



**THE BODY KEEPS THE SCORE**  
**Brain, Mind, and Body in the Healing of Trauma**  
**Bessel Van Der Kolk, MD**  
**Summary**

All quotes from the book are highlighted **in yellow and italicized**.

**Green highlights** indicate a critical thought.

\* Refer to special notes for counselors reading this report.

This report is not a chapter-by-chapter summary but a condensation of the big ideas that the author conveys in his book.

**Purple highlights** indicate my (Leslie's) thoughts about what the author is saying.

This is another dense book regarding trauma (of all kinds) and it's effect on the body, mind, emotions, and personality of the person traumatized. For CONQUER participants, I will zero in on some of the traumatic consequences that affect those living in chronic abuse as well current research as to the best ways to heal from trauma.

The summary will cover three main areas:

1. What constitutes trauma and PTSD (Post traumatic stress disorder).
2. How trauma affects the body, brain, and personality
3. Moving beyond trauma – healing and regaining stability. What can you do?

**WHAT IS TRAUMA**

Dr. Van Der Kolk is a psychiatrist who has worked extensively with trauma for many years. He defines trauma as *...“an overwhelming experience(s) that deeply disturb us inwardly and continues to negatively affect how we view and relate to ourselves, and to everything else in our world.”* His coverage of the topic includes:

- A review of the historical treatment of trauma,
- Contemporary advances in neuro science and modern technology
- Therapeutic approaches that are helping to free trauma survivors and move them toward fuller recovery.

## THE ONGOING IMPACT/COSTS OF TRAUMA

Traumatic experiences often involve visible physical wounds that heal over time. *\*It can also however, produce deep and debilitating psychological damage that can affect survivors for a lifetime, if not addressed and healed. Unhealed trauma can interfere with daily functioning in numerous ways by affecting our brains, emotions and our bodies. The symptoms are varied and numerous but often include emotional numbness, hyper vigilance, and fear. Limited functioning, and greatly diminished capacity for joy and connectedness with themselves and others is also typical.*

Physically, traumatic stress manifests in the body by weakening and compromising the immune system, causing fatigue and creating stress related illness and disease.

Dr. Van Der Kolk’s work with traumatized war veterans gave him a first-hand look into how trauma had continued to affect combat vets, long after they returned to civilian life. He observed that their earlier traumatic experiences had somehow lingered and rendered the other parts of these Vets lives ineffective, and even irrelevant in some situations. Many seemed unable or even unwilling to turn a page on the previous traumatic chapter(s) of their overall lives and to begin writing new ones and creating happier memories.

### The Domino Effect

Trauma not only affects the victims, it also has the capacity to seep out and spill over into the lives of others. *Unhealed traumatized people can and do traumatize others around them. This can occur intentionally or unwittingly, but can have the same wounding impact in either situation. For some of you who are married to men who have been traumatized in their childhood, their unhealed trauma impacts you and your children.* In this way, the effects and impact of traumatizing events compound and adversely affect scores of others lives not directly involved in the precipitating, triggering experience.

Speaking of war veterans, the author says, *“Soldiers returning home from war zones may frighten their families with their rages and/or emotional absences. Many of the wives become depressed by feeling overwhelmed with what they are witnessing and living with, while the children become anxious and insecure. In the long run, this often causes the children difficulty in establishing stable, trusting relationships in their adult lives which further fuels the cycle of trauma and suffering.”*

## A CONTEMPORARY LOOK AT AGE OLD TRAUMA

According to Dr. Van Der Kolk, Trauma has been traditionally viewed in the following overly simplified ways:

- A. As an inability to forget and let go of bad memories
- B. Changes in brain chemistry that deplete “feel good” hormones
- C. Alterations in the fear circuitry in our brain, producing over sensitized fight or flight responses.

Significant advances in medications were thought to be the solution to these and many related issues. Modern technology however, continued to allow much closer inspection of brain activity in real time. This has enabled us to see and learn how the brain and the body operate separately, as well as how they affect and respond to one another.

Technology has also revealed that previously held views about trauma were in fact overly simplistic, and insufficiently understood to provide effective solutions. **These outdated views were also inadequate to account for the reality that**

**many traumatized people are unable to return and function in their lives in any semblance of normal or healthy ways.**

As recently as 1980, the medical community officially identified what we know today as PTSD – Post Traumatic Stress Disorder. **This diagnosis refers to a cluster of symptoms, first identified in war veterans and evident among them in**

**varying degrees. Today, PTSD is also used to identify trauma victims, with similar symptoms, among increasing numbers of non-war related segments of the general population, especially victims of chronic abuse.**

## **How trauma affects the body, brain and personality**

### **Two Pathways**

Most people are aware that under stressful situations our bodies activate a defense mechanism called the Fight or Flight response. Denial is an alternative defensive response that likewise helps us cope with overwhelming situations and experiences where we refuse to integrate the reality around us. These two responses of fight and flight operate very differently, but with the same end in mind; to enable us to manage and survive events that threaten and endanger us physically, emotionally or mentally. We are hard wired to survive.

**Fight or Flight Response** - Prepares us to either engage the threat or to escape from it. Is located on the right side of our brains and when activated, hormones are released including large doses of adrenaline and other chemical. This fuel provides the focus, energy and strength needed to respond by fighting against or fleeing from (real or perceived) danger. **When we are prevented from fight or flight (either by being captured or held down), or can't escape because we freeze, this becomes more traumatic to our sense of self and shame and a overwhelming sense of powerlessness and shame linger.**

**Denial**- This response allows us to consciously deny that anything dangerous or traumatic is actually happening to us. Denial however, does not stop our bodies from reacting to the threat subconsciously. The flight and fight mechanism is still activated (along with the corresponding release of chemicals needed to respond.) However the conscious mind minimizes or ignores the threat altogether, as well as the bodily sensations triggered by the **“silent” alarm.** \*\*\*

Denial is useful in certain settings, allowing us to postpone processing something until we feel more prepared to do so (as in grief that is not immediately felt. ) **“However, when denial as a protective mechanism continues too long, it carries its own brand of trouble.”**

## Flashbacks

**Trauma survivors are often trapped by in a painful feedback loop, frequently experiencing frightening, intrusive fragments of their trauma, called flashbacks.** \*\*\* They have no control over where or when flashbacks may occur, or how long they may last, creates intense fear and loss of control. These **mental “snapshots”** cause the same intense mental and physical reactions in us as the original experience. The episodes trigger our threat detection system (located in the brain) when our brains perceives that sensory input (from our present daily lives) is **“the same as” or similar enough to the original event where the “mental photographs” were initially taken.**

During the initial trauma and subsequent triggering events, the body is flooded with chemicals to equip us to either fight or flee. When we do neither, (because there is no actual threat in a flashback) but rather the “unused” chemicals remain trapped in the body and become toxic and harmful, rather than life saving. Dr. Van Der Kolk says, **“The physical effects on the organs go on unabated until they demand attention in the form of illness or disease. Medications, drug and alcohol use and abuse are often used to dull or obliterate unbearable sensations and emotions. However, the body continues to keep the score.”** Denial is more difficult to detect and treat in trauma survivors because it remains hidden and acknowledged by the victim only at the subconscious level. Dr. Semrad, a deeply influential professor to the author of this book, says, **“...much human suffering is related to love and loss. The greatest sources of our suffering are the lies we tell ourselves.”** **Denial is a lie that we initially tell to prevent ourselves from being overwhelmed by traumatic experiences. In time however, denial becomes a destructive lie that cuts us off from any awareness that we need help. We must learn to be honest about every facet of our experience.** **This validates the importance of C – Commitment to truth – no more pretending step of CORE if we want to get well.** Semrad continues, **“People can never get better without knowing what they know and feeling what they felt. \* The job of the helping professions is to help people acknowledge, experience, and bear the reality of life, with all its pleasures and heartbreaks.”**

## HOW TRAUMA AFFECTS BOTH SIDES OF OUR BRAIN

### Our rational brain

The left side of our brain is the rational, calculating side that enables us to speak, think, analyze and sequentially organize our experiences in a way that makes sense to us. The left side does more of the thinking and talking, the right side does more of the feeling and experiencing.

The different sides of our brain also process information differently. The left side remembers facts, statistics and gives us the words we need to use when we’re trying to explain something that happened in a sequential order. **\*During traumatic situations, activity in the Rational Brain (left side) decreases dramatically or goes off-line altogether. This includes the area responsible for speech (Broca’s area) and explains why rational speech is difficult or non-existent for trauma survivors.** The author says, **“All trauma is preverbal ....Our bodies re-experience terror, rage, helplessness, as well**

as the impulse to fight or flee, but these feelings are almost impossible to articulate. Trauma by nature drives us to the edge of our comprehension..." Consequently, the trauma becomes "trapped" inside us with no means of expressing it and thereby expelling it.\*\*\* This point is very important for many of you who find yourself "tongue tied" when you are frightened, or you can't put things into words or can't even remember the factual details of what happened when you are questioned by police, your pastor, or counselor.

In the moment, your body shakes, your heart pounds, your right brain is registering "trauma" but your left brain (speech, rational thought, etc) is temporarily unable to help you. You're not thinking clearly (rationally) and are "reacting emotionally." \*This is often why many of you feel stuck in the reactive mode when triggered.

Even years later traumatized people may still have enormous difficulty telling what happened to them. Even if they become able to speak of the experience, it is often just the "cover story, "the "safe" version, (the left brain version) initially told to explain symptoms and behaviors, to others (and even to themselves.) Inside the pages of the cover story however, there is a deeper more detailed version (right brain) that often involves deeply felt emotions, horror, revulsion, overwhelming helplessness, shame (why couldn't I stop it, what's wrong with me, I'm bad) etc. \*These aspects of the trauma, the most difficult to reach and articulate, are most essential to healing and moving toward full recovery. They are however stored in the emotional/right side of the brain, which is why both sides must be engaged for full healing/recovery to occur.

The left brain develops later than the right side starting around age two and continues to develop throughout adolescence, while the right side begins operating in the womb even experiencing non-verbal communication between mother and child. The right brain is responsible for storing the memories of experience – sight, sound, touch, smell and all the subsequent emotions that the experience evokes. In normal situations both sides of the brain work together but when one side shuts down (left side) during trauma or a memory of trauma (flashback), then their left brain isn't able to help the traumatized person figure out what's happening and they get "stuck" in their experience.

### **More about the Emotional Brain**

The Emotional Brain (the right side) begins as the reptilian brain – the primitive brain which regulates heartbeat, breathing, combined with the processes of the Limbic System which handle a multitude of vital responsibilities. It is the Emotional Brain that processes all non- verbal communication, generates creativity, imagination, sensitivity, etc. It is the seat of our emotions, monitor of danger, the umpire of what scares us or feels pleasurable and the arbiter of what we need to operate and to survive. The emotional brain also enables us in varying degrees, to detect nuances and "vibes" felt at the gut level, even if we are unable to explain how we "know" what we know. The emotional brain develops and begins functioning first, while still in the womb. This early functionality is what enables newborns to do all the things they are capable of doing – hearing, swallowing, crying, etc.

During traumatic experiences and flashbacks, the emotional brain reacts differently and independently of the rational brain, becoming hyper active and intensely engaged. Meanwhile, activity in the left side significantly slows or stops

altogether. When the left side goes off-line in this way, all rational, logical thoughts are deactivated. This leaves the right side, which at this point is fully charged and revved up, with no braking system, no moderator, no tempering. In addition, without the left side to help you process or “think” about your experience, the right brain often reacts to current events and misperceives them as if they are more dangerous or traumatic than they actually are, setting up a repetitive cycle of overreacting to situations that are misinterpreted.

### Two Are Better Than One

Both sides of our brains have separate but essential tasks to perform, to keep us functioning well. The rational side of our brain helps us to know why we feel and respond this way or that, in various situations. \*It cannot however, change painful and/or frightening feelings. (This is the exclusive function of the emotional side.) “The rational brain cannot abolish emotions, sensations or even thoughts.” Full recovery involves both sides of the brain working optimally, and in harmony and balance with the other side.

## V. HOW TRAUMA AFFECTS THE BODY

Not only is the brain affected by original traumatic experiences and ongoing flashbacks, but the body is significantly involved and affected also. This occurs because the brain and major organs of the body engage in two way communication via the multiple branches of the Vagus Nerve. The brain and the heart, lungs, stomach and intestines “speak” and respond to each other. The Vagus nerve functions like a two way street, transporting signals, messages, etc. from the brain downward, but also from the body upward into the brain.

Trauma alters the way our autonomic nervous system (ANS) operates. The ANS includes dual systems called the sympathetic nervous system (SNS) and parasympathetic nervous system (PNS) The first system (SNS) triggers the flight or fight response prompting defensive actions by fueling the body with the right balance of necessary chemical reactions.

The second system (PNS) works to reverse and balance the first. When functioning properly it allows us to return to a calm state after the threat has passed. This desired state is called homeostasis and occurs when the ANS puts the brakes on the SNS, which then causes our breathing and heart rate to slow down and our tense muscles to relax.

Traditionally mental disturbances, like trauma and the corresponding symptoms were viewed as originating in the brain, and primarily affecting only the brain. Bodily symptoms/sensations described by patients, that could not be detected using currently available diagnostic tests and tools) were considered to be “all in the mind.” Consequently these “phantom symptoms” were not taken seriously nor effectively addressed and resolved. Treatment often included no more than prescription drugs for depression or other related mental issue.

Ironically, today we are learning that the opposite may be far more accurate; the problems are indeed in the body and not “just” in the mind of the sufferer. The author says that it is now commonly understood that trauma can definitely

and specifically alter the way our central nervous systems operate. This in turn creates significant disturbances in many of our basic bodily functions. *"It is easy to overlook the significance of these issues when deeply involved in the complexities of mind and body behavior. However, many psychological problems involve difficulties with basic physical functions like sleep, appetite, digestion, touch and arousal."* \*Furthermore, unhealed trauma "shrinks" our world so that our main focus becomes suppressing inner chaos, and trying to control unbearable physiological reactions. This perpetual battle against our own minds is both exhausting and nerve wracking. It is also capable of producing a whole range of physical syndromes including fibromyalgia, chronic fatigue and other auto immune disorders. Engaging in physical activity helps to pull this internally trapped energy into our muscles and limbs where it can be expended in ways that promote rather than deplete our health. This partially explains why it is critical for trauma treatment and recovery to engage the whole person; both sides of the brain (rational and the emotional) as well as the body.

## I Feel Therefore I Am

The author also learned from his favorite professor, Dr. Semrad, the importance of basic human needs for comfort, touch, feeling safe, loved, etc. Semrad said, *"Failure to accept and attend to these fundamental needs produces a stunted experience, resulting in a stunted version of ourselves. When we lose an essential connection to our own bodies, the vitality in our life is greatly diminished."* Think of a hose connected to a freely flowing faucet, with a sprayer on the other end. Both the source and the means to direct the water is available and operational. However, a kink in the delivery system (the hose) limits the flow or even cuts it off completely. When our body is "amputated" in this way, and we lose touch of our physical sensations and awareness, we lose a vital part of our overall selves. \**"No amount of lofty (even spiritual) thoughts, nor a portfolio of laudable accomplishments, can adequately compensate or substitute for this loss."* Dr. Van Der Kolk stresses the importance of "befriending" our bodies and integrating them into the recovery process by saying, *"You cannot be fully in charge of your life until you can acknowledge the reality of your body."* All of our life experiences are received and perceived first through our bodily senses, before they are processed by our brains. \*Therefore the body and the brain must be connected and working in harmony for us to experience fulfilled living as intended.

## Moving Beyond Trauma: Healing and gaining stability: What can you do?

### VI. FROM SURVIVING TO THRIVING

#### Road to Recovery is the Road to Life

Traditionally it was believed that the inner working of our two sided brains was primarily based on unchangeable factors, like the genes we inherited and our unique inborn temperaments. From this perspective, we appeared to be limited by what we received from nature or nurture (for good or for bad.) According to this understanding, once the internal programming was set, it was difficult if not impossible, to alter or improve to any significant degree.

Fortunately for many of us, it is now understood that the amazing brain is not a “set it and forget it,” kind of organ. Recent discovery shows that “neurons that fire together, wire together.” What that means is that the neurons activated most often then become one’s default setting – the one most likely to be repeated. Dr. Van Der Kolk says, that the ability to activate/fire different neurons, through new experiences (either positive or negative) is an amazing skill/capability we have been given. This malleable characteristic of our brains provides access to our emotional and perceptual map. This is the map that directed and guided us into who and where we are in life today. The malleable nature of our brains is a recent discovery prompting multiple studies into the scope and depth of neuro plasticity, and the inherent implications. What we have learned so far is good news.

Science now shows us that it is possible to edit our individual map in ways that will enable us to respond differently, rather than repeating and returning to the same pre-set reactions. Amazingly, this potential to alter some aspects of our neural landscape is possible even if our brains have consistently worn deep, well- worn neural trails (ruts), by default, for years. The author saw in the brain’s ability to “flex” and change, a means to help his own patients; most whom were victims of debilitating traumatic experiences. He has dedicated his life to uncovering more fully how to use the brain’s inherent neural plasticity in his work as a psychiatrist. What all this means according to Dr. Van Der Kolk, is that we do not have to remain victimized by traumatic experiences, or live out our lives repeating outdated, harmful, self- defeating behaviors. This is great news and confirms that God tells us that we are transformed by the renewing of our minds – (Romans 12:1,2), both left and right sides must be involved however.

Accessing and tapping into these abilities can be facilitated using either or both pathways of the Vagus Nerve. This is because this system of nerves runs from the stem of the brain (at the base of the skull) all the way down into the body. From there it branches off into many of the vital organs in our bodies, including the heart, lungs, stomach and intestines. In this way, the interconnectedness of our brains and bodies (a previously troublesome connection for trauma survivors) can be utilized as “rescuing organs”-helping us to absorb traumatic experiences into the bigger life picture, dilute them so to speak, so they are only one ingredient in the overall mix, rather than the main ingredient.

## How is it done?

### Top Down

Beginning with the brain’s abilities to affect positive change in bodily reactions and behavior is called the Top Down approach. A number of therapeutic practices are effectively helping traumatized people live more normal and healthy lives again, including the following:

- **EMDR**- Eye Movement Desensitization and Reprocessing. We’ve talked about this treatment modality in several of our CONQUOR phone calls. “EMDR proved to be a more effective treatment than Prozac, for patients PTSD and depression”. \*The author was particularly intrigued with this therapeutic approach and the results it was producing. He says that EMDR was a missing piece of a puzzle he had looked for years to find - “... a way to help



*traumatized people return to traumatic experiences, in order to heal from them, without being re-traumatized in the process.”*

- **Neurofeedback** – enhances focused attention and concentration. The brain is trained to produce new/different patterns of electrical activity. *“This approach is as effective as pharmaceutical drugs, which does not alter or improve brain activity, and the drugs stop working when use is discontinued.”* The benefits of neurofeedback are well documented.
- **Qualitative Electroencephalograph (qEEG)** - Like EEG’s that view and measure brain wave activity in various areas of the brain to see how they individually function as well as how they interact and affect other parts of the brain and body. This can be highly motivating to see the brain’s patterns change over time with the feedback of the qEEG.
- **Limbic System Therapy**- helps to repair our brain’s faulty alarm systems (which has been on hyperalert) and establish a new set point. When this happens, the alarm system can return to functioning as intended – to operate quietly and unobtrusively in the backdrop of our lives, as a watchman or a monitor over specific, limited tasks. Neuroscience shows that the best way we change the way we feel is by becoming aware of the way we feel (experience) and being compassionate with what is going on inside – allowing ourselves to befriend the hyperaroused self. Learning mindfulness, meditation and yoga or martial arts all involve movement, breathing, presence, meditation and how to achieve a calm state and relax, even when starting to get revved up inside.

## Bottom Up

*“One of the clearest lessons from contemporary neuroscience is that our sense of ourselves is anchored in a vital connection with our bodies. We do not truly know ourselves unless we can feel and interpret our physical sensations; we need to register, (trust) and act on these sensations in order to navigate safely through life.”*

Beginning with the body, we use it to access and improve brain functioning. This is what the author means by the Bottom Up approach. **This can be done by engaging any and all of our senses and by paying attention and learning from this sensory information. Physical self awareness is the first step of healing from trauma.**

**Asking ourselves the following types of questions helps us identify, for ourselves and communicate to others, who we are and who we are not: What do I enjoy, dislike? What feels good, uncomfortable etc. How do I feel when I.....? What do I think about...? What do I need? These and similar questions identify and classify important information about ourselves that we need to know and to access in the recovery process.**

Physical, creative activities become vehicles that facilitate positive healthy communication between our bodies and brains. This can move us further away from Alexithymia, a term that describes not feeling comfortable in one’s own skin, and not being well enough acquainted with oneself so that you are aware of, can identify, and address your own personal needs. **Vital self-awareness is a critical part of recovery and can be cultivated in numerous and various ways, including:**

- Practicing mindfulness – paying attention to bodily sensations and inner emotions without judgment – just observing them, learning to label them and be compassionate towards them instead of being afraid of them, shaming them or suppressing them.
- Learning to observe and tolerate unpleasant physical sensations noticing that they constantly shift and change.
- Talking through your thoughts and experiences with attentive, caring others who can help you with above.
- Journaling/writing therapy – learning to put words (left brain) to your sensations and feelings (right brain)
- Practicing yoga and other martial arts, feeling your body, feeling yourself in your body, feeling your breathe. Learning to be okay within your body and feeling a greater sense of control.
- Singing and/or Dance
- Theatre
- Meaningful work, etc.

In short, any physical, individual or group activity that fosters self-awareness (knowing what we feel and why both physically and emotionally), cooperation, community, individual and relational confidence, self-respect, etc. helps the brain rewire itself and build new pathways. The author warns, *“The more people try to push away and ignore internal warning signs, the more likely they are to take over and leave them bewildered, confused, and ashamed. People who cannot comfortably notice what is going on inside become vulnerable to respond to any sensory shift either by shutting down or by going into a panic- they develop a fear of fear itself.”* Instead of befriending the feeling he or she pushes it away, the stronger it gets, the more frozen or panicky they feel. *“The price for ignoring or distorting the body’s messages is being unable to detect what is truly dangerous or harmful for you and, just as bad, what is safe and nourishing. Self-regulation depends on having a friendly relationship with your body.”*

### Living in the Here and Now

A traumatized person who is not yet experiencing recovery, perceives things differently than other people. Any number of normal daily experiences can trigger some recall of the original trauma(s) and cause them to react accordingly.

Although they are physically present and may appear to be watching the same “environmental screen” as others around them, they are actually “viewing” and perceiving a different movie being played out. This is an isolating experience that prevents them from experiencing the here and now and separates them from those around them. This

disconnectedness will continue until they are able to integrate their experience(s) into the ongoing ebb and flow of their current daily lives. Only by doing so, can they learn how to be “here,” fully engaged and enjoying the present reality, rather than “there” experiencing painful re-runs of their past.

*“The fundamental issue therefore, in resolving traumatic stress, is to restore proper balance between the rational and emotional brain (to feel in charge again over how you respond and how you conduct your life.) As long as people are either hyper aroused or shut down, they cannot learn from daily experience. Even if they manage to stay ‘in control,’ they become so uptight they are inflexible, stubborn and often depressed.”* (Alcoholics Anonymous call this “white-knuckle” sobriety.) Real recovery on the other hand, produces different and much better results including a healthy

sense of self-control and management of one's live, self-confidence/respect, and a restored capacity for playfulness, creativity and imagination."

*"The challenge of recovery is to reestablish ownership of your body and your mind – of yourself."*