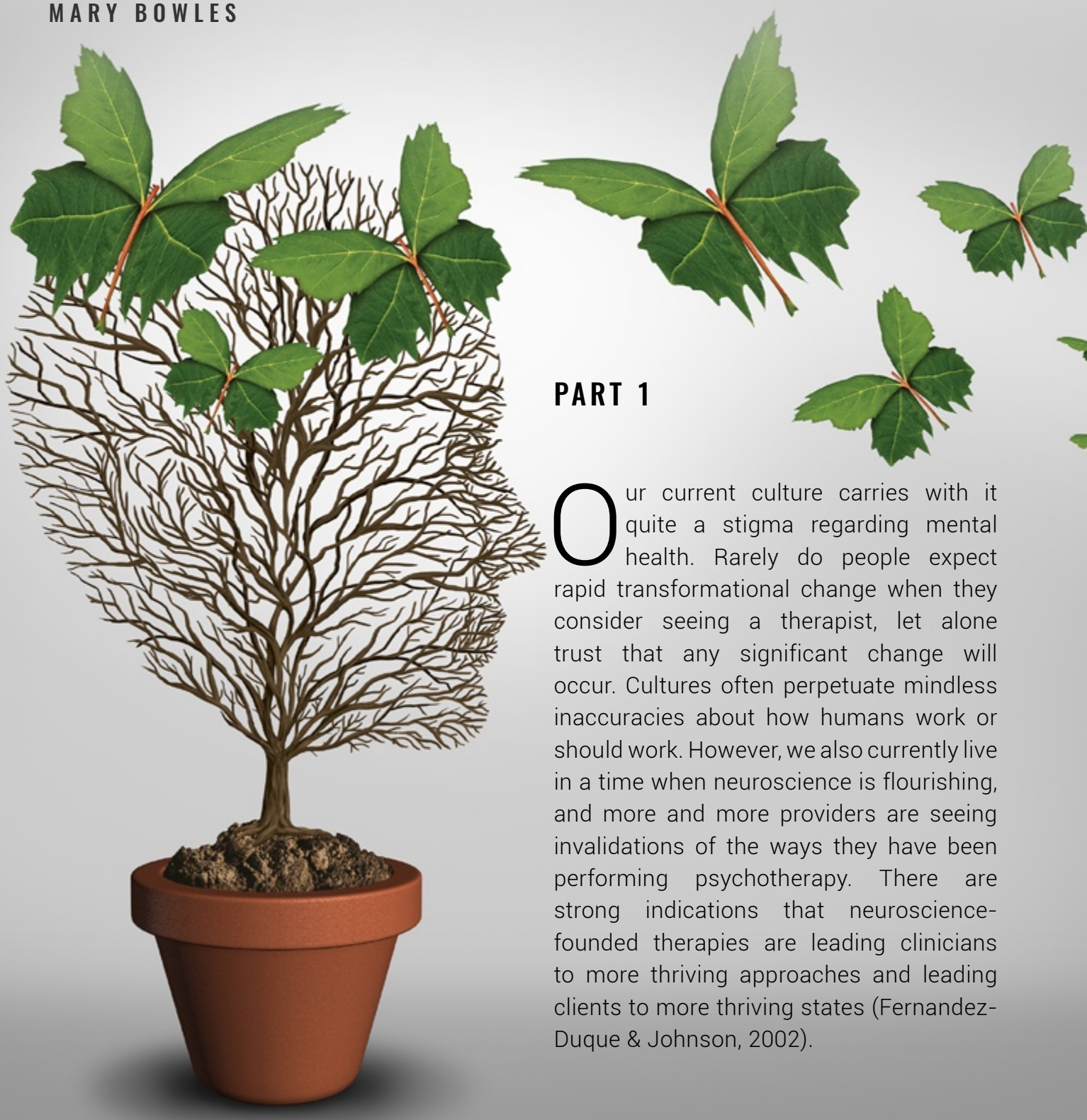
AN INTEGRATED RAPID MEMORY RECONSOLIDATION APPROACH:
RAPID RESOLUTION THERAPY

MARY BOWLES



PART 1

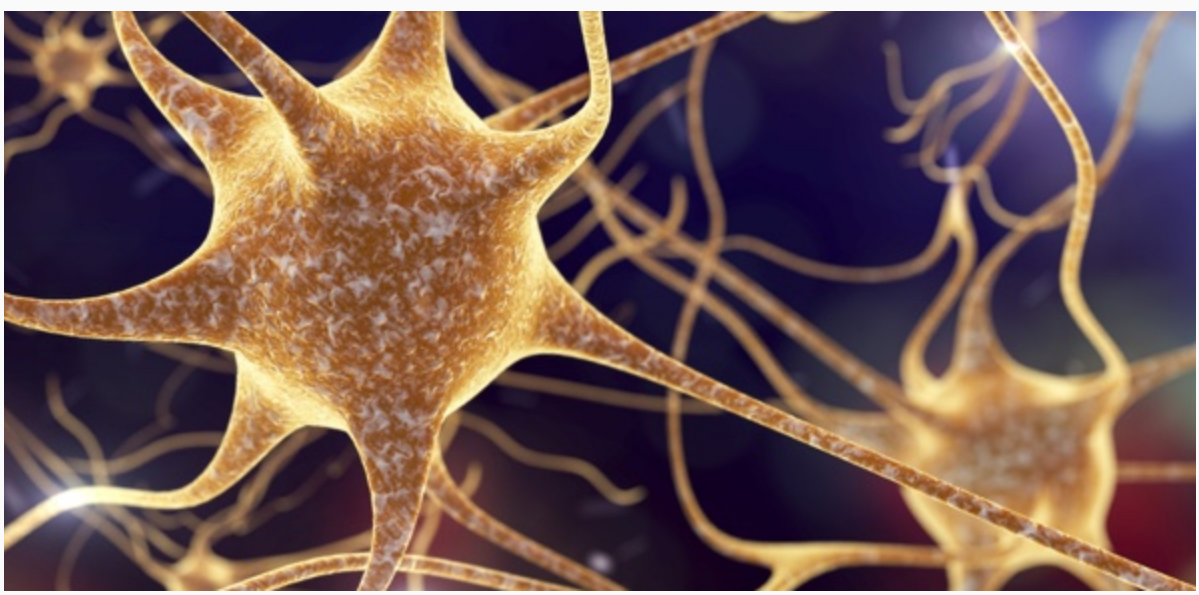
Our current culture carries with it quite a stigma regarding mental health. Rarely do people expect rapid transformational change when they consider seeing a therapist, let alone trust that any significant change will occur. Cultures often perpetuate mindless inaccuracies about how humans work or should work. However, we also currently live in a time when neuroscience is flourishing, and more and more providers are seeing invalidations of the ways they have been performing psychotherapy. There are strong indications that neuroscience-founded therapies are leading clinicians to more thriving approaches and leading clients to more thriving states (Fernandez-Duque & Johnson, 2002).

My intention is to encourage clients and clinicians to consider some new and different ways of approaching psychotherapy that have been demonstrated to be highly effective. I intend to clarify inaccuracies about the brain and humans, to reduce stigma by offering a normalizing, de-pathologizing, and more positive way to provide client care, and to help clients learn proactive and brain-based techniques for managing future experiences. Lastly, in an effort to reduce therapeutic interventions that may interfere with transformational change, I offer some bold assertions that go against much of what most psychotherapists are taught.

Rapid resolution therapy (RRT) has been evolving over the last 30+ years under the direction of Dr. Jon Connelly (http://www.rapidresolutiontherapy.com/about/), and it has recently come into focus with a number of organizations, including the United States Army (Hames, 2010), the Brian Bill Foundation (https://www.brianbillfoundation.org/), the StreetShares Foundation (http://go.streetshares.com/streetshares-foundation-veteran-small-business-award); StreetShares, Inc., 2017), the Veterans Health Alliance of Long Island (http://veteranshealthalliance.org/), and Adelphi University (https://events.adelphi.edu/au_event/rapid-resolution-therapy-rrt-seminar/).

In addition to the above, the president of Operation Warrior Resolution (http://www.operationwarriorresolution.org/), Kendra Simpkins, was recently awarded funds to continue the foundation's work rapidly treating military service members with PTSD (Simpkins, 2018). Kristin Rivas also offers a moving Ted Talk about her experience with RRT when she was successfully and rapidly treated for diagnosed conversion disorder (TEDx, 2014). Kristin later became an RRT clinician herself. Connelly summarizes some of his approaches to PTSD and addiction on YouTube (Palm Partners Recovery Center, 2009a,b). I often think of Connelly as an unknowing "neural plastitician". He does not claim that RRT is a neuroscience-founded therapy, but I do, and I will provide my evidence here. I am confident that RRT is a remarkable process for helping people feel better painlessly and effortlessly in a way that is very pro-brain.

As a memory reconsolidation-informed therapist, I find that RRT is one of the most



effective, compassionate, brain-based, treatment approaches to memory reconsolidation that I have ever experienced or witnessed. I have used RRT successfully in treating PTSD, anxiety, anger, panic, grief, minor and major stress, depression, addiction, guilt, shame, and so much more. I employ it with every client who has experienced actual or perceived trauma. I use it with both adult and child victims of abuse. I use it while working with couples to manage conflict, recovery from infidelity, and communication problems. When combined with neuropsychotherapy-based education, I have seen a dramatic increase in transformational change as a result of clients gaining an understanding of the brain and learning to undo ineffective and inaccurate individual and cultural understandings about the brain, the self, and other human beings. I also attribute the change to Connelly's ability to address a client's internal conflict, using what I call inarguable mismatch, which occurs when an individual can only disagree with his/her earlier belief(s). Connelly has a way of communicating with clients that presents immediate conditioning opportunities that invalidate prior traumatic meanings, or more accurately, emotional learnings.

My fidelity to this approach came as I experienced a single 90-minute treatment session for my fear of public speaking. I learned my fear was attached to a lengthy interrogation I experienced about a lie I told when I was about 10 years old. The treatment allowed me to remove the unnecessary emotion attached to that memory. Since that session I have successfully and without fear presented publicly on many occasions, both locally and internationally. Prior to treatment I would be sick in my stomach, shaking, and mentally clouded any time I had to speak in public. The fear bled into other areas of my life, including during tests, when my brain perceived



my capabilities were on a stage for all to see.

Subsequent to treatment, I sought to become certified in RRT, complementing my role as a trauma-informed licensed marriage and family therapist, trained and experienced in interpersonal neurobiology and neuropsychotherapy. Through my neuroscience training and interest in memory reconsolidation I was able to understand how RRT can be explained by memory reconsolidation.

Rapid resolution therapy is completely different from any other model I have had the privilege to learn. The RRT therapist leads rather than follows. Yes, this is in opposition to the ways most therapists are taught! When I move toward a client's neuropsychotherapeutic needs for safety, connection, control, motivation, and self, the end goal will always be an improvement on the prior state. I keep clear any question about where I am trying to get them, to keep them always in agreement with our mutual goal. Most therapists are taught to understand the client's language, not give them one. In contrast, I begin every new session by providing a transparent, brain-based language to reduce the potential for miscommunication. RRT treatment is

not retraumatizing; clients do not re-experience or expose themselves to their fears, and therapists do not experience vicarious trauma. Treatment is often successful in a single session: RRT gives meaning to "brief therapy". Many aspects of RRT are so profoundly brain-based that one can consider this an alternative approach that could remove stigma which is an important step to improve mental health treatment outcomes.

Therapists are generally taught to be aware of resistance rather than to lead them through it by providing more effective tools. The average therapist learns to label a client's dysfunctions, not to deconstruct inaccurate social constructs. RRT therapists will keep clients in a thriving state, where learning happens, and will not reactivate their survival states, expecting they could possibly thrive.

My approach uses transparency to reduce the stigma of mental health. I want my clients to manage their emotions without fear. I want to enrich their environments.

THE SET-UP: DESCRIBING NEUROSCIENCE WITHOUT A YAWN

Using a poster on my wall which indicates each brain area, I explain the triune brain (MacLean, 1985). The average brain has essentially three "sections". The first section is the lower back area of the brain. This is the first part of the brain to develop after conception, and it manages your survival needs, including heart rate, breathing, balance, digestion, blood pressure, and many other reactions necessary to keep you alive. So, consider this your survival brain, or the "impulsive" or "downstairs" brain (Siegel & Bryson, 2012, 2016). Its job is to react quickly to ensure your survival.

The next section is the thriving brain, or the smart or "upstairs" brain (Rossouw, 2014, 2016; Siegel & Bryson, 2012, 2016). This part of the brain responds 10 times slower than the survival brain, which is still very fast, but more thoroughly. This is the part of the brain you are using when you are curious, creative, learning, or more simply, thriving.





The third section is the emotional brain, or what we call the limbic system. The limbic system lies in the center of the brain. Two important parts of the emotional brain are the amygdala and the hippocampus.

The amygdala is important because its job is to scan the world for threat and novelty (Rossouw, 2014, 2016). The amygdala also attaches emotional significance to memories (Queensland Brain Institute, n.d.). Instantly, when the amygdala senses a threat, it sends a signal to the body to fight, flee, or freeze, or activate the HPA (hypothalamus–pituitary–adrenal) axis. If I open the door and let a bear into the room, your body will immediately be ready to fight, flee, or freeze. You wouldn't have to look at your watch waiting for the electrochemical response to wind up and uncoil. The signal instantly tells your body to produce adrenaline and cortisol: adrenaline for energy to fight, flee, or freeze, and cortisol to direct blood flow to vital organs, including your heart, lungs, muscles, and survival brain (Rossouw, 2014). By redirecting blood flow to the survival brain, the thriving brain becomes physically constricted. In an actual threat situation, this is a useful response by the body, because people don't need to be able to do math in a shark tank; instead they need to be able to swim efficiently and use all their energy for that escape.

The hippocampus is, among other things, a short-term memory storage unit and the part of the brain that applies context to experiences. The hippocampus can also down-regulate the stress response in the amygdala:

> *Effective hippocampal activation inhibits the stress response and enhances 'context' by linking past memories to present experiences, ensuring more effective management of stressors. In a nutshell, the hippocampus seems to be a powerhouse to foster resilience. (Rossouw, 2015, p. 5)*

The hippocampus applies context to one's life, so you can correctly assume my bear comment was a joke and that I don't actually have a bear stored in my space across the hall.

Short-term memories are encoded in the hippocampus and discharged to long-term memory, into the neocortex, during REM sleep (Rossouw, 2014, 2016). Traumatic memories are also formed in the hippocampus, but stay isolated from the neocortex (much like short-term memories) for easy recall and quick access (Nadel, Winocur, Ryan, & Moscovitch, 2007). Treatment involves changing the context of traumatic memories to encode them into non-reactive long-term memory.

To understand the amygdala and hippocampus in action, imagine a three-year-old is chased by a poodle and the poodle bites his ankle. The little boy's

amygdala stores the memory that poodles are to be feared. The memory is not necessarily stored as an awareness, but as an emotional learning to fear poodles. Subsequently, when he sees a poodle, his heart begins to race, his breathing increases, and he may be driven to fight, flee, or freeze because of the dog. That fear might be useful if he is still three years old and barely a foot taller than the poodle when he sees it again. But if he is 30 years old, six feet tall, and able to defend himself against the poodle, the stored fear memory that a miniature poodle is something to be feared is no longer useful. Yet his body responds to the sight of the poodle (or another generalized fear, such as white hair, curly hair, dogs), instigating his usual fight, flee, or freeze response—that is, until he has a new emotional experience that runs counter to his earlier emotional learning, which can change how that fear memory is stored in his brain.

Remember, we are talking about the emotional brain, and often our culture perpetuates a belief that women tend to deal with things "emotionally" and men tend to deal with situations "logically". However, when we understand our flight, flee or freeze responses, we understand that emotions are one's "approach" or "avoid" states and that all animals, including males of the species, have them.

Men are not emotionless ogres, and women do not have more emotions than men. Letting a bear into the room will stimulate the brain and body of both males and females to take an action. If a person determines an experience is satisfying, they want to approach it, as when preparing to eat a favorite dessert. On the other hand, if a person predicts an experience will be unsatisfying, they want to avoid it, so may fight, flee, or freeze. The emotional brain engages one to take action to approach or avoid (MacLean, 1985). Emotion moves one toward motion (Siegel, 2012a). A brain-based therapist offers the most effective help by facilitating a client's patterns of approach (Rossouw, 2014).

Some may think this is an over-simplified explanation of the brain, or possibly too much information for a client who only wants to feel better, but nearly every client who walks into my office now appreciates this brain-based education. Each person applies it to themselves and their trauma/stressors, which encourages them to more easily and effectively work with their own brain rather than against it. I never have to challenge their supposed resistance, and they do not have to pour their souls out to me. Clients immediately begin learning how their brain responded normally to an actual threat and also to the stored memory that keeps their brain responding ineffectively to the memory based perceived threat. If one lives in the bush, holding a fear of lions is a useful response. If one's former partner was adulterous, a fear that all partners will be adulterous is not a useful response. The context of their lives is already changing; the hippocampus is already challenging the amygdala. Transformation begins immediately.

MEANING, BELIEF, THOUGHT, AND LEARNING

Consider this: the meanings we attach to our experiences is where our trauma and stress is stored. Meanings are also beliefs, learning, thoughts, and of course memories. Consider meanings as the general knowledge one has about the world, or semantic memories (Queensland Brain Institute, n.d.).

To understand meaning, consider that most people are afraid of a car accident. But what is a car accident? A car accident is merely one car in



the same place as another car at the same time. Whether consciously or unconsciously, a person will believe about a car accident such things as: I should have gotten out of bed earlier, If only I'd have turned sooner, My parents are going to kill me, or I am never going to be able to pay for this. When it comes to experiencing a high-stress situation, meanings (beliefs, thoughts, learnings, etc.) may not be accurate and are in place before the stressful event. So if a woman says to herself, I should have gotten out of bed earlier, she is not considering that there are approximately 7.5 billion people on the planet so there will be times when two cars would be in the same place at the same time, and the car accident doesn't have anything to do with her "failures" at all. It is just something that can happen. And sometimes two feet are in the same place at the same time; should she also blame her late waking if she steps on someone else's foot? Such situations have nothing to do with one's preconceived beliefs about self or other.

Human beings are the only animals who attach meaning to their experiences and the only animals who create fear for themselves based solely on the activation of a memory. When the amygdala senses a threat, the brain and body react immediately. The amygdala does not discriminate, however. Threat requires a response—whether the message comes from an actual threat or a perceived threat. A fight, flee, or freeze response is, no question, a useful response if one is being chased by a bear in a field of green grass, but 10 years later it is not a useful response if one merely sees a field of green grass and no bear; the grass did nothing. Unfortunately, the brain stored that memory as a threat because the brain also generalizes fear (creates associations), although the field of green grass was not the threat. This is why victims are often triggered by things such as the name of a perpetrator or other associated memories of events. Imagine the short

life a deer would have if it generalized the threat to a fear of fields after a bear chase. Helping clients change the context of triggers helps to reconsolidate those memories.

MEMORY CONSOLIDATION AND RECONSOLIDATION

Brains are a massive collection of approximately 86 billion neurons (Azevedo et al., 2009). Memories are created through the activity at the space between neurons - the synaptic space. Each time one has a new experience, neurons fire, creating an action potential. This connects neurons to one another which encoding a memory of those experiences. This is the Hebbian principle—neurons that fire together, wire together—and the foundational knowledge for how memories are formed and for how memories change (Hebb, 1949). The Hebbian principle explains how quickly Pavlov's dog learned to salivate to the bell and offers an example for how quickly experiences change the physical structure of the brain (Bichler et al., 2013). This process is also termed neuroplasticity and memory consolidation. The interrogation experience I had when I was 10 years old became a consolidated memory, for example. Experiences are stored as electrochemical signals; the external world affects one's internal states at a cellular level (Grawe, 2007; Rossouw, 2014). Experiences influence which genes are expressed in DNA and hence one's entire physical being.



Each person's brain has around 100 trillion synaptic connections (Eroglu & Barres, 2010; Fauci, 1998; Stevens & Sullivan, 1998). Considering there are about 7.5 billion people on the planet, the mathematical likelihood that any two people could have exactly the same neurological structure is essentially zero. Such an understanding helps to clarify that humans are all products of their experiences, and that the only thing that makes people the same is that they are different. People are all normal within the context of their own lives. People do what we they do because somewhere along the way they learned certain responses worked, whether consciously or unconsciously. But just because a response has worked in the past, and is normal to one person, does not mean it is normal for all. And just because one considers a response normal does not mean it is effective. Let me emphasise: normal is not always effective, individually or collectively.

The more frequently a memory is activated, without being changed (reconsolidated), the stronger that memory becomes. The reason for this lies in glial cells. Five hours after a memory is formed or reactivated, glial cells (glia means "glue" in Greek) migrate to the synapse and consume the synaptic waste of the firing. They then remain present to essentially glue the memory into storage. The fortunate and fascinating part of this process is that each memory activation, a sometimes-felt



electrochemical signal transmission, triggers glial cells to migrate away from the synapse for about five hours, leaving it open to potential change. When other neurons fire at the same time as the original memory, they may connect to the destabilized neurons of the earlier memory, leaving the same two earlier connected neurons unable to connect again. This is memory reconsolidation. The change results in an entirely different electrochemical response, one that activates the thriving brain as opposed to the survival brain. The resulting feeling is one of approach, or satisfaction, rather than the previously wired survival (fight, flee, or freeze) response. The memory change doesn't erase the memory from recall, but instead erases the emotion from the memory.

Ecker, Ticic, and Hulley (2013) said that memory reconsolidation is "the only known form of neuroplasticity capable of deleting an emotional learning" (p. 85). The three steps required for successful memory reconsolidation are as follows: (1) reactivation, or retriggering, of the original memory (emotional learning experience); (2) activation of a mismatch, or disagreement in expectations, between the earlier emotional learning experience and the response; and (3) a new learning experience that occurs within five hours resulting in effortless erasure, which is a complete revision of the earlier memory or a new emotional learning experience (Ecker, Ticic, & Hulley, 2012, 2013).

When successful memory reconsolidation occurs, a client no longer experiences the prior emotion that arose from the memory activation. The client will no longer be able to create the same emotional experience. They can even try to recreate it, but cannot. An important take-away from this understanding is that in order to remove an emotional response to a traumatic memory, the memory must be activated, but as opposed to other re-experiencing forms of therapy, reactivation of a traumatic memory network should be brief, and for nothing more than to destabilize the memory and assess its attached meaning.

CASE EXAMPLE

A woman sought help after a sexual assault. Her greatest trauma came from her belief (meaning) that she did nothing to protect herself; she froze. Her father, a former police officer, had taught her how to defend herself, and she believed she had failed to protect herself. In session she learned how animals fight, flee, and freeze. She learned that freezing is also a survival response, and even animals freeze, or play dead, when it suits their survival needs. I ask repeatedly if a white bunny should run across a snowy field if a hawk is circling above, if an eagle is flying by, or if a falcon is watching from a tree top. We discuss the safety of the white snow, the calm silence of being still, that the bunny never questions if stillness is the correct response, or when the threat is gone it will not be consumed by thoughts of the feathered predator. This indirect approach to understanding animal brains keeps her in a thriving state. She experiences an inarguable mismatch without strengthening her narrative or activating her fight, flee, or freeze response. When she applies her new experience to her own narrative, the meaning has changed. She immediately knows that because of the level of violence during the assault, freezing was the safest option. She realizes there isn't anything wrong with her. She has learned that her brain doesn't need thought to find the surest way to survival—its job is to react without thought. And now she no longer experiences an emotional reaction to the memory.

SOMATIC AWARENESS

Most people learn in childhood that feelings hurt, but consider an alternative perspective: something many people do not understand is that human beings feel emotions physically (Nummenmaa, Glerean, Hari, & Hietanen, 2014). Reflect for a minute on the flutter you get in your abdomen when you are excited for your next vacation. This approach response occurs because at some point in the past you learned that vacations can be exciting. Prior experience encourages an approach state felt as a positive emotion. Now think about a memory that gives you what we often describe as a gut punch feeling in the stomach. You might report the emotion attached to that memory as fear, anxiety, frustration, or rejection, based on the emotion you originally experienced with that memory. Now contemplate: have you ever been punched in the gut? Or do you remember when you wrecked your bike as a child and the handlebars crashed against your abdomen? Or maybe you accidentally bumped into the corner of the kitchen cabinet? When you compare the two experiences, you notice one hurts and the other is merely a sensation. That sensation is brought on by adrenaline and cortisol being powered immediately into your system based solely on a thought I asked you to access.

With this new understanding about emotion and sensation, addressing emotions can become more tolerable. Is this because you just had a memory reconsolidation experience? I think, yes. This experience tends to create a mismatch between earlier emotional learning that feelings hurt. Subsequently, you can encourage the activation of a previously intolerable memory (an approach state), which results in your having a greater sense of control and a learning experience that results in accurate future predictions that addressing emotions is, in fact, tolerable (a dopaminergic response).

MEASURING SUCCESS

Somatic awareness is also the measure I use

in a session to determine that a memory has been reconsolidated. When a client comes in to address an issue, I explain, as I did above, about the brain, and then I will ask them: "When you think about that experience, where do you feel it in your body?" After the client and I have completed each of the necessary memory reconsolidation steps, I will ask the client again to "check that feeling" to see if they can access it again. If any of the feeling remains, we work until it is gone. When the feeling no longer exists is when the client "feels better" and is no longer triggered by an experience that is no longer happening. Their brain has "got it".

Somatic awareness is not the only measure I use, however. I am also certified in trauma-focused cognitive behavioural therapy and cognitive processing therapy, which are evidence-based approaches to treating post-traumatic stress disorder (PTSD). These approaches measure PTSD symptom reduction using the CPSS (Child PTSD Symptom Scale) and PCL-C (PTSD Checklist–Civilian) scales. I use the same scales with RRT and see reductions after one session, as opposed to the 10–12 sessions some structured models require.

EDITOR'S NOTE

There is so much to consider in this article we felt that reading it in two parts would be the most beneficial. In Part 2 Mary will explore the neuropsychotherapeutic framework, taking us into the theoretical background and related application to RRT.



BIOGRAPHY

Mary Bowles, LMFT, RRT, MIACN(Cert), is a Colorado State licensed marriage and family therapist, certified clinical neuropsychotherapist, certified rapid resolution therapist, and a Doctor of Psychology student at California Southern University. Mary is a non-executive management committee member of the International Association of Applied Neuroscience (IAAN) with extensive training in interpersonal neurobiology and Gottman Method training for therapy with couples. Mary is in private practice and the executive director and founder of the MindWise Institute, which focuses on "relationships with the brain in mind". She specializes in using brain-based approaches in psychotherapy with couples, children, and families. She presents on topics that include memory reconsolidation, mind-wise relationships, parenting, co-parenting through divorce and beyond, and suicide prevention. Mary advocates for cultivating equal-value approaches to working with all humans in all areas of life and reducing stigma in mental health.

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