

## CHAPTER 21

## A Dream of Creative Menopause

*A New Neuroscience of Brief  
Psychotherapy for Solving Puzzles of  
Biology and Psychology*

Kathryn Lane Rossi

## MEET THE CONTRIBUTOR

**Kathryn Lane Rossi, PhD**, is a licensed clinical psychologist practicing in Los Osos, California. She received her post-doctoral training at the University of California–Los Angeles School of Medicine in couples therapy, where she was certified for advanced training in sex therapy in 1992. She is currently professor of psychology at The New Neuroscience Institute for Therapeutic Hypnosis, Psychotherapy, and Rehabilitation of Rome and San Lorenzo Magoria (Benevento), Italy. She teaches workshops training psychotherapists nationally and internationally. She serves on

the board of directors for the Milton H. Erickson Foundation Archives and Press, Phoenix, Arizona. She is a founding member of the Milton H. Erickson Institute of the California Central Coast.

Kathryn says, “My mother taught me that it takes fewer muscles to smile than to frown. Her positive nature and ‘can-do’ attitude permeates my very being. I am grateful for her example of embracing ‘change’ with the enthusiasm of seeing where it will take you next. She cheerfully expected fun and almost always found what she was looking for.”

Life changes  
Attitude changes  
Nothing remains quite the same  
We cry, we puzzle but best of all—  
If we couldn’t laugh, we’d go insane.  
— *Kathryn Lane Rossi*

## THE ASSESSMENT

Violet was a beautiful, well-dressed woman in her early 50s. She was athletic, quick-witted, and obviously very intelligent. Her bright blue eyes made good contact with mine as she shook my hand and said hello.

She presented because the emotional symptoms of menopause were troubling her even though her physical symptoms were slight. She felt her brain was slowing down. Her memory was “variable” at best. Often she had a difficult time recalling words. She had previously used psychotherapy to move through tough transitions and wondered whether it could help her get through menopause since most people believed it was an entirely biological process. She believed that “a series of very vivid menopausal dreams” could be saying something about her changing psychology.

It was clear to me that this woman was very high-functioning. Her psychosocial assessment indicated that she was happily married, successful with friends and work, and an accomplished musician. Other than the reported problems with her memory, the meaning of her vivid dreams, and the transitions of menopause, there were no major problems. We decided together that the goals of therapy would be exploring her dreams, her early-morning thoughts upon awakening, and her intuitions about what was happening to her. Together we embarked on a therapeutic journey to understand her psychological experience during this new life transition phase of menopause.

What goes on in the changing brain of a menopausal woman is remarkable. As her brain restructures itself, old patterns of thinking are challenged. Her passion is to understand *who* she is and *how* she is becoming. She is reintegrating with new insights, hopes, dreams, and aspirations about what ultimately makes her a happy, content, and forward-thinking human being. Menopause is a *psychobiological* process. The big question is: What are the psychobiological relationships between the psychology of her new insights, hopes, and dreams and the biology of menopause?

The meaning of dreams during profound life transitions has been the subject of speculation since biblical times. Think of Joseph interpreting the Pharaoh’s dream of seven fat years followed by seven lean years in ancient Egypt. Sigmund Freud (1900) called dreams the royal road to the unconscious while more recently Ribeiro, Simões, and Nicoletis (2008) have documented research about relationships among dreams, novelty, gene expression, and the growth of the brain known as brain plasticity.

## GENE EXPRESSION AND BRAIN PLASTICITY

What is *gene expression* and *brain plasticity*? What do these terms mean for optimizing the creative process, psychotherapy, and menopause?

Modern neuroscience has profoundly updated our understanding of the genetics of life development. We now know that different patterns of genes are activated during different stages of life. Even our changing moods in everyday life are associated with different patterns of genes that are activated or “turned on” to make the proteins that generate our hormones and neurotransmitters that modulate our emotions, cognition, behavior, and health. We call this new perspective “Psychosocial Genomics” (Rossi, 2002, 2004a, b, 2007; Rossi & Rossi, 2008).

This is the basic insight of the new neuroscience of deep psychotherapy of menopause that we explore in this chapter. Major changes in gene expression during menopause

generate changes in the production of proteins in the connections (synapses) between neurons of our brain that are now called “brain plasticity.” These changes in brain plasticity can modulate mood, memory, and behavior that we experience as “symptoms of menopause.” Such symptoms also reflect a woman’s changing attitudes and new potentials during this life transition.

Erik Erikson (1994), the developmental psychologist, described menopause as a stage of life when women face the challenge of integrating the profound transitional issues of Integrity versus Despair. If we had a conscious choice, naturally we would all choose integrity (having it all together) rather than despair (being broken in many discordant pieces). The road to integrity is a life-long journey with many paths for success. This developmental process allows us to integrate our psychological mind with the growth of our physical brain at the level of gene expression and brain plasticity. This leads to new conscious choices and, ultimately, greater possibilities for happiness, fulfillment, and a life well lived.

In this chapter, I explore a new approach to understanding how psychological experiences of the menopausal woman may be related to the deepest levels of gene expression and brain plasticity in her brain. This chapter is a contribution to the emerging new neuroscience school of psychotherapy (Rossi, Iannotti, & Rossi, 2006; Rossi & Rossi, 2006; Rossi, Rossi, Cozzolino, & Iannotti, 2007; Rossi, Rossi, Yount, Cozzolino, & Iannotti, 2006).

## INITIAL SESSION

Violet began her initial session with a panic of self-disparagement. “I feel like I’m becoming an idiot,” she said, wringing her hands gently and occasionally touching her left temple and her face. She looked distressed and anxious. “My memory is so bad. I’m actually avoiding people I know in the grocery store. I can’t remember their names sometimes, or important things, like the names of their spouses and children. I feel sometimes like I’m losing my mind. Is this what insanity looks like? I used to be so sharp witted. Is this the future for me? Am I going to my dotage? Is Alzheimer’s disease already hitting me? I’m only in my early 50s!”

### *An Immediate Psychotherapeutic Reframe via Neuroscience*

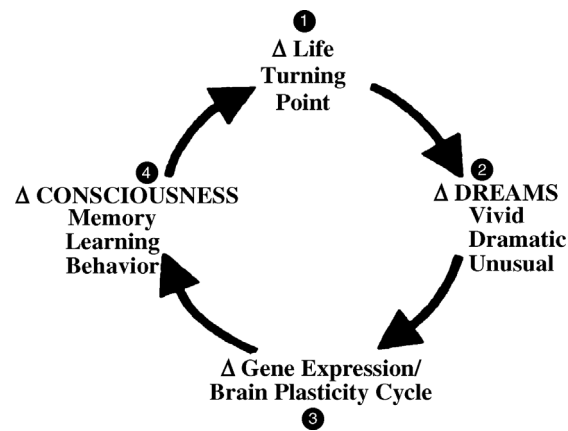
“Not necessarily, Violet,” I said, wanting her to consider the positive alternatives. “Your so-called anxiety may actually be a mind-body transition seeking a creative outlet.”

“Really, do you think I could transform this hideous decline and maybe even halt it?”

“Yes,” I said. “It is possible. Your brain has the capacity to grow all of your life when you give it novel and interesting stimulation. The natural state of a growing brain is to develop and strengthen new brain connections. The brain can even make new cells and new neurons to help you adapt to life transitions like menopause.”

“I’ve never really understood my brain. You know, it’s always just been there for me. Now that I feel myself slipping into who knows what, I have a real need to understand what is going on. I need to have a road map of what to expect.”

“Well, believe it or not, we do have a mind-body road map. Look here at this picture,” I said, pointing to a copy of Figure 21.1 on my office wall. As pictures can often speak more than words, I draw clients’ attention to the posters I have around my office, thus offering visual as well as auditory information to enhance the potency of learning. “When we go through an important turning point in life, many people have very vivid dreams like you are



**Figure 21.1** Neuroscience Update of Brief Psychotherapy Illustrating a Creative Psychobiological Cycle

having. It is now believed that genes are actually turned on in the neurons of your brain to form the proteins that make the new connections you experience as new memory, learning, and consciousness” (Ribeiro et al., 2008; Rossi, 2007).

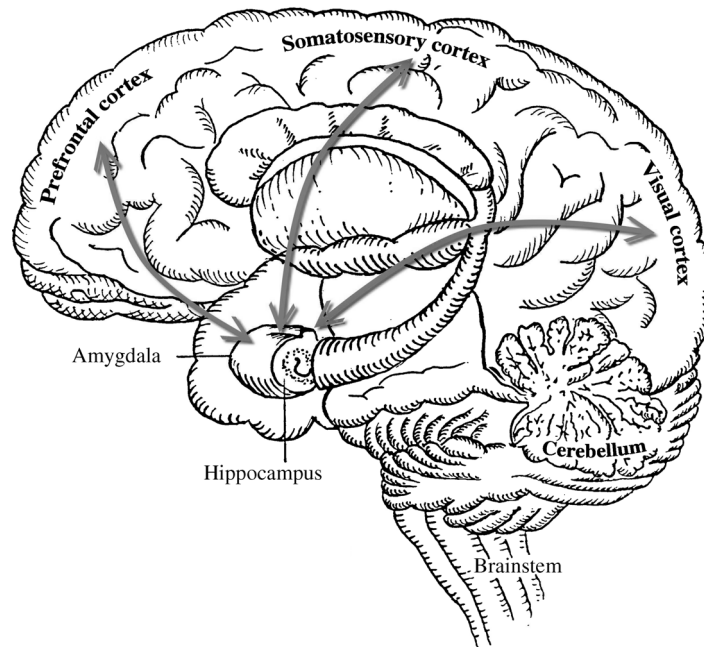
### *Mind-Body Communication from Mind to Gene*

“Menopause is a psychobiological, or mind-body, process,” I continued. “The changing balance of hormone levels, characteristic of menopause, affect gene expression, which then can affect the structure of the brain’s synapses. You remember that synapses are the connections between our neurons and our brains. Synapses are the travel agents of transformations.” I pointed to a prominent poster in my office (Figure 21.2) and said, “This is a picture of your brain when it engages a dialogue between the hippocampus and cerebral cortex in your vivid dreams about menopause.” My reasons behind choosing to explain a client’s problem and the creative process of therapy in the neuroscience model are that it can (as we have seen with Violet) help clients reframe distressing symptoms of change to positive signs of development and growth. Understanding the natural dialogue among the mind, brain, and body can assist a person normalize symptoms, see a pathway for progress, and grow through what otherwise could be an unsettling period. It can provide a tangible basis for understanding what might previously have been confusing and inexplicable to the client.

“This is how memory and new ideas and life changes are made,” I continued (Rossi et al., 2008). “When something new and exciting happens during the day, it is automatically replayed in a creative dialogue between the hippocampus and the cortex of your brain. Understanding this natural dialogue between the mind and brain during menopause is a new way of understanding your dreams and how your brain-mind and consciousness can change dramatically during profound life transitions. It could become an excellent way to help you cooperate with Mother Nature in creating a better life for yourself at this time.”

“But how does the mind get from the brain into the body?” Violet asks.

“One obvious answer is that the nerves carry messages among mind, brain, and body. A more subtle pathway is via hormones, growth factors, and so on, synthesized in the brain in



**Figure 21.2** New Neuroscience Model of the Brain Consolidating Memory as a Result of Therapeutic Change during Psychotherapy

response to environmental signals and stress, which are then transmitted as molecular messengers through the bloodstream to potentially every organ, tissue, and cell of the body.”

“Transmitted as ‘molecular messengers’? Wow, this is getting really complicated,” Violet commented.

“It’s far less complicated than you might think. The current evidence of the degree of involvement of gene expression and brain plasticity in memory, learning, behavior, education, and psychotherapy is still controversial, but it is being strongly documented by many scientists. Gene expression and the growth of your brain is the natural basis of mind-healing in psychotherapy” (Kandel, 1998; Lichtenberg, Bachner-Melman, Gritsenko, & Ebstein, 2000; Lichtenberg, Bachner-Melman, Gritsenko, Ebstein, & Crawford, 2004; Lloyd & Rossi, 2008; Ribeiro et al., 2008; Rossi, 2002, 2004a, b, 2006–2007; Rossi et al., 2008).

### ***Exploring Computerized Brain Fitness Programs in Psychotherapy***

This immediate positive therapeutic reframe of Violet’s presenting problem in the first psychotherapy session was possible only because of her acute intelligence and curiosity. As we discuss the possibilities of using her creative energy, she wondered if computer brain and memory training programs she had recently read about could be of use to her. We agreed that, yes, she might enjoy exploring them. They could be very advantageous to enhancing memory and making her cognition faster. She made a commitment to complete the 40 one-hour sessions of *The Brain Fitness Program* (Merzenich, 2006–2007).

All went well during her *Brain Fitness Program* for the first 15 lessons. Then, in her words, she “hit a wall” of anxiety, fear, and headaches. How could she learn anything when

she could not even make out the words being said in *The Brain Fitness Program*? It was so hard and frustrating that it felt impossible. She wanted to quit but knew that quitting would not improve her memory and listening skills.

Sometimes, during periods of transition, the coping skills that people like Violet have relied on in the past may no longer work effectively for them. At such times, people are faced with the challenge of how to deal with the changing situation or process. Finding the solutions means they need to draw on novel or creative processes that have the brain searching for new neural pathways and mind-body links. For this reason, I want to help clients have a clear understanding of the processes of creativity and how to use those creative processes to enhance their adaptation. This is where utilizing the four-stage creative process in psychotherapy can be so helpful.

Concepts about the creative process have been around for a long time. In the 1500s, the Italian master Leonardo da Vinci described a seven-step creative process (Gelb, 1998). His creative principles are very interesting and are a precursor for the four-stage creative process utilized in psychotherapy. French mathematician Henri Poincaré described a four-stage creative process 200 years later. More recently, Ernest Rossi (2005) applied the process to psychotherapy, creative growth, gene expression, and brain plasticity.

It was at this point of her ambivalence about the *Brain Fitness Program* that Violet had a dream that clearly illustrates the four stages of the creative process (Rossi 1972/2000, 2002, 2004a, b, 2007; Rossi & Rossi, 2008).

## THE FOUR STAGES OF THE CREATIVE PROCESS DURING A DREAM

### ***Stage 1: Data Collection: Noticing Change in One's Self and Environment***

In this initial stage of the process, clients are faced with the challenge of the transition, collecting the information about what they want, and assessing their potential opportunities. In the dream Violet describes, this was the stage of wanting to learn, go to college, and seek out the library.

I am a young, 23-year-old, foreign-born woman. I have a high school education and want to go to college but I have no money. I rent a room with other college students so at least I will have access to the university library.

I need to wash my clothes. I don't have very many and I don't feel like carrying them, so I put them all on and proceed to walk across the college campus for the first time. I know I will eventually find a place to wash my clothes and, more important, I will find the library.

The campus is *beautiful!* There are large expanses of perfectly groomed green grass with occasional ribbons of orange California poppies. The air is sweet from the rains of the previous day. Everything is very clean. In the first building I see students at their desks. It is enchanting to watch students scurrying to class, already late.

### ***Stage 2: Incubation: The Often-Difficult Period of Transition between an Old and New Lifestyle***

Here Violet is fully involved in the heart of her problems and, at times, may even seem to be at an impasse. However, we must be very careful with the older, traditional psychotherapeutic concept of *impasse*. An impasse traditionally suggests an end point,

whereas incubation is a natural transition of the creative process. Incubation is the thinking, feeling, and puzzling through a cognitive-emotional state of “I don’t know.” Violet was focused on the blackboard math problems. Which way does she go? Which path does she follow? How is she going to resolve the situation? Time and a great deal of inner work is required during this incubation stage in our dreams, self, and social relations to facilitate gene expression and brain plasticity in this new brief neuroscience of psychotherapy.

I peek inside the classroom and catch the professor’s eye. He recognizes me. He has been looking for me. “Please come in,” he says. “I want to take you to lunch when the class is over. Do you have time?”

“Sure,” I say. I sit down. There were about a dozen other students. On the blackboard were 24 math problems to solve. These problems were spatial in nature, but I immediately understood that there had to be a numerical answer. I was transfixed and wanted to try to solve each puzzle.

The other students had lots of paper and were madly copying a problem down and trying to solve it. I found a piece of scrap paper. I was too shy to ask anyone for more. I wrote down the numbers 1 to 24 and proceeded to thoughtfully look at the first spatial puzzle and began in my mind to eliminate everything I thought was not relevant. I could see the solution in my mind’s eye to the first puzzle and wrote the numerical answer on my scrap paper. I did this for each of the 24 puzzles. This took me about 25 minutes.

### ***Stage 3: Illumination: Getting a New Idea***

This is a stage of intuition, of enlightenment, of the “aha” experience, of the surprise of discovery. Violet discovered and was surprised by her strengths and resources to solve math problems.

Just as I was finished, one of the students ran up to the blackboard and began to erase elements of the third spatial problem. She was ecstatic! She found the solution to the problem and wanted to show everyone the correct answer. The professor was very complimentary to her. The rest of the students returned to concentrate on their own work.

Since the other students did not talk to the professor, I asked him if he would look over my answers. He leaned over my paper and circled a problem saying “This is the only one that is not correct.” I then took a moment and put my left hand to my left temple in a gesture indicating that I knew where I had made my mistake. I then wrote down the correct answer.

### ***Stage 4: Verification: Exploring New Possibilities in the Real World***

In the final step, clients apply their “aha” experience to their day-to-day life with a newly developed confidence to continue moving forward, just as Violet’s dream discovery empowered her to do.

The professor asked me if I had a doctorate degree in mathematics. Of course, I said, “No.” He then told me that this class was a graduate course in spatial mathematics and the questions on the blackboard were to be solved over the semester. In fact, he said, most students do not solve all of the questions even within the semester. How on earth, he wondered, did I do this? Did I really perform the calculations all in my head without writing anything down in the process?

Shyly I said, “I only had this scrap of paper. It was not an option for me to use any other way to solve the problems but in my head.”

He then asked me to explain my thought process to him for several of the questions. He confirmed that, yes, the steps I took in my own mind to solve the problems was exactly the proper way to go about it.

## CREATIVE THERAPEUTIC HYPNOSIS TO FOCUS ATTENTION, GENE EXPRESSION AND BRAIN PLASTICITY

### *The Hand Mirroring Protocol*

Violet did not know what her dream meant. In such situations, it is important the therapist sees that “not-knowing” as a therapeutic opportunity for introducing new learning (Rossi et al., 2008). My choice was to introduce therapeutic hypnosis for three reasons.

1. Therapeutic hypnosis involves flow, engagement, and focused attention, which are helpful skills for someone who had expressed concerns about memory and concentration to acquire.
2. Therapeutic hypnosis can facilitate creative processing and understanding of her dreams and intuitions about what was happening to her.
3. From our new psychosocial genomic perspective, therapeutic hypnosis is a mind-body process that can enhance gene expression and brain plasticity, as already discussed.

Introducing this as *a creative process of therapeutic hypnosis*, I asked Violet, “What do you think your dream means?”

“I’m really not sure. I’m no mathematician, that’s for sure. And I’ve never been a foreign student. Why would I be 23 years old?”

“What was the most surprising part of your dream?” This is a key question. What is *surprising, new, novel, and unexpected* is a precise psychobiological focus that may facilitate gene expression and brain plasticity.

“I would have to say solving all those math problems so quickly and accurately was the most *surprising* part of my dream.”

“Do you think of yourself as a brilliant problem solver?” I inquired.

“I’m pretty good, but I wouldn’t call myself a brilliant problem solver.”

“The professor in your dream seems to suggest otherwise. Could you be underestimating your own abilities?” I responded.

“Well, I’m not brilliant at this *Brain Fitness Program*,” Violet said very quickly. “I’m getting headaches and I feel frustrated enough to bleep it off my computer. Why is it *so hard* to grow my brain?”

“I wonder if you would like to explore this question with a new therapeutic process I call ‘the mirroring hands?’” (see Figure 21.3) The offer of an intervention at this stage is with the intention of helping her to move on to the third and fourth creative stages of illumination and verification for discovering her abilities and then going forward with confidence.




Violet was eager to try something new.

“Place your hands palm up holding your arms 6 or 8 inches above your lap. Look into one hand and then the other, tuning in with great sensitivity. In which hand can you sense this ‘feeling’ that it is ‘so hard’ to grow your brain?” I deliberately utilized her own exact words (Rossi et al., 2008).

Violet indicates this is her left hand.

“That is wonderful, Violet. Now, by way of contrast, what do you experience as the opposite of the ‘so hard’ in your other hand?”



	<p><b>1. Preparation: Facilitating Self-Awareness and Self-Sensitivity.</b></p> <p><i>When you are ready to do some important inner work on that problem, will you hold your hands above your lap with your palms up . . . as when you are ready to receive something? [Therapist models.]</i></p> <p><i>As you focus on those hands in a sensitive manner, I wonder if you can begin by letting me know which hand seems to experience or express that fear (or whatever the negative side of the patient's conflict may be) more than the other? [As soon as the person indicates that one hand is more expressive of the problem or symptom than the other, the therapist goes on to stage 2.]</i></p>
	<p><b>2. Incubation: Accessing Resources and Creative Review. Integrating the Opposites.</b></p> <p><i>Wonderful . . . now I wonder what you experience in your other hand, by contrast, at the same time? What do you experience in that other hand that is the opposite of your problem [issue, symptom, etc.]?</i></p> <p><i>Good, as you continue experiencing both sides of that conflict [or whatever] at the same time, will it be okay to let me know what begins to happen next? Reviewing and replaying that until . . . ?</i></p>
	<p><b>3. Insight: Creative Replay, Intuition and Creative Possibilities.</b></p> <p><i>Becoming more aware of . . . ?</i></p> <p><i>Interesting . . . ? Something changing . . . ?</i></p> <p><i>And is that going well . . . ?</i></p> <p><i>Is it really possible . . . ? Something new? . . .</i></p> <p><i>Continuing to explore positive possibilities . . .</i></p> <p><i>Appreciating the value of what you are experiencing . . . knowing what is best . . . most important? . . . Your own way of helping yourself? . . .</i></p>

**Figure 21.3** Problem Solving by Integrating the Opposites (Source: Updated from Rossi, 2002)

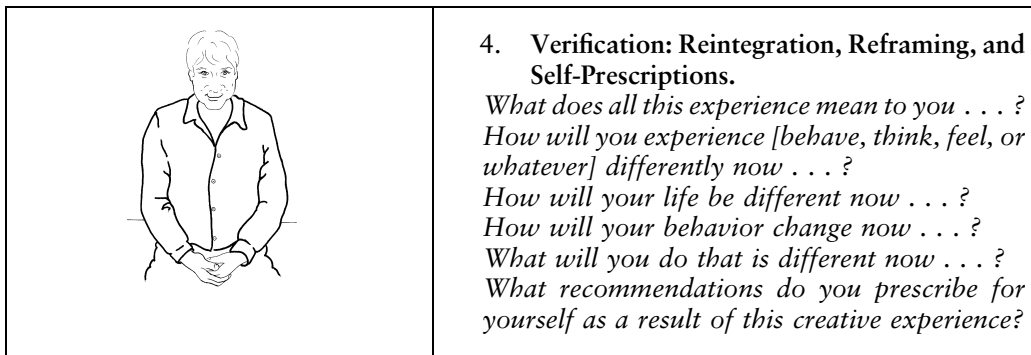


Figure 21.3 (Continued)

Violet hesitates, frowns with uncertainty and the struggle of her inner search. After a few moments, she nods slowly, acknowledging she can experience the opposite as “confidence” in her left hand.

“Very good, Violet. And now, while experiencing both sides at the same time, I wonder what you will notice between those hands on the inner stage of your creative imagination? Is one hand heavier and the other hand lighter? (Pause for about a minute.) Is one hand warmer and the other hand cooler? Do the hands move together or apart as their relationship changes?”

During this time, I became quiet and carefully observed the minimal cues of Violet’s inner focus. She moved her head and eyes slowly from side to side, looking from one hand to the other. I saw very small vibrating micromovements of her fingers on both hands. She then began to slowly and experimentally oscillate her hands, moving them up and down, together and apart. Her hands then circled around one another until the left hand became stationary and the right hand circled around the other hand.

“Yes, Violet. Continue with that. And I don’t know if that brings you to childhood, or to those teenage years, or maybe even in your early 20s, or 30s, or 40s, or maybe even now? (Pause for about a minute or two.) Is that really happening all by itself?” My remark suggested that the dissociations and reassociations characteristic of the autonomous ideodynamic creative process of therapeutic hypnosis may be evoking gene expression and brain plasticity. From our new neuroscience perspective, the word *ideodynamic* means that a novel, creative *idea* (*ideo*) may be activating a brain *dynamic* of gene expression and brain plasticity.

Violet slowly nodded yes, and then her eyes spontaneously closed. I had not suggested that she close her eyes! Their closing spontaneously may be a more meaningful sign of intense focusing than if I were to tell her to close them.

Violet’s movements became slower and her head spontaneously nodded, yes, about her inner work. Her chin was almost resting on her chest. Her right arm dropped down to her lap. Her left hand stayed stationary in front of her.

I remained very quiet while her creative inner work proceeded well enough alone—without any further possible distractions by excessive verbiage from the therapist. Less is often more during such delicate inner work!

### *A Spontaneous Recovery of Childhood Learning Experiences*

Violet's brow furrowed in concentration. A teardrop began to form, coming out of her right eye. Her breathing was slower. She swallowed. Her eyes slowly opened and looked unfocused. She was not really looking at anything in particular. When such behavior is spontaneous (not suggested by the therapist), it is characteristic of a special psychobiological state we call therapeutic hypnosis.

"I remember being in the third grade. I just could not seem to learn my multiplication tables. It was so hard. I had to give up recess every single day and spend time with my teacher to learn the multiplication tables. At first, there were other students there too, but then they all successfully memorized the tables, leaving me alone with the teacher. It was humiliating that I just couldn't learn them. At home, I spent hours writing out the tables. I'm sure my teacher wished that she had a private lunchtime too. Finally, after great effort, I successfully memorized the multiplication tables up to 12 times 12. We even got a lot of bonus points for memorizing right up to 15 times 15. It was hard to learn but I did it. I'm still really good at multiplication in my head. This came from working so hard to learn it.

"The experience I had in early grade school is almost exactly the experience that I have now. In other words, learning is just as hard now as it was back then when I was 8 years old. Learning is not harder because I'm in my 50s. Learning is just a lot of work!"

"Yes, Violet. This is the simple truth. Learning is not harder because you're in your 50s. Learning *is* a lot of work," I said, repeating and reinforcing her wise insight.

Violet's left hand was still in the same position, stationary in front of her. This let me know that she continued to be active in therapeutic trance. I remained quiet, looking for what would come next. She closed her eyes and took a deep breath.

"Simply receive that, Violet. Receive as much as you need to receive and . . ." I left the sentence dangling, to give her the creative opportunity to complete the sentence or thought.

Violet began to nod her head up and down. I saw the beginnings of a small smile. First, the right corner of her mouth started to rise and then the left corner of her mouth joined into a distinct smile. This is very characteristic of stage 3 of the creative process, the joy of an "aha" experience.

"Yes," Violet said. "This is the truth. Learning is hard. It's only with good daily practice that I'm going to be able to be successful in growing my brain. I know how to grow my brain. I did it in the third grade and I'm doing it right now. I am laying down new circuits in my brain. There is no other explanation for it. I've been successful in life because I stay with things to completion."

Violet opened her eyes and looked directly at me. I nodded yes while looking into Violet's eyes.

"And how will you apply this new knowledge today, tomorrow, next week, and for the rest of your life?" I asked, seeking to facilitate her fourth, or verification, stage of the creative process: the application of her new learning into her day-to-day life.

"I will continue each day to apply myself to the best of my abilities to develop this new learning with the *Brain Fitness Program*. I will complete the program. I do not need to be anxious about my progress. I know I will grow my brain. I don't know *how much* I will grow my brain, but I know I *will* grow my brain. I plan on enjoying each day with the knowledge that I will be successful."

This *behavioral self-prescription* documenting how she will utilize her therapeutic insights in her real everyday life is typical during stage 4 of the creative process. Clients discover their own paths toward healing and well-being.

## FOLLOW-UP

Within two months, Violet completed the *Brain Fitness Program*. Her improvements are listed in Table 21.1. Noteworthy is the increase in her brain processing speed (faster synapses) and ability to discriminate sounds (sensitivity). These are two of the most basic building blocks for cognition and language. During Violet's most difficult and challenging periods with the *Brain Fitness Program*, she occasionally suffered headaches. While such difficulties may not be characteristic of most people, this was probably when she improved the most. Note that Violet's score on Sound Precision was low. As she was a musician, she had a natural talent for recognizing sounds precisely and was so advanced at the onset that she had minimal improvements with the program.

"Violet," I said. "You have really worked hard. These successes are phenomenal. What do you have to say about your current menopausal transition now?"

"I did work hard. I now know it is possible to grow my brain. The *Brain Fitness* exercises brought me back in time to memories of grammar school. It was just as hard to learn new skills then as it is now. It's only after you really learn something that it becomes easy. If you had not taught me about the importance of brain plasticity and brain functioning, even down to the gene expression level, I don't think I would have had the faith in myself to try so hard. The fact that my dreams were so involved with this process was amazing. I have so much confidence now that I can learn anything I want."

"How about your memory? Has it improved to your satisfaction?"

"Memory is interesting. I am great if a memory is meaningful and in an important context. But if it is random, like remembering a list of things in a particular order—well, I'm still in the process of consolidating that. 'Solid' is part of 'con-solid-ating.' You could say that I am not completely solid in my memory but I am a work in progress."

"What will you do now to make your memory solid?"

"I am thoroughly enjoying practice, practice, practice, celebrating successes, and being relaxed about the whole thing. When I remember someone's name, along with the names of their spouses and children, I am so happy. I really try now, after learning something new, to

**Table 21.1** Violet's Improvement with the *Brain Fitness Program*

Category	Skill Set	% Improvement
High/Low	Processing speed	32%
Tell Us Apart	Discriminating sounds	56%
Match It	Sound precision	4%
Sound Replay	Sound sequencing	23%
Listen and Do	Working memory	14%
Story Teller	Narrative memory	22%

plan out how I will share it. My friends are thrilled about all my new learning and are more interested in our conversations than ever before.”

“So, in a nutshell, it seems as though you have transformed your mind-body experience of anxiety into creative energy for improving your memory and growing your brain!”

“Absolutely!” Violet concluded. “And dreams are my friends. Looking for the four stages of the creative process in my dreams allows me a whole new level of bringing the ‘new’ in me alive. Thank you!”

### Putting It into Practice

1. Offer a psychotherapeutic reframe via neuroscience.

The neuroscience model can help clients reframe distressing symptoms of change to positive signs of development and growth. With menopause as an example of a psychobiological or mind-body transition, Violet illustrates how understanding the natural dialogue among the mind, brain, and body can help a person normalize and grow through what otherwise could be a distressing period. A neuroscience framework offers clients a way to cooperate with natural processes in creating a better quality of life. It helps for the therapist to keep up-to-date with the growing body of research in this area.

2. Use the four-stage creative process.

Any process of change or transition can herald a period of potential creative growth. What are the signs or indications that your clients are in, or about to enter into, a creative process? For Violet, there were cognitive changes, self-disparagement, fears of losing her mind, and vivid dreams. She was guided through the four stages of creative processing in understanding her dreams and in the therapeutic hypnotic intervention.

- a. *Stage 1: Data Collection.* In this initial stage of the process, clients are faced with the challenge of the transition, collecting the information about what they want, and assessing their potential opportunities. In Violet’s dream, this was the stage of wanting to learn, go to college, and seek out the library.
- b. *Stage 2: Incubation.* Here the client is fully involved in the heart of the problem and, at times, may even seem to be at an impasse—the stage when we need to focus attention to activate gene expression and brain plasticity. Violet’s dream was focused on blackboard math problems. Which way do clients go? Which path do they follow? How are they going to resolve the situation?
- c. *Stage 3: Illumination.* This is a stage of intuition, of enlightenment, of the “aha” experience, of the surprise of discovery—the outcome of which is evident when one has successfully turned on gene expression and brain plasticity. Violet discovered and was surprised by her strengths and resources to solve math problems.

- d. *Stage 4: Verification.* In the final step, clients apply their new insight from stage 3 into their day-to-day life with a developed confidence to continue moving forward, just as Violet's dream discovery empowered her to do.
3. Consider a therapeutic hypnotic intervention with a hand-mirroring process. Since therapeutic hypnosis can be a creative mind-body intervention, it is a logical choice for working with creativity in a psychobiological transition such as menopause. Focusing attention with a hand-mirroring protocol engages the mind-body interaction. As seen with Violet, this can facilitate the discovery of innovative resolutions.

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