

**Hypnotic Resource Grafting:
Strategic Catalysis of Therapeutic Memory Reconsolidation**

**Bryce Kaye, Ph.D.
Deborah Riley, LPCA
Mirane Portes, LCSW**

**Allied Psychological Services
d/b/a Cary Counseling Center
875 Walnut Street, Suite 220
Cary, NC 27511**

March 17, 2018

**Tele: 919 218 5948
Fax: 919 467 1712
carycounseling@mindspring.com**

Word Count:

**Keywords: memory reconsolidation, trauma, schema,
hypnosis, resource, novelty mismatch, placebo, hrg**

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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 take the position 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" an implicit memory during therapy to reorganize more thoroughly and 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. Different protocols and case examples 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 different path to reduce fear than mere 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. Some methods will be more effective than others. In clinical practice, the authors have uncovered several catalytic factors that have allowed novelty-mismatch to produce very 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 often help most patients to resolve a traumatic memory or life-long schema in a single session. In addition, the HRG strategy is versatile. The authors have observed it to resolve schemas and phobias in addition to trauma. There are probably additional applications where it will prove effective.

To understand the difference between simple exposure versus novelty-mismatch it is important to first understand the true 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. 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 a period of time following extinction, the response to the conditioned stimulus will often spontaneously reoccur. In addition, re-conditioning of the response will occur faster following extinction. These two phenomena indicate that a hidden fear-laden memory trace still endures following habituation/extinction.

A different mechanism of actual fear stripping is indicated by new memory consolidation 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 a 5 hour time period following 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 mere 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 very 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 conclude that the following principles can catalyze the novelty-mismatch effect:

- **Reorganization of a traumatic memory will occur more rapidly when the mind is first primed with another relevant resource memory.** The current authors take the position that therapeutic memory reorganization 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) pertaining to sympathy versus mastery 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).
- **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 memory systems. This new technique of body consistency helps transport resource associations between memory systems. It prevents the resources from disconnecting when

dominance of the memory systems is being switched.

- **Resourced self-parts can be invoked to help a regressed traumatized self-part to assimilate more adaptive information.** The invocation is more effectively performed from the regressed self-part when it is in the executive position. Pulling information is more effective than pushing information because learning reflexes are directional. This principle is consistent with Soviet research showing that the dominant focus controls the prevailing reflexes (Ukhtomski, 1926; Luria & Vinogradova, 1959).
- **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 by oppositional responses by self-parts when the self-parts are given commands. The unconscious seems to love choice.

The Underlying Neuroscience

Ukhtomski (1926) pioneered the research on dominant focus which 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 may 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 situation creates a new dominant; and c) the latent dominant will retain some activation for a period of time. 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 accurately 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, all of the P300 research focuses on the prevailing dominant focus and does not study the 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 stimulate reorganization of 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 regressive context.

The resource grafting strategy utilizes findings from memory reconsolidation research in addition to the research on dominant focus. The memory reconsolidation research has been nicely summarized by Agren (2014). This 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 strongly indicate that human fear can be reconsolidated away without leaving a fear trace as opposed to merely inhibiting it.

The current HRG strategy 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 necessarily 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 is based on the assumption 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."

When HRG is applied to a traumatic memory the traumatic context is first activated followed by a resource context. Figure 1 illustrates the status of the two contexts after the patient focuses on the resource memory and its implicit context activates.

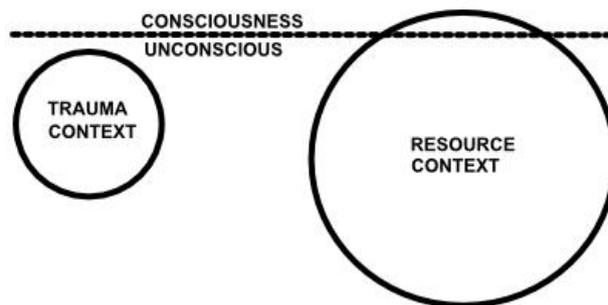


Figure 1. The resource context is activated and raised to the dominant level after the trauma context is first activated. The trauma context is then in latent status. (The illustration depicts dendritic connections in associational space, not physical anatomy.)

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

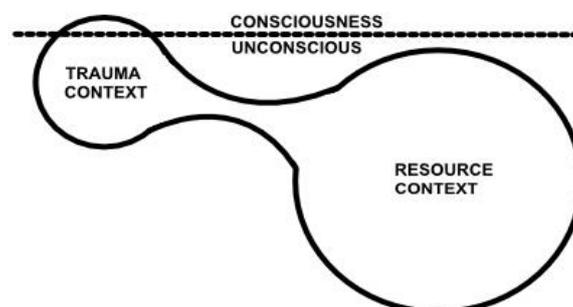


Figure 2. The trauma context is back in dominance and attaches to the latent resource context.

Reversal Theory (Apter, 2007) is another body of research that may yield an important tool

to facilitate integrative learning. Reversal 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 greatly 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 is 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 also increase neuroplasticity.

In this way, the updating of implicit trauma memory may be optimized in a sympathy state. HRG represents a paradigm shift in this regard. Most therapies on trauma emphasize mastery to stimulate memory reorganization. HRG emphasizes working within a sympathy state so as 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 self-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. Therefore, 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. A third is to help strengthen interpersonal boundaries. The current authors are already seeing early signs that it 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 and 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. Even the most traumatized cases can be handled in this manner.

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 a trauma protocol that has produced very positive results in clinical practice. The full protocol is more detailed. There are other protocols for other types of disorders but the following steps illustrate one way that HRG can be implemented:

- 1) The patient is first introduced to an auto-hypnotic posture that can be used to induce a meta-motivational sympathy state. This is a motivational state of maximum receptivity. 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. The theoretical basis for this is based on Reversal Theory (Apter, 2007).
- 2) The patient is asked to briefly activate the negative memory. It is brief enough that the patient is not allowed to go into much distress. For schema memories the distress will usually not be overwhelming. Trauma memories may be more arousing. The key is to titrate the activation so that the neurohormonal environment in the patient does not intensify. This parallels the work of Schiller et. al. (2009) who found that the fear-stripping reconsolidation effect did not occur without a preliminary brief reminder of the feared stimulus.

- 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 positive cognition was true. These are the resource memories.
- 6) (This step is optional.) The Flash technique (Manfield, 2017) may be used for severely traumatized patients to help "soften" the targeted memory and bring down the disturbance level. It is important that the somatic neurohormonal environment from the resource memory is able to later dominate over that of the traumatic memory. If it is decided that the Flash technique will be required, then it is useful to first install the "felt sense" of the resource memory into the body as described in step 8. The patient is then adequately prepared for Flash.
- 7) The negative memory is then activated as the dominant context. Different exposure techniques may be used. The current authors have often 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 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 inspiring resource

memory to their body. He is asked to associate a color to the felt sense which is then associated deeper and 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. If this step had previously been performed as preparation for Flashing then it is still a good idea to repeat it. The neurohormonal felt sense will need to be strongly established for what follows.

- 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 the neurohormonal resources in his body associations. The therapist emphasizes constancy of the patient's body retaining his somatic resource associations while the scene changes 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 :a) 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 he previously learned in the first step. 2) View all of the previously defined sensory 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 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 indicate 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, to not try to accomplish anything 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 will be 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 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 rating (Subjective Units of Disturbance from 0 to 10) and a VOC-PC (Validity of Cognition of the positive cognition or replacement schema). A body scan may also be requested to locate residual disturbances associated to the body.

The current resource grafting strategy parallels Coherence Therapy (Ecker, Ticic, & Hulley, 2012) and RTM therapy (Gray & Bourke, 2015). Both of these 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 a number of 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 is correct then it opens the door for hypnotic techniques to reconsolidate implicit memories. In the current resource grafting strategy, hypnotic technique is used to bring a latent focus (or context) into a conflicting relationship with the target memory.

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. However, 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. He reported no intrusive flashbacks, no increase in startle and was focused on his move into a new house. However, the patient's symptoms intensified by 7 months after his shooting. He was experiencing profuse sweating during sleep, an increased startle response and severe anxiety when recalling the flash of the gun. The patient then agreed to try HRG trauma reduction.

In the first HRG session, the patient wept when revisiting the sensory image of the shooting scene. 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 constriction 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 seen a sudden 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, 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 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, he reported no more triggering of anxiety, no fear when passing through the location of the shooting, and no more night sweats.

The preceding case study is only one example of how the HRG strategy can be applied to traumatic memory. The current authors have used HRG in many successful applications to other traumas, schemas and phobias.

Discussion

Language is important in HRG. "Would you be willing?" and "Will you?" are used in frequent requests. This form of speech minimizes reactance in the unconscious. The authors have often observed self-parts to reject communication and break contact with the host self-part when the patient makes a mistake by giving a directive instead of making a request. It appears that the unconscious is hungry to have its choice respected similar 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 any 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 shift using a hypothetical reframe. The new frame suggests that a

helping relationship can be established between the positive resources and the trauma. An expectancy placebo effect is thereby initiated as a post-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). Instead of stimulating dopamine release in the substantia nigra as in Del la Fuente-Fernandez's research, the HRG strategy endeavors to use a placebo effect to enhance learning reflexes to connect a resource context (latent dominant) to a traumatized context (dominant focus).

In addition to post-hypnotic suggestion, classical conditioning is also involved in the HRG placebo. Both routes can be involved with the placebo effect (Stewart-Williams & Podd, 2004). In the HRG's sympathy state invocation the open palm posture has been classically conditioned. In the patient's history the posture has almost always been paired with receptivity or social connection. It has almost never paired with a mastery state. Therefore, the open palm posture is used to help the patient be more receptive to post-hypnotic suggestions.

In HRG, the patient is requested to allow the scene to change around him instead of his "going" to the trauma scene. This form of body constancy along with semantic anchors help to prevent the patient from disconnecting from his somatic resources while shifting dominance to his traumatic context. 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. It is possible that the internal neuropeptide environment is a critical dimension of psychological context. Preserving some of that 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).

Coherence Therapy (Ecker, Ticic & Hulley, 2012) is the one therapy that is similar to HRG.

Coherence Therapy is designed to reorganize dysfunctional schemas. It does so by coactivating a resource memory with a memory that originally trained the schema. However, HRG differs from Coherence therapy in that HRG uses hypnotic placebo effect and other somatic hypnotic effects to imply an unconscious relationship between the two implicit memory systems. 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 reorganization of the targeted system.

Conclusion

There is an important implication that should be noted from the HRG approach. Up to now, updating of memory reconsolidation has been viewed as mere reorganization of the memory. The perspective proposed with HRG is that when an implicit resource memory is used to stimulate trauma memory reorganization it also causes some integration as well. In other words, the reorganizing trauma memory extracts new information from the relevant resource memory. When the resource memory has been primed and activated with a hypnotic placebo suggestion using body associations it catalyzes true bottom-up processing. Not all methods of novelty mismatch may operate with equal effectiveness. The current authors have observed very rapid patient recovery when using HRG to treat trauma, schemas and phobias. However, any claim of its superiority over other strategies requires future controlled study.

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Comments and questions about this article are welcome. Address all correspondence Att: Bryce Kaye, hrginquiry@mindpring.com .
