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

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Introduction

From his early days as a neurologist to his work on repetition compulsion toward the end of his life, Freud was focused on memory and its role in psychopathology. In his 1895 *Project for a Scientific Psychology* (one of his working titles had been "The Psychology for Neurologists"), he attempted to lay out an integrated model of the mind and brain (Masson, 1985). As the renowned neurologist Oliver Sacks wrote in his posthumously published collection of essays, *The River of Consciousness* (2017), "remembering, for Freud . . . was essentially a dynamic, transforming, reorganizing process throughout the course of life . . . no one was more sensitive than Freud to the reconstructive potential of memory, to the fact that memories are continually worked over and revised and that their essence, indeed, *is* recategorization" (Sacks, 2017, p. 97). Modell (1996), writing on trauma, memory, and the therapeutic setting, said that "Freud believed that psychopathology resulted when something interfered with the process of *retranscription* of memory" (Modell, 1996). In a letter to Fleiss in 1896 (Masson, 1985), Freud defined this "retranscription" as "memory traces being subjected from time to time to a *rearrangement* in accordance with *fresh circumstances*. Thus what is essentially new about my theory is the thesis that memory is present not once but several times over" (emphasis added, p. 43). Today with technical and conceptual advances in neurology and brain science, Freud's ideas about the modifiability of memory can be examined experimentally.

The impetus for the present chapter comes from a publication by Lane and colleagues (2015) dealing with change in psychotherapy and a neurobiological mechanism called *memory reconsolidation* (MR), which in some significant ways sounds amazingly similar to the *retranscription process* outlined by Freud. While the basic MR process has been studied in animals and humans for the past

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few decades (Elsey,Van Ast, & Kindt, 2018; Lee, 2009; Schiller & Phelps, 2011; also see Chapter 11 of this volume), only recently have clinical researchers been exploring whether reconsolidation might provide a common factor through which to understand how enduring change occurs in psychotherapy.

The goals of this chapter are:

1. To make the case that the procedure for MR is compatible with the theories, strategies, and interventions of modern psychodynamic psychotherapy.
2. To suggest that the psychodynamic concept of the corrective emotional experience (CEE) can be seen as part of a MR process.
3. To explore how the CEE/MR process pertains to both transferential and nontransferential situations.
4. To apply the MR paradigm to an empirical study of CEE in Time-Limited Dynamic Psychotherapy (TLDP).
5. To suggest that MR is a framework psychodynamic therapists could use intentionally to foster enduring change more effectively and efficiently.

The Memory Reconsolidation Procedure

To understand emotional MR, we would like to be clear on what is meant by the word "memory." When psychodynamic clinicians refer to memory, they are often thinking of *episodic memories*. ("I remember when I was 10 years old waiting alone for an hour for Dad to come pick me up from a swimming lesson—it was the longest, most terrifying hour of my life.") Such memories are usually personal, imbued with emotion and detail about the time and place of occurrence, and when people explicitly recall such episodic memories they have the subjective experience of remembering (Tulving, 2005).

Another type of memory, *semantic memory* is concerned with our explicit knowledge of various aspects of the world and our experiences in it. This can include facts ("I know an Olympic-size pool is 50 meters."), concepts ("What's a 'lap'?"), summaries of personal information ("Dad picks me up from swimming every Saturday."), roles ("I'm the swimmer in the family,") and traits ("I am a powerful swimmer").

While episodic and semantic memories were often thought to operate as independent systems in different parts of the brain, recent research has suggested that the differences between episodic and sematic memories and their retrieval are not so distinct. Instead they may occur along a processing continuum (Ryan et al., 2008)—even interacting with one another in a complementary manner (Lane et al. 2015, p. 13). Over time, personal episodes in one's life are thought to

coalesce into a generalization of autobiographical memories, or what has been called *personal semantics* that reflect knowledge about the self that has been distilled from life experiences (Grilli & Ryan, Chapter 8 of this volume).

For this chapter, we assume that in addition to the things previously noted, personal semantic memories also contain the implicit learned rules, behavioral patterns, and personal meanings repeatedly experienced in the context of similar event memories linked to emotion over time and in different contexts. ("Dad doesn't pick me up on time, which leaves me with a sense that I must not be very important not only in his eyes but in general.") These personal semantic memories or themes of a generalized model of what one can expect of self and other in the world can be thought of as emotional learnings. These overgeneralizations are internalized and often operate out of conscious awareness. They can be a major reason why people experience symptoms, feel guilt and shame, and have relational difficulties—they are often why people come to therapy. Such emotional learnings have great clinical relevancy as targets for change through MR.[1]

What is MR? When a learning experience takes place, newly formed memories are stabilized in a process called "consolidation," remaining in long-term memory until they are recalled (with or without conscious awareness; McGaugh, 2000). When a personal semantic memory (or emotional learning or schema) is reactivated, it is thought to undergo a transiently malleable stage, allowing it to be modified, strengthened, or even erased (Nader, Schafe & Le Doux, 2000; Przybyslawski, & Sara, 1997).[2] Such changes to a reactivated memory can be accomplished by introducing new discrepant information while the memory is labile (Hupbach, Hardt, Gomez, & Nadel, 2008). When the old memory is *re*consolidated (a process of restabilization into long-term memory), it is thought to incorporate some of the new experience permanently altering the old memory. If the new situation is highly similar to the old one, the reactivated old memory may be strengthened ("My father is late again; I'm really not worth the trouble."), but if the new information is *experienced* as discordant with the old memory this new information may experientially transform the old schema permanently. ("As I am upset thinking about how my father doesn't care about me, I remember all the times he was stretched thin taking care of both me and my sick mother. And as I hold these two 'truths' at once, I see that he *does* care about me, and I, therefore, no longer feel worthless.") In this case, the old emotional

[1] In addition to the categories of memories leading to confusion, there is also more than a tendency for people to think of "a memory" as a formed bit of data stored somewhere in the brain. However, memories are more accurately "represented in your brain . . . as patterns of firing neurons, and 'recall' as a cascade of predictions that reconstruct the event" (Feldman-Barrett, 2017, p. 237).

[2] There is some debate as to whether the "mere" reactivation of a memory destabilizes it or if a "mismatch experience" (i.e., prediction error) during reactivation is what leads to malleability (Ecker, 2017; Lane et al., 2015; Sevenster et al., 2014).

learning that resulted in a schema of worthlessness, has been potentially changed forever and, with it, the person's negative expectations, symptoms, and self-appraisal of worthlessness.[3]

Recent thinking suggests that MR, particularly regarding the semantic, emotional aspects of memory, might be a crucial underlying mechanism of change in all psychotherapies (Ecker, 2017; Lane et al., 2015; Pedreira et al., 2004; Welling, 2012). This underlying process of therapeutic change appears to be predicated on the "juxtaposition" (Ecker et al., 2012) of old emotional reactions, meanings, and other semantic content, with a *mismatching* set of new learnings (i.e., prediction error; Sevenster et al., 2014), ideally allowing the brain to "update" problematic semantic content with hopefully healthier, more adaptive schemata.

While the neurological process of MR is not confined to emotional updating (e.g., MR has been shown to occur with recalling nonsense syllables and object recognition; Winters et al., 2009), the focus of change in therapy almost always involves emotion. However, the input or facilitating condition ("novel response") provided by the therapist *does not need to* contain explicit emotional content (Ecker, 2017; Lane et al., 2015), but in the context of the old schema, is thought to acquire new emotional significance for the client. For example, with our swimming client, she knew "as a fact" that her father was her mother's main caretaker, but it wasn't until she recalled this in the context of feeling worthless, that this "fact" (summarizing a rich array of semantic autobiographic memories) took on deep *emotional significance* and was able to undermine and transform her previous schema of worthlessness.

The research literature indicates that there are some ambiguities about the specifics of the MR process (Winocur & Moscovitch, 2011) and complexities in facilitating MR (Elsey & Kindt, 2017; Elsey, et al., 2018; Treanor et al., 2017); however, our intent is to present a general model of the MR process that can be examined from a psychodynamic viewpoint. Lane and colleagues (2015) state that what is crucial for change in psychotherapy is "the juxtaposition of maladaptive emotional reactions and expectations with the novel response of the therapist, leading to a new emotional experience that is then incorporated into the existing memory structure" (p. 17). These authors hold that emotional responses, autobiographical memories, and semantic structures are all impacted since they do not operate independently of one another; not only are the feelings associated with these personal experiences transformed, but so are the "rules," expectations, and relationships between ideas. This is of great relevance for clinical work since so many symptoms and interpersonal struggles that bring clients

[3] It should be mentioned that research using MR-based procedures for more chronic and stronger memories in humans is in its infancy (Elsey & Kindt, 2017).

Table 12.1 The Eight Rs of Memory Reconsolidation

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

Note: Modification of Lane et al. (2015) and Ecker (2017).

to therapy involve painful, faulty, or maladaptive working models of the self in relationship to others.

Based on what we perceive to be some consensus among those writing on the subject, we have enumerated the essential ingredients—what we are calling the eight Rs—of MR (see Table 12.1).

Psychodynamic Orientation and the Corrective Emotional Experience

"Psychoanalysis could rightfully lay claim to being the earliest example of an organized and secular talk therapy oriented toward the alleviation of human suffering" (Sharpless & Barber, 2012, p. 47). However, jaded by how long analyses were taking with disappointing results, Alexander and French (in the middle of the last century), built upon the work of others to develop the concept of what they termed *the corrective emotional experience*. Instead of focusing on interpretations leading to insight as the curative factor (as was prevalent in psychoanalysis at the time), Alexander and French opined that the patient needed to *experience* an *unexpected* outcome—the therapist needed "to give the patient the conviction that a new solution is possible and induce[s] him [sic] to give up the old neurotic patterns" (Alexander & French, 1946, p. 115). They stipulated that this new outcome could best (but not only) occur within the cauldron of the therapeutic relationship (Alexander & French, 1946):

> Because the therapist's attitude is different from that of the authoritative person of the past, he [sic] gives the patient an opportunity to face again and again, under more favorable circumstances, those emotional situations which were formerly unbearable, and to deal with them in a manner different from the old.

> This can be accomplished only through actual experience in the patient's relationship to the therapist; intellectual insight alone is not sufficient. (p. 115)

Palvarini (2010) stated that although classical psychoanalytic technique valued and made technical use of the similarities between the "ancient conflict" and the re-enactments in the transference, it undervalued the importance of experiencing the therapist in a different (and healthier) way. Again, in their own words, Alexander and French (1946) are quite explicit:

> The intimidating influence of a tyrannical father can frequently be corrected in a relatively short time by the consistently permissive and pronounced encouraging attitude of the therapist but only after the patient has transferred to the therapist his typical emotional reactions originally directed toward the father. (p. 114)

Over time, the role of the CEE has only grown in importance. In interpersonal therapies, these corrective experiences are considered to be "the core relational factor for change" (Teyber & Teyber, 2014, p. 335), and the therapist's ability to function as a new object for the client is seen as a key mechanism of change (Christian, Safran, & Muran, 2012).

Along with this shift, the manner in which the CEE is thought to occur has become more relational and bidirectional. Modern relational psychodynamic theory holds that initially patients implicitly recruit their therapists to act like people in their originally conflicted situations—beckoning them to dance to the tune of the old emotional learnings (e.g., echoing some of the tyrannical father's behaviors and attitudes). From this more reciprocal frame, the therapist is thought to get "hooked" (Kiesler,1988) into playing out a complementary role to that of the client's through the client's interpersonal pushes and pulls. Thus, client and therapist unconsciously re-enact dysfunctional relational scenarios.

Of course, the therapist cannot continue to engage with the client from this hooked position for the entire therapy. Rather, the therapist must recognize his or her involvement in the reenactment of an old scenario with the client and to "gradually disembed (or extricate) from the relational scenario, so the therapeutic relationship can ultimately function as a new relational experience rather than a repetition of an old one" (Christian, Safran, & Muran, 2012, p. 62). "In a sense, the clients' job is to take you hostage into their past and our job is to elude capture, while naming what is happening and remaining supportive in the process" (Cozolino, 2016, p. 111). In neuroscientific terms, one could think of this "disembedding," "eluding capture," and "remaining supportive" as *implicit* new "contradictory" (i.e., not predicted on the basis of previous emotional learning) behavior, while "naming what is happening" (i.e., interpretation) symbolizes the

new emotional experience as an *explicit* new piece of personal information about the self, which is designed to enable further reflection and narrative integration.

It is this experientially based, disembedding experience that challenges the client's maladaptive relational schemas or internalized working models (i.e., semantic memories) and becomes a key ingredient in the MR process (i.e., the new experience). In this modern version of the CEE, therapists don't unilaterally have to figure out what new roles should be played to disconfirm the client's core conflicts, but they do need to figure out what are the dysfunctional reenactments that might be occurring and how to unhook in a way that is within their customary and usual therapeutic stance.

As part of this paradigm shift, therefore, the therapist's initial participation in the reenactment of the patient's core dynamic is desirable. From the vantage point of modern relational psychotherapy, we may understand the re-enactment as a form of empathy (Levenson, 1995) or role-responsiveness (Sandler, 1976) in which the therapist gets to have a taste of what others may experience in interacting with the patient. This modification of Alexander and French's CEE is now accepted widely by contemporary psychoanalytic theorists (Sharpless & Barber, 2012).

The effects of this more emotional, interpersonal emphasis also influenced the types of brief dynamic therapy that started coming to the fore. No longer did drive theory with its dynamic unconscious and motivated repression hold sway; rather more modern (or what Levenson, 2017, calls the "4th generation") short-term psychodynamic models took hold. These are models that assimilate concepts and/or techniques from a variety of sources (e.g., somatic focusing from Gestalt therapy, homework from cognitive-behavioral therapy, heightening emotion from emotion-focused therapies). They also emphasize in-session experiential factors as critical components of the therapeutic process and formulate according to attachment-based strivings. Furthermore, theoreticians who originate modern brief therapy approaches do not shy away from empirically investigating therapy process and outcome. Later in this chapter, one such modern approach, TLDP (Levenson, 2017; Strupp & Binder, 1984), will be used as an illustration of how the CEE can be viewed through the lens of MR (or vice versa).

Memory Reconsolidation and the CEE

When one examines specifications of French and Alexander's CEE against the modern definition of MR, the parallels are striking. The essential elements of French and Alexander's concept of the CEE are contained in Table 12.2. Comparing Tables 12.1 and 12.2 highlights the procedural isomorphism of the concepts. In both the CEE and MR paradigms, we see the requirement of the

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

1. 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.
3. Reexposure must occur in more favorable circumstances.
4. Client must face the reexposure.
5. Re-exposure does not need to occur with therapist.
6. 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.
8. May take repetitions before a new ending occurs.
9. Insight is neither necessary nor sufficient to bring about the CEE.
10. 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.

Note: Modification of Sharpless and Barber (2012).

client's being reminded of the target memory (emotional learning). In the case of the CEE, the client's life-long, interpersonal schema (emotional semantic memory) is usually activated *implicitly* by the client's ongoing relationship with the therapist (e.g., through the transference–countertransference process the client is repeatedly reminded of his tyrannical father). To create the mismatch experience, the therapist creates a novel situation by assuming/expressing a sufficiently *different attitude* (i.e., the *disconfirming knowledge*). Rather than interpreting the client's "inappropriate behavior" (e.g., "Don't you see that you are acting as if I were your father?"), the therapist disembeds from the role into which he or she is being recruited (e.g., tyrannical father), and simultaneously implicitly invites the client to join him or her in a new relationship experience where the therapist can be experienced as caring and supportive (e.g., nonfather like).

It is specified in both CEE and MR, that repetitions of this process may be needed,[4] and that the client must show evidence that his or her old emotional

[4] In their paper on how to optimize reconsolidation-based interventions, Elsey and Kindt (2017) point out that especially for strong and old memories further treatment sessions may be needed to increase the benefit.

learning (e.g., placating behavior learned as a child's response to the tyrannical father) has been transformed (e.g., more assertive behavior in session), which then is expected to generalize to other contexts (e.g., more assertive behavior at work). Thus, the CEE looks to be a specific (i.e., implicit, relational) form of MR, in which the new "disconfirmation" of the MR process is the relational, *felt* experience.

As Gabbard (2006) put it, "a new attachment relationship [can] be useful for many patients in restructuring attachment-related implicit memories" (p. 297). Psychoanalysts and theoreticians have long recognized (while not necessarily being cognizant of the neuroscientific substrates) that procedural and affective experience can be reorganized through noninterpretive mechanisms—such as "implicit relational knowing" (Lyons-Ruth, 1998) or, more simply put, the "something more than interpretation" (Stern, 2005).

However, there is also another type of juxtaposition in MR, when the presenting symptoms or underlying patterns are not so directly played out in the client–therapist relationship. In such cases, the mismatch experience does not occur implicitly, but *explicitly*. These more explicit, verbal strategies might take the form of an interpretation of something that just happened in the session, or bringing into awareness some fact or facet of the person's experience that is not being emotionally attended to or embraced. These interventions, according to the MR paradigm, also need to be introduced while the semantic memory is activated. This type of explicit disconfirmation fits within a more *generalized view of corrective experiences* (as compared to the more specific one of Alexander and French) that Castonguay and Hill (2012) define as

> ones in which a person comes to understand or experience affectively an event or relationship in a different and unexpected way. . . . This definition stresses, however, that such events are not just typical helpful events in therapy but that they are surprising or disconfirming of past experiences and often have a profound effect. (pp. 5–6)

For example, while the client is emotionally recalling how ashamed he is for not standing up to his tyrannical father (reactivation of the old emotional learning), the therapist reminds[5] him, "You were just a child." At this point this obvious, but previously unembraced "truth," pointing out how young (and powerless) he was, is now explicitly at odds with his age-old "shameful truth" ("I should have stood up to him"). Such a juxtaposition has the potential to set in

[5] This "reminding" can occur in a variety of ways (by the therapist's saying it, helping the client to grasp it, creating conditions to foster recognition, etc.). What is critical is that the client experience the emotional impact of it as disparate with his previously held belief.

Table 12.3 Two Types of Juxtapositions for Memory Reconsolidation in Psychodynamic Therapy

1. FOCUS ON RE-ENACTMENTS IN THERAPY		
Activate	**Novel Information**	Mismatch →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. FOCUS NOT ON THERAPEUTIC REENACTMENTS		
	Explicit	
Emotionally learned pattern; semantic memory	Contradictory information/ knowledge	Emotional Insight
	Implicit	
Emotionally learned pattern; semantic memory	Novel delivery (nonverbal, prosody)	Corrective Emotional Experience

motion a profound experiential transformation (via MR) of his model of the way his relational world works.

Table 12.3 contains a structure for thinking about the two types of juxtapositions involved in MR from a psychodynamic point of view. When the focus is on re-enactments in the therapeutic relationship, *implicit novel experiences* within the relationship can create a mismatch, and when the focus is not on reenactments, *explicit understandings* can create a mismatch.[6]

For each of these two types of juxtapositions, we are suggesting there is a corresponding additional implicit or explicit aspect. In the case of the implicit relational, the therapist can also state the mismatch (e.g., this person does not

[6] Ecker (2017) takes the stance that explicitness of new and old learning increases the therapist's confidence that juxtapositions are occurring (p. 115). However, upon further questioning, he clarifies that "conscious awareness is a *pragmatic* necessity for maximally consistent clinical facilitation of juxtapositions, but is not a fundamental *neurological* necessity" (personal communication, December, 2017).

feel like my father) *explicitly.* In this way, the out-of-conscious awareness juxtaposition through the transference–disembedding experience is brought into sharp conscious recognition by explicit verbalization. Thus, the client gets both an implicit and an explicit juxtaposition experience, hopefully leading to further awareness and depth of the changed emotional learning, catalyzing more emotional recognition.

And just like making the implicit explicit, making the explicit implicit (bottom of Table 12.3) may help facilitate and/or add to the power of the MR. For example, the *explicit* statement, "You were just a child," can be delivered in a soft voice, with simple words, and a slow pace in sharp contrast to the tyrannical father's hostile tone—providing another opportunity for a contradictory new emotional learning—this time a *felt experience*.

Time-Limited Dynamic Psychotherapy: From an MR Perspective

Let's take a look at a modern relational psychodynamic approach from the MR perspective. Strupp and Binder (1984) formalized the principles of TLDP in their treatment manual for therapy with "difficult patients" who present challenges for therapists because of their demanding interpersonal styles. Ten years later, Levenson (1995) published *Time-Limited Dynamic Psychotherapy: A Guide to Clinical Practice,* which set forth TLDP principles and strategies for formulating and intervening in pragmatic, clinician-accessible ways. In that text, she placed more emphasis on experiential learning as a major change agent, rather than on insight through interpretation.

In *Brief Dynamic Therapy* (Levenson, 2017), the role of experiential learning is even more prominent; attachment theory provides motivational scaffolding for TLDP's interpersonal frame, and the role of emotions in driving dysfunctional interpersonal scenarios has been highlighted. This revised version of TLDP can be seen from three related vantage points. Specifically, *attachment theory* helps explain why people behave as they do—what motivates them. From "cradle to grave" (Bowlby, 2008), people are hard-wired to turn toward others (especially in times of stress) for a sense of *felt security* (Sroufe & Waters, 1977). The *experiential-affective* emphasis focuses on the therapeutic process of change—what needs to shift for change to occur. Research has shown that depth of emotional experiencing in therapy has been related to positive outcomes across theoretical orientations and across disorders (Greenberg, 2012; Thoma & McKay, 2014; Whelton, 2004). And the third component of the model—the *interpersonal-relational frame*—takes into account what is being contributed independently and synergistically by both client and therapist. "Relationships

are a fundamental and necessary building block in the evolution of the human brain" (Cozolino, 2014, p. 13). Furthermore, the intertwined nature of dyadic attunement and emotional awareness/regulation further underscores the role of interpersonal processes as the foundation of mental health (Siegel, 2012). Succinctly put, TLDP combines a psychodynamic–interpersonal–experiential, attachment-based framework, which also contains behavioral, systems, and cognitive components, to achieve fundamental changes in intrapsychic and interpersonal functioning.

There are two major goals in TLDP: the client's (a) having *new experiences* of one's sense of self and others and (b) having *new understandings* about self and interpersonal patterns. The first goal, experiential learning, involves healthier, more functional, relational interactions that challenge cyclical maladaptive patterns (CMPs) and promotes a more positive, less defended, expansive sense of self as well as more positive expectations of others' behaviors, hopefully leading to more adaptive responses from others according to the reciprocal dynamics involved in social behavior (Kiesler, 1988; Wachtel, 2009; Wachtel et al., 2005).

With the second TLDP goal of new understandings, clients come to reflect on and make meaning of their sense of self (intrapersonal) and emotional/relational experiences with others (interpersonal). In both cases, clients come to "reflect on their heretofore unacknowledged or misunderstood emotional experiences to make meaning where none previously existed and/or to recast old meanings into more fruitful, more fully coherent narratives" (Levenson, 2017, p.65). In this way, clients can identify and comprehend how they developed and maintained their own sense of self and ways of interacting with others often at the detriment of their own sense of well-being.

Overall, TLDP takes a nonpathologizing position. Rather than frame clients as "sick," it sees them as "stuck" in cyclical interactive patterns, learned implicitly. What worked and made sense earlier in life as a way to feel as safe and secure as possible—an adaptive solution—(e.g., a child's placating an aggressive father), now as an adult has become problematic (e.g. a submissive stance in life).

Formulation in TLDP is done through the process of discerning such CMPs about which the client may or may not be aware to various degrees. The CMP describes a dynamic interlocking of the client's inflexible, self-perpetuating behaviors, thoughts, and feelings; self-defeating expectations; perceptions of others' behaviors; and negative self-appraisals. In addition, the CMP is used to develop the goals for the therapy—specifically, what new experiences and what new understandings does the client need to shift the CMP. The client's progress and outcome in TLDP are judged by the degree he or she has evidenced new (less distressing) experiences of self, new (more rewarding) interactional changes with the therapist and with others, and new understandings about his or her dynamics.

TLDP's theory, way of formulating, devising goals, and strategies for intervening fit amazingly well with the MR paradigm, although developed independently. From the perspective of the MR paradigm, the CMP outlines the semantic memory linked to emotional responses and relevant autobiographical memories (old emotional learning) creating what has been referred to as emotional semantic memory (see Chapter 8 of this volume), and the goals of new experiences and new understandings represent the implicit and explicit novel, mismatches, respectively.

Tracking Memory Reconsolidation in TLDP: An Empirical Study

Narrative-Emotional Processing Coding System (NEPCS)

While TLDP is quite amenable to the MR process, it is critical to see if such a process could be systematically evaluated in actual TLDP sessions. Elsey and Kindt (2017) make the excellent point that "there is great value in exploratory clinical work aimed at gleaning insights into how best to perform memory reactivation sessions in a wide range of clinical cases, even if these do not conform to the gold standard of a randomized controlled trial" (p. 477).

In looking for process measures that might be applicable for describing MR, the NEPCS (Angus et al., 2017) seemed like a good fit as it was designed to capture both the manner and quality of narrative organization and emotional processing that are represented in therapy sessions (Angus & Greenberg, 2011). In addition, it integrates key process dimensions such as client self-reflectivity (Klein et al., 1986), expressed emotion, and autobiographical memory specificity (Boritz et al., 2008, 2014), all of which involve essential ingredients of the MR paradigm.

In brief, the NEPCS is a transtheoretical, observer-based coding system that is designed to reliably identify 10 distinct client narrative-emotion process markers that differ in the degree to which clients disclose specific autobiographical memories; symbolize bodily felt experience; express emotion; reflect on their own or others' minds and behaviors; coherently integrate actions, emotions, and personal meaning; and articulate self-narrative identity change. Based on empirical findings (Angus et al., 2017), the 10 process markers have been further clustered into three subgroups—Problem, Transition, and Change markers.

NEPCS Problem Markers

Problem markers refer to overregulated or unintegrated emotion within client storytelling episodes that are often incoherent, rigid, undifferentiated, or repetitive. They include *Same Old Storytelling* (SOS)—repetitive, unproductive

intrapersonal and interpersonal storytelling, emerging from semantic autobiographical memory activation, that signifies stuckness in negative emotional reactions and CMPs; *Unstoried Emotions*—states of undifferentiated affect and unregulated emotional states; *Empty Storytelling*—clients' detailed recounting of personal events that are stripped of lived emotional experience; and *Superficial Storytelling*—talking about events and hypothetical situations involving others in a vague, abstract manner with limited internal self-focus, and low experiencing levels.

NEPCS Transition Markers

In contrast to Problem markers, NEPCS Transition markers—*Reflective, Competing Plotlines, Experiential*, and *Inchoate Storytelling*—demonstrate client movement towards greater narrative and emotion integration through heightened self-reflection and the expression of differentiated emotional responses within the context of more coherent, specific, personal narratives.

NEPCS Change Markers

Finally, NEPCS Change markers capture evidence of demonstrated client change and can include reports of new interpersonal responses and emotions (*Unexpected Outcome Storytelling*), accompanied by feelings of relief, joy and surprise that directly challenge the negative expectations of the client's *SOS*. The emergence of a more flexible, coherent, emotionally differentiated view of self and self-narrative reconstruction (*Discovery Storytelling*) marks a significant shift in the client's cyclical maladaptive emotion scheme. Accordingly, client engagement in NEPCS change markers not only indicates the occurrence of tacit experiential change processes in therapy sessions and significant personal relationships but also represents the explicit articulation of a more compassionate, agentic view of self and adaptive self-narrative reconstruction (Angus & Greenberg, 2011; Angus & Kagan, 2013; Paivio & Angus, 2017), that instantiate new preferred ways of being in the world.

NEPCS as a Measure of MR

Juxtaposing Lane et al.'s (2015) description of the MR paradigm with the definitions of the NEPCS readiness for change marker subgroups (Problem, Transition and Change) makes the relevancy of the NEPCS for measuring MR clearer. Specifically, the NEPCS **Problem markers** (the SOS in particular) can be viewed as referring to the old emotional semantic memories (schema), which may constitute a maladaptive or pathological world view largely held out of conscious awareness (Lane et al., 2015).

The client's heightened experiential engagement, self-reflection and the emergence of discrepant, positive experiences of self/others (NEPCS **Transition markers**) can be seen as representing new emotional reactions and understandings that potentially could pose a mismatch to the old memory once it has been reactivated (Lane, et al., 2015). The transition marker of *Competing Plotline Storytelling* is particularly relevant for the MR process. This coding is used when clients appear challenged to integrate and understand a new awareness of emotional and behavioral outcomes that are *discrepant* with the expectations of their *SOS*. Importantly, when clients first encounter a new emotional, behavioral, or reflective awareness of self/others that destabilizes core assumptions of their SOS, they often first report feeling puzzled and confused which are not only key indicators of *Competing Plotline Storytelling* in therapy sessions (Paivio & Angus, 2017), but also clear indications to the therapist that perceived novelty is occurring as a part of the MR process (Ecker, 2017).

And finally, the **Change markers** can be seen as pertaining to new emotional reactions and understandings that have been "updated" via MR. In the clinical situation, this updating would hopefully replace maladaptive schemas with more adaptive ones (Lane et al., 2015). Of particular note is that the Change marker, *Unexpected Outcome Storytelling*, contains essential elements—the client's surprise, pride, relief, and contentment—that are often used as key indicators of a successful outcome from a MR experience. Thus, although the NEPCS was devised without knowledge of the MR process, it independently seems to capture and cross-validate key elements of MR processes.

MR Activation and Self Narrative Change in TLDP: The Case of Becky

One of us (Levenson) had conducted a six-session demonstration of TLDP for the American Psychological Association's (APA; 2008) Theories of Psychotherapy Video Series. The client for this demonstration "therapy" was Becky, a 25-year-old, attractive, single, White woman who was seen for six sessions over a 3-month period on a sound stage, with bright lights and three cameras (Levenson, 2017). To further understand the occurrence and pattern of MR processes in TLDP, the NEPCS was applied to the video-recordings of Becky's therapy.[7]

[7] Levenson (2017) has elucidated that the six-session limit for this demonstration therapy was set by APA and was "not set up to be a complete brief dynamic therapy. . . . Nonetheless, I think the work effectively illustrates many of the concepts and interventions of a modern brief dynamic therapy" (p. 94).

Becky presented in the first session as anxious about passing her graduate exams and stressed about juggling her full-time job, school, and a romantic relationship. Nonetheless, she appeared quite cheerful and pleasant. As the therapy unfolded, she became aware of how as a child she took care of her alcoholic mother and appeased her father and now, as an adult woman, was stifling her own desires/feelings to accommodate to what she perceived as her boyfriend's needs. It became evident that she was operating according to an implicitly learned set of rules (semantic memory) in which she needed to give to others but not to express her own needs or feelings due to a fear of rejection and abandonment because she was basically unlovable. Over the course of the therapy, Becky came to recognize how this SOS/maladaptive interpersonal pattern infiltrated every part of her life.

Additionally, Becky also began to understand how the activation of key semantic autobiographical memories from her childhood sustained her fear that she would be rejected if she spoke her mind and revealed her inner self to others (*SOS*), despite a deep longing to connect with others. Her new relational experiences in therapy (e.g., feeling that her therapist saw her as a valuable person) and outside (e.g., asserting her needs to a friend with positive outcomes) formed *Competing Plotline Storytelling Transition markers*. As the work continued, Becky grappled with her heightened awareness of the emotional costs of remaining emotionally distant from others and was replaced by a new, more compassionate view of self (*Discovery Story Change marker*) that supported engaging in more rewarding interpersonal actions with others and the emergence of a new view of self and others by the end of treatment.

Accordingly, to further investigate both client and therapist contributions to MR processing in TLDP, the NEPCS was systematically applied to a transcript of session 5 of Becky's videotaped therapy, in which previous research had confirmed the presence of CEEs (Friedlander et al., 2018). In particular, three coders, one of whom was the creator of the NEPCS (Angus), used the marker categories to code both client and therapist dialogue identified in each 1-minute segment of the therapy session.[8] Table 12.4 lists the occurrence of the ten NEPCS codes over time shaded to reflect the three major marker subgroups of Problem, Transition, and Change. As reflected in Table 12.4, both therapist and client contributed to a dynamic interplay of Transition and Change marker shifts in session 5 that encompassed (a) identifying (*Unexpected Outcome Storytelling*)

[8] This was the first time that the NEPCS had been applied to coding the therapist's responses. Ratings for therapist statements indicated excellent interrater reliability (92% and the few coding disagreements were discussed and decided by 100% consensus). The validity and reliability of using the NEPCS in this way will need to be demonstrated in future work.

Table 12.4 Session 5 NEPCS Markers for Therapist and Client by Minute

	Problem Storytelling
	Transition Storytelling
	Change Storytelling
	No Marker
Therapist	Client
Superficial	Superficial
Competing	Superficial
Competing	Superficial
Reflective	No Marker
Competing	No Marker
No Marker	Competing
No Marker	Reflective
No Marker	Unexpected
Reflective	Reflective
Unexpected	Unexpected
Discovery	Unexpected
Discovery	Discovery
Discovery	No Marker
Competing	Competing
Competing	Competing
Competing	No Marker
Competing	No Marker
Reflective	Reflective
Reflective	Reflective
Competing	Competing
Unexpected	Competing
Competing	Competing
Reflective	Discovery
Inchoate	Inchoate
Competing	Inchoate
Discovery	Discovery

(*continued*)

Table 12.4 Continued

Competing	Competing
Discovery	No Marker
Discovery	Discovery
Discovery	Discovery
Reflective	Discovery
No Marker	Reflective
Competing	Superficial
Reflective	Reflective
Competing	Superficial
Competing	Reflective
Discovery	No Marker
Discovery	No Marker
Discovery	Discovery
Unexpected	Discovery
Unexpected	No Marker
Discovery	Unexpected
Discovery	Unexpected
Competing	No Marker

Note: NEPCS, Narrative-Emotional Processing Coding System.

and reflecting on (*Reflective Storytelling*) the impact of new intra/interpersonal experiences in and outside therapy and (b) articulating a new, more agentic and compassionate view of self (*Discovery Storytelling*)—key experiences involved in MR transformation. An illustrative vignette with codings from Session 5 follows.

Becky: I think if I didn't have those walls I wouldn't be the person I am today either (*Reflective Storytelling Transition* marker) . . . a value that I think is important, to be able to recognize that you are who you are because of what you've done and the relationships you've had in your past. And it doesn't make you a bad person, or wrong, it just makes you the person you are, and if you want to change, you have to recognize that there are things you need to change (shift to *Superficial Problem* marker, not focused on self, lacks emotional connection).

Therapist: So can I have you say something? *(Yes)* And as you say it, I want you to like own it (explicitly inviting a shift to an *Incohate Storytelling Transition* marker). (*Okay.)*

Therapist: And I want you to see how your body feels. (again, explicitly inviting a shift to an *Inchoate Storytelling Transition marker)* [Say,] "I am a valuable person."

Becky: (tearing up) I am a valuable person.

Therapist: Say it again. (Therapist's intent is to heighten Becky's awareness of the depth of emotion attached to this belief with the ultimate goal of fostering her awareness of her own contradictory belief—that she is a valuable person—which would be a potential MR mismatch experience with her *SOS* that she is *not* a valuable person.)

Therapist: And what do those tears say? If those tears could talk, what would they say? (Therapist encourages expression of within session emerging emotional response *Inchoate Storytelling Transition marker*—that is intended to challenge directly Becky's implicit target emotional learning—acting from a place of worthlessness—and in so doing, invites engagement in *Competing Plotline Storytelling.* In MR terms, this is the therapist's attempt at fostering the patient's emotional awareness of holding two contradictory beliefs at once.)

BECKY: "No, you're not." (new emergent emotional response/awareness—*Inchoate Storytelling Transition* marker—that makes explicit an implicit *Competing Emotional Plotline Transition marker*. In MR terms, this is the patient's explicitly realizing that her old implicit way of navigating her interpersonal and intrapersonal world has the stronger emotional foothold and she cannot, for now, emotionally entertain the alternative view that she is valuable.)

Therapist: Right. So this is a very private, internal battle. (Therapist is attempting to foster a *Competing Emotional Plotlines Transition marker*. The therapist is trying to heighten the patient's painful recognition of how much her implicit relational scheme is dominant and at the same time to suggest that she has a competing truth—the truth that she is valuable.)

Becky: Oh, yeah. It's just so hard, I don't know why that would affect me so. Like, just saying that, I can hardly say it. (*Reflective Storytelling Transition* marker and in MR terms, an explicit nascent awareness of the power of her previously implicit procedural way of living from a position of worthlessness)

Therapist: Is that right? (The therapist, together with the client, is learning about her emotional truths and inviting the client to go further.)

Becky: Because it doesn't feel real. (Experiencing herself as valuable is highly discordant with the emotional theme of worthlessness that is conveyed in her *SOS*.)

Therapist: Yes. You can't own it.

Becky: No, I can't.

Therapist: You can't own it *yet*. (The therapist is identifying—while facilitating—the emergence of a *Competing Plotline Storytelling Transition marker*. By the addition of the word, "yet," the therapist is also explicitly suggesting that the patient has the capacity to change; it's just a matter of time.)

Becky: No. And that's awful. It feels awful. (Expresses the pain of the stuckness of living within the old emotional scheme—*SOS problem marker*—and at the same time explicitly and emotionally becomes further aware of the emotional cost of her old strategies to stay safe.) Something so simple.

Therapist: So some of what you're wrestling with here on the other side of the wall is not only the response from that person, it's not only [your partner's] saying, "No you're not a valuable person to me." But it's *you* believing that. (Here the target memory—"I am not valuable" has been reactivated while being juxtaposed with something that slightly but significantly differs from what her overriding life-long cyclical pattern—the *SOS*—would predict about how the interpersonal world functions. Specifically, the therapist poses that Becky has a "belief" that she is not valuable. In NEPCS terms, the therapist is fostering a *Competing Plotline Story* by intentionally challenging the maladaptive beliefs of Becky's *SOS*. Having a *belief* one is not valuable is significantly different from *knowing* in one's bones one is not valuable. The therapist's invoking the "wall" that Becky has built—presumably to protect herself from further rejection and negative self-appraisal—is designed to further the client's appreciation that this is largely an interpersonal world of her own making. If she put up the wall, she can take it down. Furthermore, this is also an attempt to draw the patient's conscious attention to the fact that *her* solution to avoid being discovered as unlovable—putting up a wall and living behind that wall—comes at a very painful price.)

BECKY: Right, oh yeah. . . . very much.

Therapist: . . . in a strange way, since you don't let people see who you really are, it (*SOS) is* being confirmed. It can never be disproven, right? So in a way, it is a self-fulfilling prophecy. Right? (Understanding the CMP underlying Becky's *SOS Problem* markers and again explicitly introducing another potentially discrepant belief—that she is helping to create the very outcome she fears).

Becky: Right. Because there's no one to say "no."

Therapist: That's right. There's no one to say, "No, I love you for who you are, and thank you for letting me see who you are." (At this point, the therapist is looking directly into Becky's eyes, and, in so many words, is telling her that she is loved and appreciated for who she is. This is another presentation of information discordant with her semantic memory—only here the juxtaposing contradictory information—"I love you" is delivered implicitly through the therapeutic relationship and explicitly in the words. The outcome that Becky's

lifelong CMP was predicting (the old story of being rejected, imposed upon, and/or invalidated), now that she had let down her walls in the sessions, did *not* occur. Instead, she was spoken to softly, simply, and empathically with words of loving kindness.)

Therapist: Do you get the sense in here, of any disconfirmation? (The therapist was intending to ask Becky if she felt her *Same Old Story* was being disconfirmed, *highlighting explicitly the discrepancy between Becky's current experience in therapy and her CMP*). However, as the next reply suggests, Becky took the therapist to mean did she feel "disregarded" or "invalidated.")

Becky: No, like, I feel very comfortable and I feel more valuable than any other place that, [more] than any other relationship, just because you haven't, you know, confirmed that I'm an unvaluable person or anything like that. (The therapist's previous attempts to help the patient explicitly hold two truths—one predicted by her life-long *SOS*—"I will not be valued"—and the second, "I feel more valued here with you than any other relationship" is verbalized and embraced explicitly by the client.)

Therapist: So let me ask you, because I feel like you've really taken down your wall here, right? (Identifies and validates that a positive *Unexpected Outcome Story,* and fundamental interpersonal change, happened in the session.) Do you feel like it's just because I'm a therapist, and this is my position, and even though privately I'm making all kinds of judgments, I couldn't possibly let you know that, and I'm just kind of being fake here? Or do you get the sense that down deep, now that you've let me *really* see you, I really do think you're a valuable person? Do you have a sense about that? (Although the patient has already said that she feels more valued by the therapist than in any other setting, the therapist invites Becky to explore this and possibly deepen—*Reflective Storytelling* marker—her awareness and experience of being genuinely valued by the therapist. During this moment and the "reconsolidation window," the old story may begin to be updated and even transformed by new experiential and conscious learning—learning which holds the potential to transform the old story in profound and enduring ways. The authenticity of what is happening relationally and the opportunity to explicitly frame it in language provide Becky with a life changing opportunity. This *unexpected interpersonal outcome* that is discrepant with Becky's *same old story* of not being valued and not being seen behind the wall, heralds the emergence of a new view of self and other.)

Becky: Yes. I think it's not fake at all. . . . I can see that, you know, we're very connected, and we flow, and that what you're saying, you really mean it. (*Reflective* exploration of her new awareness of feeling being valued by the

therapist. Clearly the client's elaborations suggest that she is beginning to embrace the new information and that she feels the authenticity of it.)

Therapist: Good, I'm so glad. I'm so glad you can feel it, because I feel it inside but sometimes you don't know if the other person's feeling it too. (Therapist is sharing her own inchoate feelings, from a position of vulnerability, while explicitly expressing her gratitude—another new experience for Becky, adding to the other new emotional learnings that are contradictory to the old story.)

Becky: No, I feel it. Absolutely. (A heightened expression of what was her new inchoate emotional experience now verbalized as an *unexpected interpersonal outcome* that directly challenges her *SOS* of worthlessness and not mattering to others.)

Therapist: So this has been an important experience (highlighting and enhancing the *Unexpected Outcome/corrective experience*). You've let down the wall, and although we've only known each other a short time, you've done an amazing amount of work in here that you're also taking outside of here. And the sense you get back is, "I get the sense she [the therapist] doesn't think I'm a mess. She actually seems to value me." (Highlighting explicitly the new interpersonal experience of therapy that directly challenges the negative assumptions and expectations of Becky's *SOS* and enumerates the juxtapositioning of several different experiences.)

Becky: . . . I agree.

Therapist: So that's a new experience. (again, making the implicit explicit)

Becky: Yes. I've never [before] brought down the wall . . . (validates the *Unexpected Outcome* interpersonal experience in therapy. Becky confirmed making a significant procedural shift in her CMP ("bringing down the wall") within therapy and engaging in new behaviors consistent with MR processes that contribute to therapeutic change.)

The last stage in our eight Rs of the MR process (see Table 12.1) involves reassessing for transformational shifts in the client—what Ecker and colleagues call verification of erasure of an emotional learning (Ecker, Ticic, & Hulley, 2013).[9] It is important to see if changes that take place in therapeutic sessions are consistently maintained and have long-lasting impact. If MR has occurred then we would expect to see symptom cessation and a lack of reactivation with former triggers, despite the absence of counteractive or avoidance behaviors. In addition, we would hope to see more adaptive behaviors and the expression of more positive emotions such as joy and delightful surprise.

[9] Elsey and Kindt (2017) maintain that if MR is to be used as an explanatory mechanism then investigators need to assess whether the outcomes are consistent with reconsolidation.

Following session 5, in the sixth and final TLDP session, Becky reported engaging in new interpersonal/behavioral patterns and experiencing a new view of self and others. Previous empirical analysis of this therapy (Friedlander et al., 2018) has indicated that the frequency of Change markers (particularly *Discovery Stories*) peaked in sessions 5 and 6. *Discovery Storytelling* and *Unexpected Outcome Change markers* abound in the last session—indicating the emergence of significant positive shifts in her sense of self and others. There is also evidence of a marked decrease in symptoms and the absence of emotional reactivation by former triggers—again, hallmarks of MR. Table 12.5 contains some examples of these markers, along with their relevancy for MR and TLDP.

In addition to the client's in-session comments, the therapist (Levenson, 2017) provided a retrospective account of the case that also supports the conclusion that Becky had a successful outcome. The therapist noted by the end of

Table 12.5 NEPCS Markers, TLDP Goals, and Evidence of Memory Reconsolidation—Session 6

New view/emotional experience of self:
(Min. 4) "Before, when I was ruminating in my head, I'd get really tense . . . When I actually journal or even when we talk about it, I just feel, 'whew, wow.' I get it off my chest. So it feels like a completely different body." NEPCS: Unexpected Outcome Story Change marker TLDP: New experience of self MR: Lack of reactivation
(Min. 39) "I think before I never connected the body with the mind. It was all mind. So it [therapy] has really changed how I feel in certain situations . . ." NEPCS: Discovery Storytelling Change marker; TLDP: New experience of self MR: Non-recurrence of emotional reaction
(Min. 39) "I feel everything—all emotions. I can use that as a strength. It might not be a weakness. Like crying, it just means something. [I need to] look at what it means. I have learned that also. I think that can be helpful. . . . Even just coming in today, I feel like a whole different person. I really do, it's been great." NEPCS: Discovery Storytelling Change marker TLDP: New experience of self, new understanding of self; MR: Emotional meaning of symptoms has changed
(Min. 43) "I enjoy crying sometimes—I can't stop it. I am not going to try to stop it, because that's too much work when you could just let it go. I guess I look at feelings differently." NEPCS: Unexpected Outcome Storytelling Change marker; TLDP: New experience of self, new understanding of self; MR: Lack of avoidance and suppression, lack of emotional reactivation

Note: NEPCS:L Narrative-Emotional Processing Coding System; MR: memory consolidation; TLDP: time-limited dynamic psychotherapy.

treatment, that Becky had "evidenced more rewarding transactions with others, has had a fuller emotional experience of herself, has had a new interpersonal experience with the therapist, was relating in a more resilient fashion, and had an understanding about the reasons her role relationships with others took a particular form" (p. 106).

However, the real test of MR needs to focus on long-lasting change. Are changes evidenced in nascent form during the treatment enduring and even permanent? Seven years following the completion of this therapy, the therapist contacted Becky and conducted an informal, semistructured conversation about how she was doing. In brief, the client felt that she had found her voice in the therapy. Following the termination of therapy, Becky said she continued to talk to her boyfriend about the hurt she experienced when she felt she was left out of his life and heart. Becky's actual words about what ensued expressed in the long-term follow-up are quite dramatic:

Becky: And things definitely shifted after that realization. To say that out loud and have a voice and then his behavior changed . . . where I felt validated versus always being left behind. So his behavior changed a lot.

Therapist: And it sounds like you found your voice and that allowed him to change in response to your voice?

Becky: Yeah. Yeah. (Wow.) That helped a lot. Because people can't change if they don't say it. And maybe you don't know what to say and then you can't change, so that is the part that really helped me. So that's the part figuring out what I was feeling, what I wanted to say, and how to say it versus [being] combative or letting emotions drown me.

Becky ended up marrying her boyfriend and, at the time her therapist contacted her, was celebrating her fifth wedding anniversary. While there were many uncontrolled variables in this single case study—and no causative conclusions can be drawn—this six-session therapy appeared to (a) meet criteria for a successful outcome in TLDP (e.g., client had new relational experiences and new understandings with shifts in the therapist's countertransference), (b) meet the basic assumption of CEE ("new settlement of an old problem"), and (c) show evidence of marked increases in NEPCS Transition (*Competing Plotline Storytelling*) and Change (*Unexpected Outcome* and *Discovery Storytelling)* markers and key MR processes (e.g., personal semantic memory activation in combination with highly discrepant, "new outcome," relational experiences that challenged and possibly transformed Becky's maladaptive schema-based memories (*SOS*).

It is for future studies to investigate if the occurrence of NEPCS Change markers in short- and long-term posttreatment follow-up interviews and behavioral indictors (Angus & Constantino, 2017) provide reliable, empirical evidence

of profound self/relational schema transformation and lasting clinically significant change indicative of MR. In this chapter, psychodynamic therapists have been introduced to another frame for understanding why transformational change may occur in sessions. Hopefully, it may even encourage them to explore and refine the potentials of using the inherent brain process of MR to facilitate more enduring outcomes.

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