

**Hypnotic Resource Grafting:
Recontextualizing Fear Using the Memory Reconsolidation Update Mechanism**

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Abstract

Research on human memory reconsolidation has shown that fear-laden memory can be stimulated to reorganize and then later reconsolidate without fear. The phenomenon of expectancy violation also known as "novelty mismatch" has already been shown to accomplish this experimentally. There are recently developed therapies that purportedly capitalize on this effect to heal trauma and dysfunctional schemas. The current authors suggest that therapeutic novelty mismatch can be operationalized different ways with some methods more effective than others. It is proposed that there are certain factors that can "catalyze" implicit memory during therapy to recontextualize more adaptively before it reconsolidates. Hypnotic Resource Grafting (HRG) is one strategy that incorporates some of these factors. Rather than a protocol for a specific therapy, HRG can be applied in a wide range of therapies. Methods and a case example are discussed.

Introduction

A reasonable question can be raised about any therapy dealing with fear-laden memory: "Does the procedure add any more benefit beyond mere exposure?" If not, then the rule of parsimony should dictate that the most simple and economical therapy should be preferred (Johnson & Lubin, 2006). The most preferred therapies would therefore be based on exposure and habituation. However, recent research on memory reconsolidation has shown that there is a path to reduce fear that is different from habituation. Instead of merely inhibiting the fear response the new research indicates it can be completely erased at its source. This phenomenon relies on an expectancy violation or "novelty-mismatch" with subsequent reconsolidation of the reorganized memory.

The current authors maintain that therapeutic novelty-mismatch can be operationalized different ways. It is proposed that viewing the outcome of novelty-mismatch to only involve

memory “reorganization” would be too limiting. The term “reorganization” leads us to think of a single memory changing within itself. Consider the following metaphor:

“When the work of therapy is done, it’s no longer a tiger. It’s a tiger in a cage.”

The point is that new information has entered the system to recontextualize it. Beckers and Kindt (2017) suggested that an appropriate goal of therapy could be to reverse the debilitating effects of fear generalization instead of blocking fear with drugs. Such would involve recontextualizing the memory so that new information can integrate with it. With this perspective, the current authors have uncovered several catalytic factors that have allowed them to produce rapid improvement in their patients. These factors have been incorporated into the strategy of “Hypnotic Resource Grafting” or “HRG.” In clinical practice, it has been observed that HRG can usually help patients resolve a traumatic memory or a life-long schema in very few sessions. HRG is also versatile. It has been observed to resolve schemas and phobias in addition to trauma.

To understand the difference between simple exposure and novelty-mismatch it is important to understand the nature of habituation. Groves and Thompson (1970) performed the classical series of experiments showing that the degree of habituation is the result of opposing inhibitory and sensitization forces. In human exposure therapy, habituation of the fear response involves such inhibitory forces. When complete extinction occurs it is a suppression of the response but not a complete elimination of the memory trace. This is indicated by the phenomena of subsequent spontaneous recovery and accelerated re-learning. After extinction, the response to the conditioned stimulus can spontaneously reoccur. Re-conditioning of the response will also occur faster following extinction. These two phenomena indicate that a hidden fear-laden memory trace still endures following habituation.

A different mechanism of fear stripping is indicated by new memory reconsolidation research. Nader, Schafe and LeDoux (2000) showed that a rat's fear memory can be blocked from reconsolidating with injections of anisomycin into the lateral and basic nuclei of the amygdala. This seminal research showed that new protein synthesis in the amygdala is necessary for a recalled fear memory to reconsolidate. Since Nader et. al.'s research, other studies have confirmed this model with various pharmacological blockades.

A series of studies by Schiller et al. (Schiller, Monfils, Raio, Johnson, LeDoux, & Phelps 2009; Schiller, Raio, & Phelps, 2012; Schiller, Kanen, LeDoux, Monfils, & Phelps, 2013) showed

that the blockade effect can be produced in humans. In their 2009 study, these authors demonstrated that contradictory information from experiential learning can erase conditioned fear under certain conditions. One condition is that the contradictory experience takes place within 5 hours after a brief reminder of the conditioned fear stimulus. A second condition is that the contradictory experience is somewhat delayed following the reminder. Without such a delay, the blockade effect did not take place as evidenced by the occurrence of spontaneous recovery and accelerated reconditioning.

The currently proposed HRG strategy is designed to optimize the catalytic effects of novelty-mismatch.

It does not rely on habituation. The theoretical basis for HRG is the marriage of four fields of study, one quite old and the other three more recent: The oldest field of study is the early Soviet research on the phenomenon of "dominant focus." The second area of study is the recent research on memory reconsolidation. The third field of study is Reversal Theory (Apter, 2007) which involves the subtle background dimensions of motivation known as "meta-motivation". The fourth field involves the phenomenon of reactance (Brehm, 1966; Wicklund, 1974; Kaye, 1977). These areas of research along with observed effects in clinical practice have led the current authors to propose that the following principles can catalyze fear recontextualization with a novelty-mismatch effect:

- **Recontextualization of a traumatic memory will occur more rapidly when the mind is first primed with another relevant resource memory.** The current authors propose that therapeutic memory recontextualization involves incorporating adaptive information from other memory systems. In other words, it involves integration and not mere reorganization. Resourcing is already being utilized in many therapies (Leeds, 2009).
- **Neurons that fire together will wire together.....and neurons that fire together in an expected relationship will wire together faster.** This principle elaborates Hebb's (1949) maxim to recognize that an expectancy-placebo effect can accelerate connectivity between memory systems.
- **A psychological context is more effectively updated in a receptive meta-motivational state than a performance-focused state.** This principle borrows from Reversal Theory

(Apter, 2007). It pertains to “sympathy” (joining with) versus “mastery” (acting upon) meta-motivational states. It is consistent with decades of research showing that animals often stop activity to orient and that orienting reflexes are incompatible with defensive reflexes (Sokolov, 2002). It also relates to a promising area for future research: Which neuropeptides can facilitate updating of context and reduce overgeneralization of fear? Our working hypothesis is that sympathy state induction may have such an effect on a neuropeptide levels.

- **The body keeps the score and more effectively retains resources for transport between self-parts.** Resources associated with the body can be re-associated more easily to different memory systems. Resource association to the body has already been used in many therapies. However, HRG also emphasizes body constancy when switching the dominance of different contextual memory systems. It prevents the resources from disconnecting when the switch takes place.
- **Reactance to perceived elimination of freedom occurs even between self-parts.** It is minimized when choice is emphasized in the form of requests instead of directives. This principle is supported by our clinical observations during trance work. Patients are often surprised during hypnosis when self-parts react in opposition to commands. The unconscious seems to abhor loss of choice.

The Underlying Neuroscience

Ukhtomski (1926) pioneered the research on dominant focus. A dominant focus may be understood as an area of activation in the brain that occurs when a subject is presented with a stimulus. When the subject is presented with a different stimulus then a different part of the brain will activate. Ukhtomski and others started their research on animals and studied activation on the sensory cortex. They discovered that a) the prevailing dominant focus will control the organism's reflexes b) the dominant focus may become a “latent dominant” when a new stimulus creates a new dominant; and c) the latent dominant will still retain some activation afterwards. Rusinov (1973) found that slow wave activation will often endure up to 40 minutes in a latent dominant. Rusinov and others studied the interaction between multiple dominants, both latent and dominant. Unfortunately, the tradition of studying multiple foci has been lost in current Western research. However, one can easily see the relevance of multiple foci in ego-state therapy (Watkins &

Watkins, 1997; Phillips & Frederick, 1995; Van der Hart, Nijenhuis & Steele, 2006).

Western researchers have studied the equivalent of dominant focus by studying the P300 event-related potential after a sensory event. The P300 research is important because P300 magnitude has been shown to correlate with learning from mistakes and the accuracy of updating context expectancy (Donchin et al., 1984; Donchin & Coles, 1988). P300 magnitude is a measure of the brain updating its model of its operating environment with administrative rather than operational information processing (Donchin, Gratton, Dupress, & Coles, 1988). The concept that novelty mismatch or prediction error stimulates new learning can be found in both P300 research (Johnson, 1984, 1986, 1993) and Orienting Response research (Sokolov, 1963, 2002). However, the P300 research focuses on the prevailing dominant focus and does not study interaction of different foci. In Western research, the term "dominant focus" has been abandoned while reference to a singular "context" prevails.

The relevance of dominant focus to human psychology was demonstrated by Luria and Vinogradova (1959) who showed how reflexes to the same stimulus will change depending upon which background focus is dominant. The takeaway from all this early research is that reflexes are best viewed as occurring within a dominant focus (prevailing implicit context) and not an overall personality. It also shows us that we need to be aware that multiple implicit contexts can be activated at the same time and manipulated in clinical practice. We are not limited to working with only one implicit context at a time.

The advantage of working with multiple contexts (dominant and latent foci) is that one implicit context can be used to stimulate novelty mismatch with another. It is theorized that such a mismatch can do more than merely stimulate reorganization of a memory. It may actually stimulate integration of one context with another. Anokhin (1974) pointed out that dominant and latent foci ordinarily cross inhibit each other via coordinative inhibition. The alternative to this is when a functional relationship can be created between them. HRG is designed to accomplish the latter by catalyzing learning reflexes to connect the resource context with the fear-laden context. Increased discrimination can then take place so that overgeneralization is reduced. Sevenster et al. (2017) have experimentally reduced overgeneralization of fear through interactive contextual learning.

The resource grafting strategy utilizes findings from memory reconsolidation research in addition to the research on dominant focus. Memory reconsolidation research has been nicely summarized by Agren (2014). Human research replicates the findings on animals. The most

relevant human studies have involved non-invasive techniques (Schiller et al. 2009, 2012). Bjorkstrand et al. (2015) showed that reconditioning during reconsolidation can eliminate fear traces in the human amygdala. This is consistent with Schiller et al.'s (2013) finding that reconditioning during reconsolidation reduces human prefrontal cortex involvement that is no longer required to manage amygdala activation. Both of these studies suggest that human fear can be reconsolidated away without leaving a fear trace as opposed to merely inhibiting it.

HRG represents a shift in perspective. Trauma therapists are trained to think that trauma desensitization precedes integration. This is true regarding structural dissociation of the personality. The current authors propose that this rule does not hold when it comes to specific trauma memories. Most therapists do not think that integration may activate desensitization itself. Perhaps Wolpe's (1968) concept of reciprocal inhibition has inhibited the field from thinking of other possibilities. HRG has been designed with the hypothesis that a resource memory can interact with a painful memory and integrate with it at the same time. The short version is "desensitization by integration." Fear may then become recontextualized.

When HRG is applied to a traumatic memory the traumatic context is first activated followed by a resource context. HRG can be applied to templating memories for schemas and phobias in the same way. Figure 1 illustrates the status of the two contexts after the patient focuses on the resource memory and its implicit context activates.

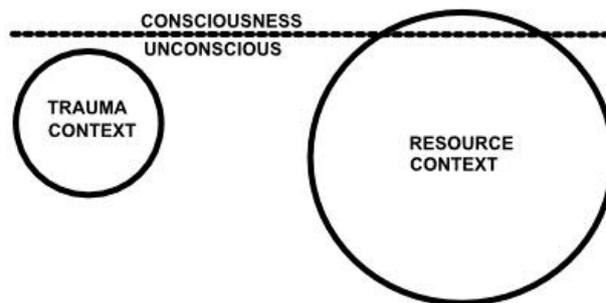


Figure 1. The resource context is activated and raised to the dominant level after the trauma context is first activated. The trauma context is then in latent status. (The illustration depicts dendritic connections in associational space, not physical anatomy.)

Figure 2 illustrates the status of the implicit contexts after HRG is applied. Unconscious information flows between the resource and trauma systems. Integration occurs and the disturbance declines.

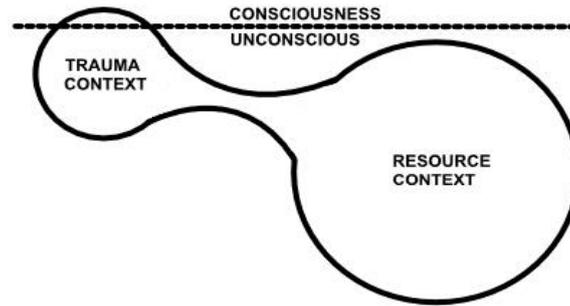


Figure 2. The trauma context is back in dominance and attaches to the latent resource context.

Reversal Theory (Apter, 2007) is another area of research that may yield an important tool to facilitate integrative learning. The theory categorizes motivation into 4 dimensions, each dimension involving 2 opposing states. Research in this field has already established different physiological and affective correlates for some of these states (Walters, Apter, & Svebak, 1982; Svebak, 1985). The dimension most relevant to HRG pertains to "sympathy" (joining with) versus "mastery" (acting upon). When a person focuses on controlling something he may be said to be in a mastery state. When a person is focused on receptively attaching he may be said to be in a sympathy state. Here, the term "sympathy" has a more general meaning than the common associations of pity or compassion. The current authors propose that these opposing states probably have opposing neuropeptide environments in the body that can influence contextual learning. HRG has been designed with the hypothesis that the physiological correlates of a mastery state will inhibit contextual learning while those of a sympathy state will facilitate it. One clue that this may be true comes from genomic research. Cozzolino et al. (2014) found markers of increased Zif268(EGR1) expression following therapeutic hypnosis. Zif268 is known to be associated with increased neuroplasticity. Since the HRG sympathy state induction parallels the receptivity and absorption in hypnosis it is reasonable to hypothesize that it will similarly increase neuroplasticity. HRG is designed to work within a sympathy state to facilitate unconscious communication between memory networks.

Early in the HRG process, the patient is trained how to pair together a hand posture and verbal expression to induce his own sympathy state. It is theorized that a palms-up posture has been classically conditioned in a person's history to be associated with receptivity and social connection. It is almost never paired with a mastery state. The early HRG sympathy state training is an induction that reinforces the open receptive state paired with the hand posture. Verbal

requesting has also been classically conditioned the same way. Both are used in training the patient before other HRG procedures.

The HRG Strategy

It is important to clarify that the HRG strategy is not a single protocol. The current authors have already developed several protocols using the strategy. One protocol is for healing trauma. Another is for helping patients to revise life-long maladaptive schemas. The current authors are already seeing early signs that HRG may be effective against phobias. Additional protocols are likely to follow.

HRG is not appropriate for all patients. It is not appropriate for psychotic disorders, bipolar disorders, active addictions or traumatic brain injury. For patients who dissociate or get hyper-aroused when starting to activate a traumatic memory it is advised to first use Manfield's (2017) Flash technique to bring the disturbance level down to the point that the patient can focus and process. The Flash technique can progress into HRG very smoothly by gradually lengthening duration of exposure periods.

When applied to developmental traumas, HRG is best described as taking place within the framework of a phase model of trauma-informed treatment (Van der Hart et al., 2006). The stabilization phase must be completed first. Dialectical Behavior Therapy (DBT) or other mindfulness-based techniques may be necessary. In Dissociative Identity Disorder (DID) cases, alter personalities need to have already established cooperative relations with each other and the therapist. Even with these complex cases, alter personalities can eventually be invited to co-experience the benefits of HRG by sharing the body together.

Outline of an HRG Trauma Protocol

The following steps outline one trauma protocol that has produced very positive results in clinical practice. The full protocol is too detailed to be included in this article. The same approach can be used for schemas and phobias with some minor changes.

- 1) The patient is first introduced to an auto-hypnotic posture that can be used to induce a meta-motivational sympathy state. The patient is trained to use a palms-up posture with forearms

elevated. He also learns to use a specific syntax when speaking to a resource part of his unconscious.

- 2) The patient is asked to briefly activate the negative memory for about 3 seconds. It is brief enough that the patient is not allowed to go into much distress. Schema memories will usually not be overwhelming. Trauma memories may be more arousing. The key is to titrate the activation so that the neurohormonal stress environment in the patient does not intensify. The patient is asked to scale his estimated subjective units of disturbance (SUD) from 0 to 10 “if he were to allow himself to view the negative memory for a minute.” This technique is useful to determine whether or not a titration procedure will be needed later.
- 3) The patient is helped to define a negative cognition embedded in the negative memory. For trauma memories the negative cognition will be a shame belief about the self. (e.g. “I’m weak” or “I’m defective.” An appropriate negative cognition for a schema would be the obsolete rule that resulted from the negative memory. Such a rule would take the form of “If X then Y so I must always do Z.” For example: “If I ask what I want then I will be targeted and hurt so I must always manipulate others to get what I want.”
- 4) The patient is helped to define a desired replacement cognition that is positive (e.g. “I’m strong” or “If I ask for what I want then I may get it or not and I can keep myself safe.”
- 5) The patient is asked to locate 3 positive adult memories when the patient had the “felt sense” that the desired positive cognition was true. These are the resource memories.
- 6) (Optional) If significant hyper-arousal to the negative memory appears likely then different procedures may be used to titrate and “soften” the amount of exposure. In Step 2 the obtained SUD score is one good indicator of potential hyper-arousal. If the estimated SUD is above 7 then titration may be desirable. Clinical judgement based on nonverbal indicators (e.g. breath) should also be used. Please see the later discussion about “scalable titrations.”
- 7) The negative memory is then activated as the dominant context. Different exposure techniques can be used. The current authors have used a one-minute re-experiencing of the background story combined with a 3-dimensional eidetic exposure to the worst moment of the memory (Ahsen, 1973; Shapiro, 1989). These 3 dimensions involve sensory elements

(sight, sound, smell), the negative cognition and the somatic reaction. It may also be desired to obtain a SUD rating (Subjective Units of Disturbance, 0 to 10) and a VOC-PC rating (Validity of Cognition, 1 to 7) for the desired positive cognition or replacement schema.

- 8) One of the adult resource memories is then re-activated to establish it as a new dominant context. The patient is asked to review the resource memory in several stages with increasing specificity to the most inspiring moment in the memory. The patient is given a series of hypnotic suggestions to associate the "felt sense" of their resource memory to their body. He is asked to associate a color to the felt sense which is then associated deeper into different parts of the body. While this is happening, the patient is asked to hold his hands and arms in the sympathy state posture he had already been shown in step 1.
- 9) The patient is given a post-hypnotic suggestion for connecting the resource and trauma contexts. This is accomplished by using a sequence of hypothetical questions that lead the patient to commit to a post-hypnotic belief: **"If it were possible that your (color) felt sense of (positive cognition) in your body could act like a healing medicine in your unconscious to help heal the disturbance in your other challenging memory.....would you let it?"**..(patient answers and affirms)...**"And in order for that to happen would you be willing to let that (color) felt sense of (positive cognition) stay in your body while the scene changes around you so that you still have it throughout your body and you will also be back in the challenging memory?"** (Patient affirms)
- 10) The therapist then guides the patient to re-activate the negative memory context while still connecting with the resources in his body associations. The therapist emphasizes constancy of the patient's body retaining his somatic resource associations by allowing the scene to change around him to the negative memory scene. **".....So letting that happen, let the scene change around you while you still have that (color) felt sense of "positive cognition) in your body.....and you are also looking out at the most disturbing part of your challenging memory. Let me know when you have the two together."**
- 11) The patient is guided to induce a meta-motivational sympathy state and b) auto-hypnotically invoke an unconscious connection with the resource context. In this critical step, the patient is asked to do 3 things all at the same time: 1) Hold his hands in the sympathy invocation posture. 2) View all of the previously defined visual components of his trauma memory.

He views it as if it is happening to him and not from a dissociated external view. 3) Speak internally to the colored resource part of his mind and make a series of requests. The requests are designed to stimulate implicit processing (e.g. **“Will you help us to appreciate how our current world is different than this experience?”**) The patient is asked to signal to the therapist whenever he feels he has finished processing a question and is ready to be given a new question. The overall exposure time is not set but about 6 minutes is recommended.

12) The patient is then asked to lower his hands and meditate on his experience for about a minute. He is told it is important that he just let go and to merely notice what comes to him of its own accord. The patient is asked to share what he is experiencing after his meditative period.

13) Steps 8 through 12 are repeated with additional resource memories. However, step 9 is slightly altered. The patient is asked if he would be willing to allow the new body color associations to **"join forces and become a team"** with the previous resource body associations.

14) At the end of the session, the therapist may obtain a SUD and a VOC-PC rating. A body scan may also be requested to locate residual disturbances associated to the body.

Scalable Titrations

Different patients have varying levels of fear and HPA activation to trauma memories. Target memory titration is a method to reduce the associated fear of a memory so that resource emotions can dominate. The current model assumes that underlying neuropeptides compete for control over learning reflexes. It is proposed that if fight/flight neuropeptides are dominant then contextual learning will be impaired. An important hypothesis is that fight/flight neuropeptides enhance response learning while resource neuropeptides produce a tropism toward contextual learning. If this is the case it could explain why resourcing is so important in trauma therapy. More research is needed on this.

It is assumed that resource neuropeptides must dominate during HRG. To accomplish this with a powerful trauma it is sometimes necessary to fractionate the target into less toxic representations. This strategy was adopted by Wolpe and Lazarus (1966). They developed a fear hierarchy of imagined stimuli in their systematic desensitization therapy. Progressively

desensitizing up the fear ladder worked well. Different titration techniques can be used in HRG if the patient abreacts or dissociates too strongly. The therapist can create a strategy of successive titration methods applied up an imaginary fear hierarchy. The methods below illustrate some methods that progressively move the patient up such a hierarchy.

- Box Titration:

The patient is instructed to first construct an imaginary box in an empty room. The box lid is left open. Next, the patient is asked to briefly view the worst part of his traumatic memory above the box for about 5 seconds and then to “freeze” it into a “still-shot” (no movement). The patient is then instructed to crumple and stuff the image into the box as if the image is on cellophane. The box is left in the room until later in the procedure.

After a resource memory has been fully anchored into body associations (See step 9) the patient is asked to stay in his resource location instead of suggesting that the context will change. He is asked to place his box somewhere in his imagined resource location so that he can occasionally glance at it when instructed. Following this he is asked to pendulate between noticing the resource events and occasionally looking at the box. Exposure to the box may be gradually increased from very brief exposures to prolonged exposure. The patient is also instructed to use the open-palm sympathy state posture while making processing requests to the colored resource part of his mind (See Step 11). When making the processing requests, the patient is guided to make his requests with reference to “what’s in the box.” It should be mentioned that this technique bears some similarity to Manfield’s (2017) Flash titration technique used in EMDR.

- Cell Phone Titration:

The patient is asked to imagine staying in his resource context. He is guided to visualize holding a cell phone in his dominant hand with the display facing down or away from him. He is then asked to imagine that the phone screen is displaying a repeating video of his target memory. He can’t see the video unless he turns the display towards him. Even then the details are small. Through the HRG procedure the exposures can be gradually increased in frequency and duration. When making the processing requests during Step 11, the patient is guided to make his requests with reference to “what’s displayed on the phone.”

- Private Cinema Titration:

The patient is asked to imagine creating a door somewhere in his resource context. If the resource scene is outdoors he can still imagine a portal as if it is a door to another dimension. He can then be asked to imagine walking up to and through the door that will place him in a private room with a cinema screen on one wall. The cinema is playing his trauma memory in a continuous loop. With the setup the patient's explicit exposure can be varied both in duration and frequency. It should be mentioned that the imagined doorway and the imagined walking up to and through it establishes an association between the resource and trauma contexts.

There are many other methods that can also be used for titrating exposure to the trauma memory. In HRG these titration methods are usually not required except for the most traumatized cases. Two important features pertain to the currently proposed titration methods. First, they keep the patient associating his self primarily in the resource context. Second, they imply a contextual relationship between the resource context and the trauma. This feature is central to the HRG strategy.

A Case Example

Mr. X was a 42-year-old male who had been seen previously in the clinic for anger management problems. He had successfully completed an auto-hypnotic training regimen and was no longer having temper outbursts with his wife. Several months after his anger management work he was shot in an apparently racially motivated shooting. He had been stopped at a stop-light when another driver yelled racial epithets and shot him in the leg, shattering his femur. The extreme shock and pain of the shooting as well as the pain of subsequent EMS interactions formed his traumatic memory constellation.

The patient was seen 4 months after his shooting but claimed his symptoms were receding. However, the patient's symptoms had intensified when seen 7 months after his shooting. The patient scored 73 in the high post-traumatic stress range on the PTSD Checklist (PCL) (Weathers et. al, 1993) with flashbacks, nightmares, increased startle, severe anxiety and emotional numbing. At this point the patient agreed to try HRG trauma reduction.

In the first HRG session, the patient wept when revisiting the sensory image of the shooting. The eidetic sensory elements were: The sight of the black gun, a piercing white flash, the echo of the blast and tunnel vision of the driveway in front of the patient. The negative trauma belief was

“I’m helpless.” The somatic association was construction in his chest. The initial SUD (subjective units of disturbance) was 9 out of 10. From the patient’s desired replacement belief (“I’m strong”), three resource memories were defined: An inspiring drum solo he once played in a concert, a memory of rescuing his sister’s dog who had been hit by a car, and a moment during physical therapy when he was able to perform a painful exercise for the first time. These three resource memories were each cross-associated with the target memory for 2 minutes each. Hypnotic suggestion and somatic associations were used in the HRG manner. The SUD dropped from 9 to 1 by the end of this first one-hour session. At the beginning of the next session, the SUD was still 1. It declined to 0 after 3 more resourced hypnotic/somatic interweaves.

Toward the end of the first HRG session the patient reported a validity of cognition (VOC-PC) rating of 6 out of 7 for the desired replacement belief (“I’m strong”). Inquiry revealed a blocking belief of “How could I be strong if I was in so much pain?” The therapist then discussed mental strength and used the HRG technique to associate the patient’s resource memory of feeling inspired when he accomplished his painful physical therapy. The final VOC-PC rose to 7 and the SUD level declined to 0. While performing this latter association in trance, the therapist noticed that the patient’s hand twitched. Inquiry revealed that the patient had suddenly seen an image of the perpetrator’s license plate. He subsequently reported the plate numbers to the police.

At the start of the next session, the patient reported no anxiety when recalling the initial target memory of the shooting. Therefore, the session employed HRG on the memory of his pain when he was pulled from his truck. The SUD level started at 7 with a VOC-PC of 3 when sensory, negative belief and somatic components of the target memory were recalled. Two resourced hypnotic/somatic interweaves were used to drop the SUD to 0 while the VOC-PC rose to 7 out of 7. Toward the end of this session the patient reported simultaneously experiencing 2 frames of viewing the target: one was first person and the other in third person. The therapist guided the patient to use a sympathy state posture and to request for both self-parts to form a friendship and share information. Immediately after this the patient reported dizziness and a sense of another self-part (third person case) looking through his eyes. It was interpreted that two systems were mismatching and in the process of reorganizing.

In the next session and after the second target had been processed the patient said he was feeling confident. He reported there had been no triggering events evoking his former fear. He did not think he needed to process his experience in the ambulance. However, subsequent events revealed this to be untrue. He was retriggered while putting on the same jacket he had worn during

his traumatic experience. Therefore, another HRG session was spent on the patient's traumatic memory of riding in the ambulance. The initial SUD was 8 with a VOC-PC of 2. After 2 resourced HRG interweaves of two minutes each the patient's SUD declined to 0 and his VOC-PC rose to 7.

In subsequent marriage counseling sessions and a follow-up meeting with the patient, Mr. X reported no more triggering of anxiety, no fear when passing through the location of the shooting, and no more sleep disturbance or night sweats. Two months after his last treatment session the patient scored 8 (almost no post-traumatic stress) on the PCL.

Discussion

The preceding case is typical of the results obtained by the current authors. With single traumas from adulthood, fast desensitization has been followed by subsequent comfort when the patient recalled the trauma scene. This usually required only one session of HRG. Compound traumas from childhood usually required extensive clinical work over a long period of time. However, HRG has been successfully applied with Dissociative Identity Disorder cases after stabilization has been achieved and alters can cooperate. When HRG had been applied to early memories that templated a schema then the goal has not been trauma reduction. Instead, it has been to increase the strength of the desired positive cognition paired with the negative templating memory. This often took only one session of HRG to accomplish. The patients usually reported subsequent changes of behavior without their previous inhibitions.

Language is important in HRG. "Would you be willing?" and "Will you?" are used as a frequent request syntax. This form of speech minimizes reactance in the unconscious. The authors have often observed self-parts break contact with the host self-part when the patient makes a mistake by giving a command instead of making a request. It appears that the unconscious is hungry to have its choice respected in a similar manner to most people. The therapist should wait on the patient's choice as often as possible. In HRG, the patient is similarly coached to make a request for help from his resource part instead of giving commands.

The patient is asked "If it were possible that your (defined color and defined meaning from the resource memory) could act like a beneficial medicine to help you heal your traumawould you let it? " This is a hypnotic maneuver using a hypothetical reframe. The new frame suggests that a helping relationship can be established between the positive resources and the trauma. An

expectancy effect is thereby initiated as a hypnotic suggestion. Research on placebo and Parkinson's symptoms shows that an expectancy placebo can produce real physiological effects (Del la Fuente-Fernandez, Phillips, Zamburlini, Sossi, Calne, Ruth, & Stoessl, 2002; De la Fuente-Fernandez & Stoessl, 2004). In a similar manner, the HRG strategy is designed to use a placebo effect to catalyze internal learning reflexes. It is hypothesized that these internal learning reflexes can create connections between a resource context and a traumatized context. Evidence for this possibility emerged from the current authors' clinical work. GSR responding was observed for clients undergoing EMDR trauma desensitization. Over several years of observation, it appeared that the clients who showed frequent alerting GSR responses were the clients who desensitized more quickly. It was interpreted that the GSR responses were indicative of learning reflexes that were occurring in a quantum manner.

Classical conditioning is also involved in HRG. Both classical conditioning and conscious expectancy can be involved with the placebo effect (Stewart-Williams & Podd, 2004). The open palm sympathy state posture has previously been classically conditioned in the patient's history. The posture has almost always been paired with receptivity or social connection. It has rarely been paired with performance in a mastery state. Therefore, the open palm posture is used to help the patient be more receptive to post-hypnotic suggestions. The patient's internal neurohormonal state may be critical to HRG effectiveness. The open palm posture, the recommended syntax of asking for help, the hypnotic suggestion of an expected relationship, and the suggestion of body constancy when switching contexts are all manipulations to induce and maintain a sympathy state. A crucial question is whether such a state induces dominance of important neuropeptides that allow integrative learning. If such occurs then it may allow for generalization of fear to be reduced. Beckers and Kindt (2017) speculated that manipulation of the glucocorticoid system could have therapeutic effects by reducing excessive generalization of fear memory. Their suggestion is similar to what HRG is designed to do. HRG is designed to contextualize the implicit emotional memory by integrating it with resource memory. As suggested by Beckers and Kindt, the appropriately induced neuropeptide environment is probably an important key to unlock such integration. Kindt, Soeter, & Vervliet (2009) demonstrated how propranolol administered before fear reactivation in humans could erase behavioral expression of the fear 24 hours later. It is possible that HRG may have a similar propranolol-like effect: The neuropeptide environment of the meta-motivational sympathy state along with a primed resource memory may similarly tamp down the HPA axis. Bessel van der Kolk (2014) once coined the maxim "the body holds the score." In HRG it may be said "the body is the vessel" in that it facilitates one implicit context to form a connection to another. Preserving some of the internal somatic environment when

switching dominance between contexts may be the most strategic aspect of HRG. This point cannot be overemphasized.

The HRG strategy differs from most therapies. Prolonged exposure therapy (Foa, Hembree, & Rothbaum, 2007) and the counting therapies (Ochberg, 1996; Greenwald, 2013) rely on habituation for their mechanism and not novelty/mismatch. HRG avoids the top-down cognitive manipulations of cognitive behavior therapy (Resick, Monson, & Chard, 2017). In HRG there is no coactivation of error-monitoring psychophysiology with the traumatic memory as in EMDR (Kaye, 2007). HGR avoids extensive verbal narration of the trauma as performed in Narrative Exposure Therapy (Schauer, Neuner, & Elbert, 2011).

The current HRG strategy parallels Coherence Therapy (Ecker, Ticic, & Hulley, 2012) and RTM therapy (Gray & Bourke, 2015). Both therapies use conscious recall and imagination to create a novelty mismatch. However, conscious mismatch may not be necessary or even optimal. Delorenzi, Maza, Suarez, Barreiro, Molina, and Stehberg (2014) summarized several studies supporting their hypothesis that conscious recall and behavioral expression are not a requirement for reactivation and labilization to take place during memory reconsolidation. If this hypothesis is accurate then it opens the door for hypnotic techniques to reconsolidate implicit memories. In HRG, hypnotic technique is used to imply an unconscious relationship between two implicit memory systems. Coherence therapy does not. We can say that Coherence Therapy uses a “coactivation” model of stimulating novelty mismatch. It brings experiences side-by-side to create a mismatch. Other therapies that can be said to use coactivation would be re-enactment therapies (Foa & Kozak, 1986), Resource Development and Installation (Korn & Leeds, 2002) used in conjunction with EMDR, Somatic Experiencing (Levine, 2008), and Rossi’s (2002a, 2002b) technique of therapeutic dissociation. Rossi does use a hypnotic technique but it is passive. It seems that these mindfulness-based approaches rely on Hebb's (1949) maxim "When neurons fire together, they wire together." This passive model does work. However, the current authors propose that a more interactive hypnotic model may catalyze faster memory reorganization. This would need to be verified by controlled comparative studies.

Conclusion

Updating of memory during memory reconsolidation has usually been viewed as reorganization of a singular memory. The model proposed with HRG is that when an implicit

resource memory is used to hypnotically mismatch with a fear laden memory it also catalyzes integration as well. In other words, the reorganizing target memory extracts new information from the primed resource memory. The two will connect. Of course this strategy's observed effectiveness in the clinic does not establish that the client's fears have been recontextualized and reconsolidated. Establishing such would be the realm of basic research. In the spirit of a bi-directional translational approach it is hoped that basic researchers might find these clinical observations valuable.

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