“Mental Health:” an outdated term:

A criticism that used to be common about mental health professionals is that we are one of the few clinical disciplines that doesn’t ever actually see the very organ we target our interventions at. Today, in part because of the amazing advances in neuroimaging, we can see pictures of how electrical impulses travel in the brain and what parts of the brain light up when we think, feel, or do certain things. We know how clever the brain is at learning to compensate for damage. We know that no matter how old we get our brains are able to learn (thank goodness!)… creating new neuronal pathways. As the saying goes, “the neurons that fire together wire together.” This can be good news and bad news. The good news is that people can be helped to have greater resiliency by practicing skills that reinforce healthier pathways in the brain. The bad news is that remaining stuck in disabling beliefs, negative emotions, and hurtful practices wires dysregulation into the brain.

In fact, the term “mental health” is outmoded. We know that the mind and body are a system, inseparably connected; so we really need a term that reflects interventions that explicitly work with both. Candace Pert has called this “bodymind,” others refer to “holistic” or “integrative” models. The fact that there is not a term that is universally used and understood reflects the fact that this is a relatively new frontier for psychotherapists and other clinicians and practitioners. Regardless of the term that eventually is used, SRM is a model that works to connect and heal the bodymind system…from the inside-out.

The goal in this essay is to provide current neuroscience information that is relevant for work with others and for practitioner self-care. There is a vast and growing body of information about the human nervous system .The goal in this essay is to provide the information that helps you understand why it is so important to work with the nervous system and how SRM skills can amplify stability and resilience across stress-spectrum disorders as well as for self-care.

Neurobiology: Used to Design and Implement Interventions:

Understanding some key neurobiological reasons why we think, feel, and act as we do can decrease the tendency to pathologize symptoms as character flaws or weakness. I have intentionally presented the material in this essay in a way that is
accessible for lay people. Neuroeducation is one way to depathologize symptoms as well as to motivate people to use the skills and it is a key ingredient of a SRM session. This essay is not intended to be a comprehensive presentation of the complexity of the nervous system. Rather, material has been selected that provides a rationale for the skills and the therapeutic choice-points and which helps clients understand their capacity for building their own resilience.

After completing this essay, you will know:

1. How to explain the role of the nervous system in dealing with stress, distress and trauma as well as in building resilience;
2. How the nervous system is organized for survival;
3. How energy is directed to automatic defensive responses under perceived threat
4. How to explain the functions of the key parts of the nervous system and how they can be enlisted in healing trauma.
5. How to describe the reciprocal relationship of the two branches of the Autonomic Nervous System.
6. Why some interventions contribute to resilience and others can contribute to further dysregulation and re-traumatization.

Nervous System Regulation:

A question I often hear is “Why does the Social Resilience Model focus on nervous system regulation?” Most clinical models target cognitions (e.g., problem solving, positive and negative beliefs) and emotions. Although SRM includes attention to emotions and cognitions, they are secondary to the primary focus which is on the nervous system, specifically, the Autonomic Nervous System (ANS) ~ ways of assessing it, stabilizing it, and deepening its capacity for resilience. The focus on sensation (the “language” of the nervous system) enables us to work with what lies below the level of consciousness. When you can intervene at the sensation level to create stability and resilience, thoughts and feelings change for the better as well. That is why we call SRM a “bottom-up” model.

The nervous system plays a key role in shaping who we are. Understanding the parts of the nervous system and how each works becomes a guiding framework for the choice-points we encounter in creating change with clients. This knowledge helps in the design of and rationale for our interventions.
The nervous system is one of our body’s main information processors. As the picture above shows, it is divided into two major parts: the Central Nervous System (CNS) and the Peripheral Nervous System (PNS). The CNS, made up of the brain and spinal cord, is considered the control center of the body. The CNS does not come in direct contact with the external environment. It is completely enclosed. It is the Peripheral Nervous System, with its sensory and motor divisions, that interacts directly with the outside world and it feeds information to the CNS. Amazingly, our brain receives more information from our environment in just one day than the largest computer does in one year. And all of this sensory information comes into brain as electrical impulses along sensory pathways. That helps explain why working with sensation, as SRM does, is an essential tool for harnessing our natural resilience. Not all of our senses are equally important in learning. Sight, hearing, and touch seem to contribute the most.

Within the PNS, the sensory division carries impulses from the sense organs to the CNS and the motor division carries impulses from the CNS to the muscles or
glands. The motor division is divided into: the Somatic Nervous System (which regulates all activities that are under our conscious control) and the Autonomic Nervous System (which regulates all body activities that are not under conscious control). The Autonomic Nervous System (ANS)~ the focus of SRM~ has two branches that work in balance with each other: The Parasympathetic and Sympathetic branches. One way we understand what is happening in the ANS is by monitoring and intervening through directed attention to internal sensations. The chart below shows how the two ANS branches fill opposite functions. What one branch accelerates the other branch decelerates.

The Language of Sensation

Imagine that you are gazing at the cutest little puppy you’ve ever seen. Take in all the details…her squirmly, chubby body, wagging tail, cute, little button nose, those yummy puppy smells. What do you notice inside your body as you sense into this image? Perhaps a sensation of warmth, or the feeling of delight that is expressed by sensations of tingles in your chest. Maybe your breathing gets deeper as you enjoy
the sweetness of the image. The words in italics are sensation words. SRM uses the language of sensation (rather than of thought or feeling) because that is the language of the nervous system. Learning to pay attention to and track sensation in the body is the way we assess arousal in the ANS and intervene to promote stabilization, resilience, and embodiment both in our clients and ourselves. The sensations you noticed as you brought to mind the wriggling puppy are primarily from the Parasympathetic branch of the ANS. That is the branch that helps calm us (think of a parachute drifting gently down to earth).

Now, imagine that you have just come home from a day of errands. You reach into your pocket to put your wallet on the bureau only to find it is not there. You search everywhere, becoming increasingly worried that you left it somewhere. Who has it? Will they use your identification? Your credit cards? Just take a minute to sense into this scene. What do you notice inside? Maybe your heart is beating faster. Maybe your breathing is shallower. Maybe your muscles are becoming tense. These are sensations of activation and they come from the Sympathetic branch of the ANS. The Sympathetic branch is like the accelerator on a car…it revs us up for action.
The chart above from Wikipedia shows the impact of each of the two ANS branches on organs in the body. It highlights one of the main reasons that stress, distress, and trauma can generate physical symptoms like asthma, bedwetting, and cardiovascular disease. Learning skills which help manage and recover from life’s stressors before they take a toxic toll on the mindbody system promotes mastery and better health.

SRM teaches people to direct their attention to the sensation level so that they become more and more adept at paying attention to the states of activation and calming in their bodies. This sensation-level self-awareness is the key to living an embodied life, being grounded in the present moment, and being able to restore nervous system regulation by using the SRM skills.

Although many of us have a good emotional vocabulary few people have much of a sensory vocabulary. One way to build a sensory vocabulary is to practice using one: I had, for example, a bowl in my office that had a variety of objects of varying textures (rough, velvety, lumpy), shapes (pointy, curved, etc), smells (lavender, peppermint, licorice). Individuals could handle the objects and describe the sensations associated with each. It is also fine for clients to make up their own sensation words. Children are particularly good at this…describing excitement in the stomach, for example, as having a “fluffly tummy.” Smells are also a useful way to introduce the language of sensation. Most of us have certain smells that evoke sensory responses in the body. The point is to learn to pay attention to sensation and then how to direct attention in ways that bring balance. We call this “Intentional Neuroplasticity.” As individuals become better able to pay attention to, track and manage sensations in their bodies they become better able to self-regulate using the SRM skills. And, practice “wires-in” the stability.

Nature’s Cycles

We all have experienced the natural world’s many cycles: the phases of the moon, the tides, day following night, the seasons, to name a few. As creatures of nature our bodies have cycles as well, including sleeping and waking, appetite cycles, menstrual cycles. The cycle that we focus on in SRM is in the ANS…the shifts between activation (Sympathetic branch of the ANS) and calming (Parasympathetic branch). When the two branches are working in harmony with each other we are in what we call in SRM “The Resilient Zone”. When you are in the Resilient Zone you are capable of integrated functioning…meaning that there is
a fit between thinking, feeling, and sensing…and you can respond to situations rather than being reactive to them. When they are in The Resilient Zone people are better able to work in collaboration with others, exhibit principled behavior, and think creatively. The chart below illustrates The Resilient Zone.

As in any system, the systems in our bodies have rhythms and cycles that are searching for balance. This means that if an event bounces you out of your Resilient Zone your nervous system will attempt to find balance. The “balance” can sometimes, unfortunately, be a balance of extremes where you swing from hyperarousal to hypoarousal. This can be diagnosed as bipolar disorder when it isn’t or as ADHD when it isn’t.

People can become stuck in cycles of dysregulation. And, sometimes, as clinicians and caregivers we unintentionally reinforce dysregulation in our clients by, for example, overloading people with too many questions during intakes and in asking...
about the “trauma narrative” in ways that spike activation levels outside of the Resilient Zone.

It isn’t unusual for people to present for medical treatment with physical symptoms that are actually trauma symptoms and not the result of a medical problem. For some people a physical problem has less stigma associated with it than an emotional problem and so they are willing to seek help for it. We find that physical problems may be the first way that a trauma survivor presents for treatment. We have found this to be especially true in cultures and in populations that do not have an orientation to mental health or who believe “emotional problems” mean they’re weak or even crazy.

The graphic above shows how the nervous system can be bumped out of the Resilient Zone, leading to a cascade of symptoms as well as reactivity. Not everyone has the same depth of Resilient Zone based on genetics, early
developmental experiences, etc. SRM skills can help deepen the Resilient Zone by “wiring-in” greater nervous system hardiness. One benefit of SRM is that it is appropriate across cultures since it does not primarily emphasize insight and emotional processing. Everyone everywhere in the world has a nervous system and we are all wired the same way as we respond to threat and fear. The way that symptoms are interpreted can differ greatly across people or groups or countries but the actual symptoms themselves (e.g., headaches, stomach aches, weak limbs, poor concentration, sadness) are almost always the same.”

Studies have also found many cognitive symptoms to be associated with traumatic events. These include memory, attention, and concentration problems. Brain imaging has shown that during and after stressful events areas of the cortex (e.g. some of the executive functioning areas of the brain) go offline. That is one reason why therapy interventions that focus on problem-solving and introspection may not be very helpful, at least in the early stages of treatment before the nervous system is better regulated. For example, simply providing a veteran with a job may not be adequate in his/her success. If the nervous system is dysregulated it may not be possible to perform the required tasks and build the necessary relationships. It is important to help people learn how to get back into balance in order to have the opportunity for optimal functioning.

Understanding the powerful role of the Autonomic Nervous System in self-regulation and resilience helps you know what to look for as you work with yourself and others and what to help clients become aware of in themselves (this is the skill of Sensory Tracking) and how to regulate yourself as well. It is also the key to knowing how and when to intervene in the sensation patterns you and your client observe.

One dimension we look for in a SRM session are patterns of arousal and calming; each reflects one of the two complementary branches of the ANS: the Sympathetic (arousal) division and the Parasympathetic (calming) division. For example, a woman who has been in an automobile accident may clench her fists as she begins to describe the truck that seemed to come out of nowhere and crashed into the driver’s side of the car. She may not even notice the clenching, but if you are tracking her carefully, you notice. You point out the clenching and ask her what else she is noticing (notice that you do not interpret the clenching). She says that her heart is pounding and she is feeling nauseous. These are sensations from the Sympathetic branch of the ANS. There are several ways to work with what you notice. One way is to ask her if there is anywhere in her body that feels less
distressed, neutral, or even calmer. This shifts her attention in a way that enlists the Parasympathetic branch in bringing balance.

**Our Bodymind as a Risk Detector**

In some ways the human bodymind is a walking risk detector. We are wired to be constantly assessing our environment for novelty, particularly novelty that poses a threat to our survival. This scanning takes place below the level of consciousness…it is part of the way we are wired for survival.

Not everyone will perceive the same person, thing or event as threatening. For one person, seeing a dog running toward her is a moment of happy anticipation whereas for another it can be frightening. For a civilian, seeing a bag of trash at the side of the road can be a non-event whereas for a veteran who was in a war zone the bag may automatically trigger an array of frightening sensations related to the possibility of a roadside bomb. Traumatic triggers are sensory components of memory that are a part of the implicit (unconscious) memory system. The trigger represents something from the past that was threatening. The trigger can be an image, smell, sensation, color, body position…any of the elements of a traumatic memory capsule.” When an event in the present includes aspects from an implicit memory from the past it can act as a “trigger” that opens what Robert Scaer calls “a memory capsule.” Aspects of the traumatic event come flooding back and may or may not be recognized as being from an earlier experience. This can be very frightening in part because triggers can occur unexpectedly. Life can feel very unpredictable and out of control.

One unfortunately all too common an event is the risk posed by psychotherapy that overloads people with activation by focusing too soon on distressing and traumatic information before the level of resilience has been assessed. SRM uses a skill developed by Peter Levine called Titration. This means that we work with small increments of Sympathetic arousal. We don’t re-traumatize people and we don’t reinforce dysregulation by using interventions that bump people way out of their Resilient Zones. Our intervention mirrors the rhythm of the ANS when it is in the Resilient Zone. Questions that calm followed by aspects of the distressing event, back to calming, then activation. We are training balance into the nervous system simply by the way we structure a session.
The stages of the defensive response cycle are shown above. Notice that they are designed to enable short-term actions intended for survival. They also occur without conscious thought or intention. Have you ever known someone who has had a series of car accidents or been mugged more than once? Chances are during the first of those events or during an early traumatic event the person didn’t have enough time to properly orient to the source of danger. Perhaps they were attacked from behind, or unexpectedly from the side. When the stages of the defensive response cycle are interrupted in Stage 1 the person may unconsciously stop orienting to the side where the danger came from in that first event. This means that they are more susceptible to future events happening on that side. In addition, the energy that was generated for the fight or flight response did not have a chance to be discharged. This can mean that the person may have neck, throat and shoulder problems or possibly jaw problems from the stuck muscle tension. There are ways that we can work with a blocked Orienting Response to release that tension and restore the full range of orienting capacity.

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<tr>
<th>Stages of the Defensive Response Cycle</th>
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<td><strong>High Activation is Designed to Enable Short-Term Defensive Actions</strong></td>
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<tr>
<th>Stage 1: Prepare for Defensive Action</th>
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<td>Muscles tense, orient to source of threat</td>
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<th>Stage 2: Mobilization</th>
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<td>Production of Adrenalin and Cortisol in order to provide energy needed to defend</td>
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<th>Stage 3: Release of Energy through Fight or Flight</th>
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<td>Running, Defensive Responses, Vocalizations</td>
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<th>Stage 4: Return to Central Nervous System Equilibrium</th>
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<td>Parasympathetic responses-Homeostasis</td>
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An Example of the Stages of Defensive Response

Let’s take an example in which we can see all the stages. Imagine that you have worked late and are leaving your place of work. It is dark and the street is deserted. You are walking the block and a half to the parking lot when you hear a sound. Instantly and automatically your body is in Stage 1 of the Defensive Response Cycle. Your muscles tense and you stop or slow down and turn your head toward the sound. You see a shadowy figure lurking in the corner of the alley and the figure starts to follow you.

This takes you into Stage 2 (which happens in a split second…with no conscious thought), the Mobilization phase. A flood of neurochemicals surges through your body…like putting gas in the fuel tank. These powerful chemicals prepare you for flight or fight. They can act as an anesthetic to blunt pain, they can increase strength, they are released to increase your chance of survival. Energy is directed to your extremities and away from your trunk. There is no need to be digesting food when your survival is threatened.

Now you’re in Stage 3 in which you release all that mobilization energy by fighting (including yelling and shouting) or fleeing or both. Which one of these happens (and, notice we didn’t say, “which one you choose” because this is happening automatically…it is usually not a conscious choice) is often based on an early template from childhood experience. Some people have a “fight default response” and others have a “flight default response.” Let’s say that when you see the figure coming closer you start to run and you run to the intersection where there are several people waiting at the stop light. The figure recedes and disappears. You realize you are no longer at risk.

Now you’re in Stage 4 in which the energy that was generated has been used for flight, and, therefore, released and your nervous system returns to balance. You take a deep breath (Parasympathetic system) and come back into your Resilient Zone. You may notice some trembling or even teariness as your body releases any energy that wasn’t released during flight.

There are situations in which an individual is unable to fight or flee or they perceive that they cannot. This is commonly the case for children who are too small, too young or too frightened to fight and may have nowhere to flee. This is also the case when the event happens so quickly that there isn’t time to mobilize a
successful fight or flight response. In situations like this the individual may go into an automatic freeze response.

Ron was a Humvee door gunner in Iraq when an improvised explosive device was detonated under the vehicle. Ron was thrown from the Humvee and went into freeze...he felt like his limbs were limp, his eyes were blank, he just sat on the ground where he had landed and stared straight ahead. People can feel shame as well as guilt for having gone into Freeze. Other people may have been hurt because they couldn’t help. They may blame themselves for not fighting or fleeing. We humans are meaning-makers and often the meaning we make of a situation and how we reacted in it is negative: “I’m a coward,” “I should have known not to go there,” “It was my fault,” “The world isn’t a safe place.”

Freeze is a biological response from the ANS and can be experienced as an altered state of reality, a slowing down of time, and a diminished awareness of fear and pain. In Freeze there isn’t an opportunity for all the energy built up in Stage 2 to be released, with the corresponding return to balance. We believe that this is one reason there are so many physical symptoms associated with traumatic events and why Freeze is a strong predictor of severity of symptoms. The mobilization energy has become locked in the body, leading to a cascade of physical as well as emotional, cognitive, and behavioral symptoms.

People who are in Freeze may present as calm on the outside but may not feel that way on the inside...or they may have little to no awareness of any sensations inside their bodies. They may look pale or have difficulty making eye contact. Their eyes may be lifeless and their affect flat. The whole body or parts of the body may feel numb, limp, or lifeless or may feel rigid. Robert Scaer reminds us that “Until the act of flight or self-defense has been completed, the survival brain may perceive that the threat continues to exist, and is unable to relegate it to memory in past experience.” Work with individuals in Freeze must be done with great care in order to allow the gradual release of blocked energy.

**The Role of Neuro-education**

Back in the U.S. Ron persisted in feeling a profound disconnect in his relationships and was becoming increasingly isolated. He began working with a SRM practitioner after his wife threatened to leave him if he didn’t find some help. Like many who have gone into Freeze Ron felt shame as well as guilt for what had happened. He felt he’d let down the most important people in his life...his Battle Buddies and then, his wife. He blamed himself.
Ron’s feelings and negative beliefs are common in people who have gone into Freeze during a traumatic event, particularly when bad things may have happened to self or others as a result. One very important benefit of SRM’s education about the nervous system is that people begin to understand that the defensive responses of fight, flight, and freeze are neurologically wired into all of us. They are the body’s way of surviving extreme situations. Neuro-education about the automatic ways the defensive response cycle works helps to depathologize symptoms like the Freeze Response…shifting from pathology (“I’m a bad/weak/crazy person.”) to biology (“It is just the way people’s bodies are wired.”). It is amazing what a difference this shift in understanding can be, both for clients as well as their loved ones.

**SRM’s Neurobiological Approach**

By now I hope you can see how valuable a neurobiological approach can be in the design and implementation of interventions aimed at stabilization and healing. When we help clients expand their sensory awareness and learn to use this awareness in self-regulation we are promoting hope, self-efficacy, and self-management. We are building hardiness into the nervous system and helping people live truly embodied lives. And, the best news is that we can do this without making healing an ordeal.