
- Focus is on insight, not new experience
- With the analyst's help, the patient becomes aware of the prediction that motivates the maladaptive behavior
- Through insight the patient understands where the behavior came from and now realizes it's not working
- New behavior is learned that outcompetes the old
- Vulnerability to relapse remains
- How is old painful emotion transformed to become tolerable (and not motivate the maladaptive behavior)?

Note: Modification of Sharpless and Barber (2012).

Corrective Emotional Experiences

or

Corrective Emotional Relationship?

Corrective Emotional Relationship

- Retains primary focus on the transference as the focal point of therapeutic interaction in psychoanalysis and PDT
- Bypasses conceptual baggage of CEEs
- Captures and highlights abundant, relevant implicit as well as explicit emotional processes in the therapeutic interaction
- Provides repeated emotional responses and experiences inconsistent with expectation while old memories and old feelings (transference) are activated, entirely consistent with how MR works
- Provides a plausible explanation for how emotion-laden schematic memories that are older, stronger and more differentiated can be *slowly* updated over time

How to Promote Memory Reconsolidation in Psychoanalysis

- The goal is to change the internal working model of social relationships
- Insight consists of understanding what the internal working model is, but understanding alone doesn't change the working model
- Talking about emotions without experiencing and expressing them does not change the emotional elements of the schematic memory
- New emotional experiences *update* the internal working model and thus change how future situations are construed and responded to e.g. instead of anticipated ridicule, shame and rejection the analyst responds with compassion, empathy and acceptance
- The implicit emotional messages inherent in an interpretation may matter more than the words used to promote insight
- Insight likely extends the gains achieved from new experiences

Case Vignette: First Two Sessions

The patient is a woman with a history of an incestuous relationship with her father. She has been in analysis less than a year with a male analyst. The analyst was about to go on vacation for three weeks. In the session, the patient said she had no plans for the coming days. The analyst asked why she didn't make plans to enjoy herself, but got little response. In the next session, the patient talked about how this time of year was a difficult one for her, because this is when the incest started. The analyst commented that he could see now that his question in the previous session about possibly making plans to enjoy herself was inappropriate, and she admitted that the question had made her angry and disappointed.

Case Vignette: Sessions 3 and 4

In the next session she reported that she had contacted an old boyfriend and had sex with him. The whole experience had been ugly - the place was unattractive and he was insensitive and too pushy. The analyst made a series of interpretations, pointing out, among other things, that the sexual experience reminded her of her experiences with her father, where she felt forced and out of control. He also pointed out that his insensitivity reminded him of how she might feel about the upcoming break.

In the next session - the last session before the break — she was in a good mood. She said she felt optimistic about how the break would go. She said it had been extremely important for her that she and the analyst could talk about her sexual experience and what it might mean in the context of their psychoanalytic work. She repeated several times that it had been "so good that we could talk about it," as if the talking had been more important than the content of their talk.

Case Vignette: The Analyst's Reflections

My question about making plans to enjoy herself was experienced by her as insensitive, as I failed to explore the reason for her foul mood at the time and unknowingly proposed a solution that didn't address the problem. By acknowledging what in retrospect was an error, it repaired the disruption in our connection and her sense of trust in me, which made it possible for her to share the events of the sexual encounter.

The sexual encounter was one that she felt was embarrassing and a bit impulsive. Therefore, her expectation was that she would be judged, shamed, and rejected. Instead, when I responded in a way that was corrective - not because of the interpretations per se but because of the indirect emotional effects of the interpretations - it helped her overcome her sense of shame and fostered her ability to feel that she was an acceptable and worthwhile, perhaps even lovable, human being.

My Commentary: Direct and Indirect Effects of Interpretation

When he responded as he did – interpreting the connection between the sexual encounter and her incestuous experience with her father (both of which were aversive but not explicitly described as such), and raising the possibility that her need for this sexual encounter was related to the anticipated extended interruption in the treatment – the interpretations had two effects. The first effect was to explain the meaning of her behavior, which is the traditional goal of interpretation and enables the construction of a new narrative. But this is not enough. The second set of effects was indirect and likely more important because they enabled the patient to have several different types of corrective emotional experiences.

Corrective Emotional Experience #1: His View of Her as Worthwhile and Understandable

First, he did not judge, reject or turn away from her in disgust. This was the inherent message of the interpretation: I don't reject you because your behavior was in fact motivated by factors of which you were not aware. It was necessary for the interpretation to be accurate because it validated the nonjudgmental nature of his response to her; there really was a way of understanding what she did related to past and current relationships. It was the indirect emotional meaning inherent in what he said that mattered – that she was an understandable and worthwhile human being whom he cared for -- not the explicit content of the interpretation per se.

Corrective Emotional Experience #2: His Indirect But Clear Message That He Cared About Her and Cared For Her

Second, he didn't attempt to soothe her directly, which if he had she might have experienced as overly intrusive given her previous experience of incest with her father. Rather, he conveyed sincere concern indirectly by recognizing that the interruption in their work together would have an important impact on her and was possibly affecting her current decision-making.

My Conclusion from this Vignette

What matters most is the nature or content of the emotions conveyed and activated in the inter-subjective emotional field between patient and analyst. The first step in the change process was achieved: old memories and old painful emotions were activated, as well as their reincarnation in the present. The validity or accuracy of the interpretation was important in several ways, not only because of the understanding it promoted. By connecting the present with the past, the old painful memory was reactivated.

The accuracy of the interpretation also proved that the analyst was really listening, really cared and was not judgmental. The caring and non-judgmental attitude conveyed in this exact context is what mattered most – it is the "end" made possible by the "means" of the accurate interpretation.

A Corrective Emotional Relationship Results From a Series of "Micro Corrective Experiences"

More generally, a treatment involves many experiences of this type in any given session. These encounters might be considered "micro corrective emotional experiences" because they are counter to expectation and positive (and thus corrective) and are "micro" because they may not even be explicitly registered or experienced in awareness by the patient in the moment.

But collectively they create what might be called the "corrective emotional relationship" – a new way of experiencing self with other. This is why she stated that it meant so much that she could discuss the sexual experiences with him but didn't comment on the value of the insights or new understanding per se.

Corrective Emotional Experiences Automatically Update Future Emotional Predictions

- A corrective emotional experience is unexpected and adds to the episodic experiences that comprise schematic memories
- What is experienced in interaction with the therapist becomes the basis for the client's predictions in future social contexts
- This means that CEEs directly change future construals and the Internal Working Model without the need for explicit interpretation or conscious understanding
- It's an illustration of how "a new way of experiencing self with other" can have transformative effects without interpretation

Freud's Concept of Nachträglichkeit

- In 1895 and 1896, when psychoanalysis began, Freud described memory retranscription and "deferred action:" "the pathogenic effect of a traumatic event occurring in childhood...[manifesting] retrospectively when the child reaches a subsequent phase of sexual development."
- Freud's theory of deferred action can be simply stated: memory is reprinted, so to speak, in accordance with later experience
- Freud used the concept again in the Wolf Man case (1918)
- Although he never offered a definition, much less a general theory, of deferred action, it is generally accepted that Freud viewed it as part of his conceptual repertoire

Nachträglichkeit After Freud

- Psychoanalysts have used the concept of "deferred action" to understand the transformative effect of interpretation on previous understandings and personal narratives
- The influence of MR could be broader as it could be the foundation for a model of ongoing and evolving emotional development
- One implication is for the concept of regression: past, present and future experience is always being interpreted through the lens of the current form of the internal working model
- Memory reconsolidation could potentially be used to describe a general model of enduring change within psychodynamic psychotherapy and psychoanalysis, explaining how both new experiences and new understanding promote change

Conclusions

- Freud deserves enormous credit for recognizing the importance of transference, the importance of emotion-memory interactions in pathogenesis and treatment, and the malleability of memories
- These seminal observations and insights can be updated from a neuroscientific perspective:
 - Predictive processing is ubiquitous; all relationships are necessarily viewed through the lens of past experiences
 - Schematic memories are sufficiently complex to capture the maladaptive patterns that are a primary treatment focus in psychodynamic psychotherapy and psychoanalysis
 - Emotion preferentially influences both the encoding and content of memories, as well as future predictions, and this interaction should be optimized for therapeutic benefit

Conclusions

- Memory reconsolidation alters the problematic schematic memory itself, creating the basis for enduring change, which is a hallmark of psychodynamic psychotherapy and psychoanalysis
- Take Home Messages (for psychoanalysts):
 - Consider whether enduring change can occur by working on transforming emotions within "outside" relationships
 - Interpretations may work primarily through the implicit emotional messages conveyed
 - Reconsolidation of memories may be more foundational for healthy development, pathogenesis and treatment than even Freud realized

Lectures 10-12

- Lecture 10: June 6 Research implications
- Lecture 11: June 13 New research findings
- Lecture 12: June 20 The place of psychoanalysis in relation to other psychotherapy modalities