MAP
COACHING INSTITUTE

THE NEUROBIOLOGY OF TRAUMA

and The MAP Method

TABLE OF CONTENTS

Introduction:	**3**
Part 1 - The ten trauma areas of the brain identified via brain imaging research:	**4**
Part 2 - Ten therapeutic objectives deducted from neuroimaging:	**6**
Part 3 -The trauma healing methods proven to be effective:	**7**
Part 4 - What is the MAP Method and how does it fit into the trauma therapy picture?	**10**
Part 5 - Reviewing the 10 therapeutic objectives and MAP's effectiveness:	**11**
Part 6 - How MAP's unique features and technology applications support the trauma healing process:	**16**
Conclusion	**19**
Learn More About the MAP Method	**20**
References	**21**

Introduction

While in Costa Rica, I attended a trauma retreat where I met Dr. Bessel Van der Kolk, a psychiatrist, a former professor at Harvard, and the world expert in trauma therapy who is presently teaching at Boston University. Dr. Bessel has spent most of his professional life researching different modalities and their effectiveness on PTSD. He is also the founder of the Trauma Research Foundation.

What I appreciate most about Bessel is his open minded curiosity and his authentic search for effective therapies and modalities, which actually help people suffering from the impact of a traumatic past. For example, he didn't hesitate to closely study EMDR, before it was well known. Even though he found it, as he said, "kind of weird at first", after seeing a video case study which revealed its potential, he went for it. He had the same curiosity about the benefits of Yoga, and more recently the potential therapeutic use of MDMA.

During that week, I had the honor of having Bessell join my introductory group MAP (Make Anything Possible) session, and true to his open curiosity, he expressed his interest in learning more. After the demonstration, Bessell referred to my method during his lectures at the trauma retreat and helped me understand why MAP can be effective in the treatment of trauma.

The following is a summary of the most important concepts I learned from Bessel's lectures, I then cover further exploration I did on his research papers and classes that he gave on the subject.

In the first part of this article, I summarize ten ways the brain is affected by trauma according to Bessel, and from them, I deduct 10 therapeutic objectives of effective trauma strategies.1 Second, I then provide a very brief and simplified review of the literature on the therapies that have been proven to be effective. Finally, I explain what MAP is, a novel approach in the field of trauma therapy, and explore which of the 10 therapeutic objectives MAP can reach effectively. I will also cover how through the creative use of technology, MAP can help reinforce, accelerate and provide an accessible, scalable solution for healing trauma.

© MAP Coaching Institute LLC. All Rights Reserved.

Part 1

The ten trauma areas of the brain identified via brain imaging research

Before we begin, let's first define what is a traumatic event? Traumatic events, according to the Center for Disease Control, are marked by a sense of horror, helplessness, serious injury, or the threat of serious injury or death.

It has been proven that the long-term impact of the trauma is worse when the person is trapped during the experience, and unable to move, escape or react in any way. In other words, when the person is feeling totally helpless, the brain has to adjust to help survive the event.

Adjustments in the brain due to trauma are profound, and they often have a long term effect, especially when experienced early in child development.

How is the brain affected by early trauma?

Brain imaging research shows that :

1. The right brain which includes the limbic, emotional brain, such as the right amygdala is turned on and can get stuck on firing emotions of shame, guilt, fear, and terror. The right hemisphere also holds the unconscious part of the brain. It is the seat of creativity and imagination, which can be used both positively or negatively, and produces various responses, such as catastrophic thinking.
2. The left brain shuts down during trauma. This is where the language area of the brain is located (Broca). It is also the seat of conscious memories. The hippocampus which records and manages autobiographical memories is often off line during trauma. This is due to either an excessive level of cortisol, which affects data processing in this area of the brain, or the area is not yet developed in the child's brain.
3. Trauma causes the back of the brain to become hyperactive, as it goes into survival mode. This includes the brainstem that regulates the fight, flight, and freeze response. During trauma the sympathetic nervous system that directs the body's rapid involuntary response to dangerous or stressful situations is turned on and then tends to stay on.
4. The front part of the brain, the frontal cortex, (thinking, planning, problem solving, decision making, insight, understanding) becomes inactive during trauma. This leads to difficulty in planning, creates a tendency toward overgeneralization, and extreme anxiety later on in life.

© MAP Coaching Institute LLC. All Rights Reserved.

5. The brain then loses integration as a result, and this means that the interconnections between the parts of the brain can be impaired. For example, the right and left brain (corpus callosum) connection can be limited, as well as the frontal cortex and the back of the brain may lose connection. People lose their sense of coherence and self when the areas of the brain do not communicate well between one another. The lack of integration may also explain what is happening when the main personality of the traumatized person splits and segments into small parts. These trauma parts create different identities disconnected and sometimes even amnesic from the main personality.

   In addition to the general areas of the brain being affected by trauma, Bessell explained that there are 4 specific areas in the cortex (top of the brain) that are actually changed by trauma.

6. The first one is the ventral prefrontal cortex. Studies show that the ventral prefrontal cortex is connected to our ability to be flexible in our social behaviors, which enables healthy relationships in life. This area is affected by trauma, but research has also found more importantly, that it is the quality of the relationship with the caregiver(s) that affects this area most. Research has shown that the care giver's way of relating to the child as young as 12-18 months, creates attachment preferences which have a huge impact on the child's brain development.

   This area of the brain's development will be affected by the repetitively painful experiences of not being seen, heard, mirrored, appreciated, and loved. The messages the child receives is "I am not heard, seen, I don't matter, my needs are not being met, I am not safe", and therefore, the child doesn't know how to react to get their needs met. This will affect the child's future relationships at school, with family, friends, and partners.

7. The second cortex area affected by trauma is the dorsolateral prefrontal cortex.

> It is the time-awareness part of the brain that shuts down during trauma. This creates the impression for the traumatized person that the experience is going to last forever,

   and they therefore can not imagine that it will ever end. This makes the experience overwhelming and unbearable.The person loses awareness that this is a past memory, that it is over, and reacts and feels exactly as if the event was still occurring in real time and will never end. Later on in life these memories can pop back up as flashbacks.

8. The third cortex area turned down by trauma is the anterior cingulate. This part of the brain is all about determining what is relevant and important, both in our internal (mind and body) and external worlds. In the middle of trauma, the person is overwhelmed by all the dangerous threatening sensory data and information coming to them, and they don't know what to focus on– it becomes impossible to discern what is relevant or not. The person is in a continuously alert state, not knowing when it's safe to relax and trust. They are unable to distinguish between what is a true sign of danger or not. They become either hyperactive or hypoactive, influencing their future interactions and intimate relationships in life.

9. The fourth and last cortex area affected by trauma is the medial parietal cortex right precuneus. This is the area of self-identity, self-consciousness, such as the ability to reflect and be self-aware. It is also connected to our ability to judge whether to act out of empathy and forgiveness.

   Thanks to the research, we now understand which areas of the brain are affected by trauma, and therefore we have some clarity on how to approach trauma more effectively.

© MAP Coaching Institute LLC. All Rights Reserved.

Part 2

Ten therapeutic objectives deducted from neuroimaging

Here are the therapeutic objectives deducted from these neuroscience discoveries:

A) Engage the areas of the brain that were firing during trauma:

1. **Focus on the right side of the brain** as it is the side activated during trauma: the goal is to reduce the right amygdala's activity that activates the fight, flight response This also engages the imagination and the creativity of the right brain to connect with the unconscious memories.
2. **The therapy used should not, therefore, depend on the left brain** activation such as the Broca area of the brain (speech), or on conscious memories within the hippocampus, logic, and linear thinking.
3. **Focus on the emotional brain (limbic) is core to healing trauma.**

> The goal is to help the client learn to regulate their emotional responses, to tolerate feeling their emotions and not repress, numb, or express them inadequately.

4. **Address the unconscious memories** recorded in the body that are inaccessible to the conscious mind

B) Reconnect parts of the disconnected brain:

5. As the right and left brain may not be communicating as needed, activate the corpus callosum which connects the right and left brain..
6. The top brain cortex is associated with higher level processes such as consciousness, thought, emotional control (to verify) , reasoning, language, and memory. To function normally, it needs to integrate vertically with the midbrain (limbic/emotional brain) and connect with the bottom brain (the brainstem), which sends signals from the brain to the rest of the body.

> The clusters of neurons in the brainstem put trauma victims in survival mode because they move the body into a constant state of fight, flight, or freeze.

C) Activate and integrate the 4 cortex areas that are shut down by trauma:

7. Ventral prefrontal cortex - Social behavior
8. Dorsolateral prefrontal cortex - time awareness
9. Anterior cingulate - relevance
10. Medial parietal cortex right precuneus - self-awareness

© MAP Coaching Institute LLC. All Rights Reserved.

Part 3

The trauma healing methods proven to be effective

In summary, the therapies that are helpful would have to address one or more of these 10 objectives to be an effective trauma therapy. According to Bessel's research[1], one thing is clear: verbal exploration of the memory through cognitive behavioral approaches has been proven to be ineffective in treating trauma. This is especially true at the beginning of the therapy process, because as previously noted, the areas of the brain used to communicate with the person who is traumatized, include those same areas which are shut down or not "online" due to the effect of trauma on the brain.

So what are the approaches that work according to Bessel's research?

Hypnosis

Hypnosis has been shown to be very helpful :

One of its benefits is that it engages the imagination. According to Bessel, "Imagination is central to recovery", and in a state of hypnosis even a slight trance allows for the imagination to be activated.

> The traumatized person has to be enabled to do something to help themselves, and therefore the person needs imagination to integrate a new, positive alternative.

The research also shows that hypnosis provides controlled access to memories that may otherwise have been kept out of the conscious mind.[2]

Mindfulness

Mindfulness has been proven to be effective in some contexts :

During mindfulness, the frontal cortex enables observation and allows parts of the brain to reconnect.[3] Research has found that:

- After practicing mindfulness, **the gray matter in the brain's amygdala (the region known for its role in handling stress) can become smaller** and have a lower potential for activation. Studies have also shown similar brain changes in people who meditate.
- Mindfulness and creativity: the prefrontal cortex is the area of the brain responsible for things like planning, problem solving, and controlling your emotions. The gray matter in this area can become thicker after practicing mindfulness, showing increased activity in the cortex.
- Mindfulness and memory: the hippocampus that helps your memory and learning. can also become thicker after practicing mindfulness.

© MAP Coaching Institute LLC. All Rights Reserved.

- **Interoception can be improved through mindfulness.** Prof Antonio Damasio identified interception as an additional sense which enables self regulation. He proposed that emotional events begin with non-conscious changes in bodily states, called "somatic markers". It is only when the brain detects the alteration to the body's internal state, through interoception, that we actually experience the feeling and allow it to shape our behavior . Without the back-and-forth between the brain and the body, the feelings of happiness, sadness or excitement wouldn't exist.[4]

Interoceptive awareness is often affected by trauma impacting the connections between the brain and the body, reducing a traumatized person's ability to regulate emotions.

Mindfulness offers several benefits and can help fulfill some of the therapeutic objectives listed in this article, however, in practice, it was found that there is a limit to the traditional approach of mindfulness where the person simply sits quietly and observes their thoughts or sensations for long periods of time, because the traumatized person can become flooded with memories or thoughts.[5] It can be very uncomfortable or even overwhelming for those who have survived a lot of trauma. Also mindfulness is a daily practice, and clients may not be motivated enough to maintain a regular practice in order to benefit from the desired effects.

Eye Movement Desensitization and Reprocessing (EMDR)

The next method that can help heal PTSD is EMDR. Bessel's research has found that

EMDR "was more successful than pharmacotherapy in achieving sustained reductions in PTSD and depression symptoms.

However, this benefit accrued primarily for adult-onset trauma survivors. At a 6-month follow-up, 75.0% of adult-onset experienced improvement. For those suffering from childhood onset, only 33.3% experienced improvement.[6]

Upon recall of the traumatic memory during SPECT scanning, two areas of the brain were hyperactive post-EMDR treatment relative to pretreatment: the anterior cingulate gyrus and the left frontal lobe. An important implication of these findings is that successful treatment of PTSD does not reduce arousal at the limbic level, but instead, enhances the ability to differentiate real from imagined threat.[7]

Yoga

Yoga has been found very useful. It helps calm the nervous system, tone the vagus nerve (parasympathetic) through deep breathing, reconnects the brain to the body, the seat of deep unconscious memories. It is also known that movements that are crossing the midline of the body, like in some yoga positions, help reconnect the right and left brain and bring the corpus callosum online.

Dr Bessel's Research concludes that Yoga significantly reduced PTSD symptomatology, with effect sizes comparable to well-researched psychotherapeutic and psychopharmacologic approaches.

Yoga may improve the functioning of traumatized individuals by helping them to tolerate physical and sensory experiences associated with fear and helplessness and to increase emotional awareness and affect tolerance.[8]

© MAP Coaching Institute LLC. All Rights Reserved.

Neurofeedback

Bessel also studied Neurofeedback and concluded that compared with the control group NF produced significant PTSD symptom improvement in individuals with chronic PTSD, as well as in affect regulation capacities. NF deserves further investigation for its potential to ameliorate PTSD and to improve affect regulation, and to clarify its mechanisms of action.

Neurofeedback is also helpful to regulate attention and emotions, because it helps calm the amygdala, improves focus, and mood regulation.[9]

MDMA

The latest ongoing research Bessel is conducting is on the use of MDMA as an adjunct to psychotherapy.

The preliminary data shows that the sessions could be very healing and often leads to an increase in compassion, an opening of the heart. The feelings of love and compassion help to tone the vagus nerve (parasympathetic, the calming nerve). Other MDMA research has shown that during the session the amygdala is turned off, allowing the person to experience and observe their traumas from a more compassionate view point.

Somatic Experiencing

Somatic Experiencing also has advantages due to its focus on body sensations (Objective 1). The focus of the session is on body pain or sensation. The sessions can be intense and their effectiveness depends on the client's ability to tolerate pain. The drop out rate may be an issue due to the level of discomfort often experienced during sessions. Initial evidence suggests that SE has a positive impact on affective and somatic symptoms and measures of well-being in both traumatized and non-traumatized samples. [10]

Internal Family System (IFS)

Although not studied by Dr Van der Kolk, IFS is a very common therapy that addresses the integration of parts of personality often developed during trauma (Objective 5). The method is largely based on a conscious dialogue with a person's parts. Using conscious dialogue involves the left brain which may have been turned down during the trauma and therefore may not be able to access all unconscious memories and parts.

Research confirms the benefits and use of IFS language and principles can enhance the trauma survivor's capacity to establish trust, tolerate stabilization, and navigate a core sense of self.[11]

Dialectic Behavioral Therapy (DBT)

DBT uses a series of behavioral skills proven useful for the management of bordeline personality disorder and to help reduce the incidence of suicide, both of which, are often linked to trauma. DBT is not a trauma therapy per say, but may be an adjunct to other trauma methods, at the right time in the evolution of the therapy. The fact that mindfulness is an integral part of the DBT skill building protocol, a positive impact on brain connectivity can be assumed.

© MAP Coaching Institute LLC. All Rights Reserved.

Part 4

What is the MAP Method and how does it fit into the trauma therapy picture?

MAP was developed in cooperation with the late Dr. Garry Flint, who was a psychologist working with patients with deep trauma, such as torture survivors, people suffering from schizophrenia, mind control and many other extreme states. This experience is documented in his book, A Theory and Treatment of Your Personality, in which he outlines his discovery via his clinical observations. He discovered that there seems to be an "ally" in his client's subconscious mind which was willing to help and guide the therapy process.

When Colette discovered his work, Dr. Flint was happy to mentor her and her son Valentin, in the method he developed called "Process Healing", **a novel and powerful use of Eriksonian metaphorical language and mindfulness.** Colette was guided to expand this to address many other types of subconscious memories such as **somatic memories (organs, endocrines, muscles, and celular) as well as generational and cultural traumas, and more.**

Dr Flint enthusiastically supported the expansion of his original work and helped review and supervise the new additions. After 3 years of research and development we systemized the method, and designed and tested new instructions and protocols in order to make them most effective in treatment sessions.

Using the MAP Method, we communicate with the part of our mind that is beyond the conscious, and the subconscious/unconscious mind. It is often called the Authentic Self, which is the observer and has never been injured or conditioned. It is whole, complete, unconditional, and present– it is our innate intelligence.

> The MAP method calls this the "Superconscious", and we discovered that this part of consciousness is actually willing and able to help in the healing process.

As with Internal Family System (IFS), MAP requires therapists to trust that the capacity and wisdom for self healing lies within each client. MAP is similarly founded on the recognition that we have an ever present "Untarnished Self" as Dr Schwartz, the founder of IFS explained.

How does the MAP Method affect memories?

During a MAP session, the brain is engaged in a way that enables the reconsolidation of memories, during which the client stays mindful of the transformation happening to them in real time. This includes observing changes in areas such as emotions, thoughts, body sensations, muscle tension as well as family history and generational trauma memories which may surface. The client becomes aware and makes important connections which enable a release of their negative trauma symptoms both in the body and the mind.

How is it possible to change long term memories which were believed for the last 100 years to be permanent? Dr. Nader's revolutionary discovery of "the Window of Reconsolidation" proves that it is possible to change long term memories, within minutes.[12,13,14,15]

> The MAP Method leverages the reconsolidation process to neutralize long term traumatic memories permanently.

© MAP Coaching Institute LLC. All Rights Reserved.

Part 5

Reviewing the 10 therapeutic objectives and MAP's effectiveness

Based on the above neuroscience and imaging research, we have defined 10 therapeutic objectives which would be necessary to achieve successful trauma therapy outcomes. How might MAP address these objectives which are highlighted by Bessel's research? Let's first explore the general areas of the brain activated during trauma:

Objective 1 - Right Brain Engagement.

As described above, leveraging the abilities of the right brain is central to the healing process. One of the strengths of the right brain is its role in creativity and imagination.

In that respect, Bessel recognizes hypnosis as being very helpful in allowing the brain to create new possibilities and outcomes from the trauma "story".

After our demonstration, **Dr. Bessell pointed out to me that he liked that MAP is in some ways similar to hypnosis by allowing the imagination to be accessed.** MAP has some similarities to hypnosis, however, contrary to the classic approach of hypnosis, it has a few significant differences and advantages. As many clients resist being hypnotized, it is important to notice that with MAP:

1. **There is no induction to put the client into a deep trance.**

   The client is in a normal, relaxed frame of mind. They are fully present. For example, they can choose to open or close their eyes at will and they are fully engaged and in a two way communication with the therapist as needed.

2. **The instructions are focused on the process** (ex: find the origin and treat) not on the specific result (relax, stop eating when not hungry).

   The instructions given to the Superconscious mind of the client are different from those used in a regular hypnotic session as they are focused on finding and treating the memories in the perfect order. So the client never feels directed or influenced in any way. It is a gentle invitation for the mind to heal itself and the mind immediately answers the call and begins finding memories and rewiring itself.

Right brain engagement also comes into play here, as at the end of a session, the therapist may ask the client to use their imagination to create the missing support and resources they needed to fulfill their core needs at the time of the traumatic event.

They are invited to imagine the completion of the protective actions they were unable to take, thus creating an opportunity for the brain to change its relationship to the trauma event.

This transforms the person's memory of the event, which creates a new empowering option for the mind/brain. This is possible because the client is engaging their right brain, their creative brain to imagine a different outcome and is one key part of the healing process used in MAP.

© MAP Coaching Institute LLC. All Rights Reserved.

Objective 2 - Minimum involvement of the left brain.

With MAP, talking is not necessary. The client doesn't have to share anything about the event or the subject addressed in the session for the treatment to be effective.

This makes it easier for traumatized clients who are often ashamed or feel guilty about what happened to them. Having this privacy allows the patient to experience the freedom and empowerment to choose how much information they feel ready to disclose. **This also prevents retraumatization as they don't have to repeat the details of their trauma experience over and over again.** Not only is this a key advantage for adults, but this aspect of MAP also allows us to work with small children who are often unable or unwilling to talk about their trauma experiences

Objective 3: Quickly neutralize painful emotions in the limbic brain without flooding and retriggering the client.

This objective may be best demonstrated by an example from Annie Schaeffer, a French MAP therapist, who did a MAP session for a Ukrainian refugee and her son. The two had just escaped the Afghanistan war, only to find themselves caught up in another war in Ukraine, and in the area most devastated by the attacks. The mother was asked to assess her level of stress thinking about a specific event she had witnessed. Even though it was the intro session where we usually take a lighter subject so we can train the client's brain, she couldn't find anything else except the one event that had been occupying all her attention for weeks.

When asked where she would place this intensity of this experience, she said the level of stress was a hundred million out of ten! At the end of the session the number she assessed was down to a 10/10! and she was smiling. The entire session was translated and thanks to the method, the translator did not have to ask and describe the details of the event, she simply had to translate the instructions to the brain and report what the mother was observing in terms of the changes that were happening in her body/mind.

This is an example of how the emotional brain and the nervous system is calmed by a MAP session. Even though the level of intensity was extreme, the mother was able to tolerate the emotions she experienced as they didn't last long and she didn't have to focus on the details for the brain to rewire and process the memory. **Most of the processing was done in the subconscious.**

Objective 4 - Address unconscious memories recorded in the body.

With MAP, we access the memories at the depth of the subconscious- including preverbal, and prenatal memories, cellular memories, organs, endocrines, body parts, brain areas, generational history, etc. We tap into the wisdom of the body/mind to heal itself by inviting the Superconscious to search, find and heal memories that were disconnected from the whole.

One of the unique MAP procedures that addresses all types of subconscious memories, is one which works virtually like a "google search" of the whole history of the client including generational history.

© MAP Coaching Institute LLC. All Rights Reserved.

Through the association process, it locates all similar and connected unconscious events including the original event of the entire pattern to be treated as a package at the same time.

This procedure enables us to treat many events at once. The entire network of thoughts, beliefs, emotions, and body memories are all treated at once like a gestalt, in one package. For example, Dr Noushin who came to an introductory session, chose to focus on one specific sexual abuse event. During the first 20 minutes or so, her consciousness showed her numerous events that were all connected as a theme and were healed simultaneously. After 27 years of therapy, she appreciated the gentle, thorough and ease of the process.

Another advantage is that the "google search" often leads to the discovery of the original traumatic event that created the pattern, and when this happens, it allows for the complete neutralization of that life pattern. This is a significant advantage compared to treating one conscious event at a time. It not only saves time, but increases the effectiveness of each session, because if the core event has not been neutralized, the patterns simply return.

Aside from affecting the larger areas of the brain, trauma also affects the brain's integration, so can MAP help and how?.

Objective 5 - Horizontal brain integration known as improving the right and the left brain connection.

There is an opportunity here with MAP, which is now that the client is starting to feel better, they may well have the desire to share (left brain/ language area). That is, to express what they have observed changing in their body, mind, breathing, posture etc. It is up to the therapist to then engage in a dialogue to further integrate the new material, memories, realizations and insights that have emerged in the client's consciousness during processing.

Objective 6 - Integrating the brain from the top to the bottom,

which means from the top of the brain - (cortex) to the emotional (center) and the brain's stem/nervous system/body memories (bottom). Here we are talking about vertical brain integration.

Can MAP help in this area?

Let's explore...we know that after the processing and healing of a memory, the client often reports clarity and insights. The client's ability to have a deep perspective on, as well as a better understanding of their experience demonstrates the integration of the frontal lobe with the emotional brain.

In addition, because the client is in a state of mindfulness during a MAP session, as previously explained, the brain learns to integrate areas of the cortex with all other areas of the brain or nervous system.

During the processing time, a client often observes many types of body sensations, and changes in their posture, or may experience body pain that comes to the surface and then disappears once it has been processed.

© MAP Coaching Institute LLC. All Rights Reserved.

For example, a client might have shaky legs, or suddenly feel a deep pain in their lower back or have vertebrae popping back into place, etc. Another way to integrate the brain vertically and horizontally is when the client gains insights, and is ready to share. This is helping integrate the brain from the cortex (sharing observation, thinking) to the emotional brain, and down the nervous system, brainstem and body.

It is useful to note that for clients who have experienced extreme trauma, some skill building may be necessary in order to help them maintain focus and reduce distraction from self-referential judgments and mental reactivity. When applying MAP, the more a person can mindfully scan and focus on their internal body sensations while simultaneously maintaining objectivity and emotional distance,[16] the more quickly and effectively memories can be neutralized and reconsolidated to restore balance and well being to the Main Personality.

The last four objectives focus on reactivating the CORTEX AREAS that are shut down by trauma.

Objective 7 - Bring the ventral prefrontal cortex online.

The prefrontal cortex is related to social interactions, specifically the ability to control certain emotions in social situations, which also includes attention, focus and the ability to show empathy for others. Here trauma is only one aspect which influences this area of the brain. Research has actually proven that the early style of attachment with the primary caregiver is critical to the development of this area of the brain, and may be even more impactful than traumatic events.

Needs that have not been met in early childhood create and dictate character traits, these are also called predispositions.

In MAP we address predispositions with specific instructions so we can address these types of early childhood memories created during the first 4 years of life.

Attachment issues such as not feeling heard, understood, protected, etc., are core needs which left unmet can become the theme of MAP sessions.

When enough traumas have been cleared, we use another process using imagination to help clients rewrite their history.

Objective 8 - Activate the dorsolateral prefrontal cortex, which is all about time awareness.

During trauma this area of the brain is turned off, as a result, the person loses awareness of time and the understanding that things will change as time passes. For the integration of this area of the brain, the type of mindfulness we use in MAP has the client focus on an old memory but at the same time, on the changes happening in the present moment in their body/mind. According to Bessel, the way we use dual consciousness stimulates dorsolateral prefrontal cortex and therefore is very helpful in recovering from the trauma event.

An additional advantage of MAP, is that it directs the client to focus on the changes happening in the body and the mind.

This mindful focus on the positive changes happening to them progressively moves them from a state of helplessness, to a state of hope, which in turn enhances their desire to continue benefiting from the therapy.

© MAP Coaching Institute LLC. All Rights Reserved.

Objective 9 - Concerns the anterior cingulate which is related to relevance.

This area concerns our ability to know what to focus on, and what information is relevant in a given situation (association process).

This can be a difficult area for therapists to access. However we also discovered that we can ask the mind to heal the association and dissociation processes because we can address deep unconscious memories. This is achieved through the MAP method by directing the Superconscious to focus on finding and treating the memories which have affected the right precuneus. In other words, by treating the association process in the brain, it is able to then filter relevant information more accurately.

Objective 10 - Bring the medial parietal cortex online.

The last objective is to bring the medial parietal cortex online, or more specifically, to reactivate the right precuneus. This is related to self-identity. As with many therapies, once the client has healed many of their traumas, they naturally develop a new sense of self and agency.

© MAP Coaching Institute LLC. All Rights Reserved.

Part 6

How MAP's unique features and technology applications support the trauma healing process

As well as the 10 objectives based on neuroimaging covered so far, there are additional MAP protocols which address the effects of trauma. These are core to the healing process and warrant more explanation on how MAP's novel approach addresses them.

A distinct healing element of the MAP method is the integration of Parts. During trauma, the mind tends to split into "trauma parts". When this occurs, the brain disconnects from the whole and parts of the personality may split.

How do we reintegrate these memories and amnesic parts? How do we integrate all the parts of the personality into one unified self? Until now, IFS has led the way by creating a conscious dialogue with parts. This method has been really helpful, however, it can become long and complex with all the parts and subparts coming into play. We have found that sometimes up to a hundred or more exist.

With MAP, we begin the work with a pre-training to help the parts feel safe and respected during treatment. We then communicate with the parts indirectly through the Superconscious.

> The healing takes place in the unconscious mind which makes it much easier and faster because there is much lower resistance from the parts themselves.

We often see parts integrate within minutes, because clients don't have to share their traumatic events with anyone, or need to know the origin of their trauma but can still be treated with MAP. The parts do not risk retraumatizing the main personality and therefore many accept treatment of the trauma with ease.

Because parts can wake up at any moment between sessions, it is very helpful to keep working on the integration of parts between sessions. We are able to create recorded sessions and even recorded subliminal sessions which enable the client to work on parts between sessions.

To illustrate how MAP addresses parts, let's take the example of a 17 year old who came to my office. She had dry flakes of soap on her face, her hair had not been washed for years, her shoes had not been changed for 2 years, she wore gloves full of soap, and the skin on her arms and belly were damaged as she washed them 20 times a day or more. I only followed the guidance of her Superconscious and did not use any instructions other than the one integrating parts. We did three MAP sessions dedicated solely to working on her parts.

On the fourth session when she came to see me, she had washed her hair, had gone to the shoe store, wore no gloves, and asked me to work on her belly because she no longer excessively washed her arms. It should be noted that for the first three sessions, I had zero conversations with her. She had refused any eye contact, had kept her eyes closed and never said a word. Finally when I saw her in the fourth session, she actually looked at me and spoke to me for the first time.

© MAP Coaching Institute LLC. All Rights Reserved.

This story also illustrates another advantage of MAP, which is to have the flexibility to address a subject, either consciously, with dialogue and mental exploration, unconsciously, or both. In other words, when working unconsciously, the client can just focus on a present general feeling, a physical sensation or even a nightmare, for example and be treated effectively. They don't have to use language, as long as they are aware of a sensation which can be measured via feedback from the client. Moreover, the sessions often bring new unconscious information to the surface to process.

Additionally, the capability to leverage the association process is a very effective way to go beyond the conscious mind and access deep subconscious memories. We are therefore not limited to somatic physical pain or visible body expressions. We can bypass the need for the therapist to consciously know what to target.

This process allows the body/mind to bring up memories on its own in the spine, organs, endocrines, cellular memories, and brain areas as needed, and which are consciously inaccessible to the therapist.

> The capability to launch the body/mind into a self-healing process is of great support to any method the therapist already uses.

Another benefit is the method to empower the client with the use of what we call "MAP on the Go". This is a self-help procedure with three simple steps and uses just a few instructions to their Superconscious mind to help clients take more control over their inner states between sessions.

The next element is the capability to provide daily inner work without requiring the therapist's presence. Seeing a client 50 minutes a week is simply not enough to help clients with a lot of past trauma. How is it possible to provide quality daily reinforcement to deepen the work without the therapist's help? One of the significant advantages of MAP is the creation of audio recordings which the client can listen to between sessions.

> We have noted in our own case studies, subliminal recorded sessions, can help prevent re-triggering trauma in very sensitive clients while still providing necessary support.

These tools are in research mode, but have already been found very useful for many of our clients.

Another benefit of MAP is to maintain and accelerate healing between private one to one therapy sessions via live group programs or even recordings. These follow a certain curriculum which addresses the essential elements of the healing process. This combination can be very effective. For example, we have developed a 12 week program to systematically neutralize memories from conception to 18 years old. The therapist's creativity can be leveraged into new types of programs that can be for specific groups of clients, such as those suffering from food addiction to autoimmune diseases.

MAP also creates advantages for therapists. It is now well recognized that listening day in and day out to traumatic stories can create the potential for vicarious traumatization. As a result, many therapists burnout or develop compassion fatigue. With MAP, the therapist is in a relaxed state, focusing on creating an atmosphere of well being, which naturally invites self-healing for the client. Since talking or explanation of client experiences are not required to be shared for healing to occur, the therapist is protected from this potential difficulty.

© MAP Coaching Institute LLC. All Rights Reserved.

What do you do when your client wants nothing to do with therapy? Susanne Bond, a trauma therapist, relates the story of a young boy who was completely disinterested in speaking with her. He had even placed a blanket over his head during the sessions, but was still hearing what the therapist was saying to him. After three sessions, his mother reported that the child's anger had completely disappeared.

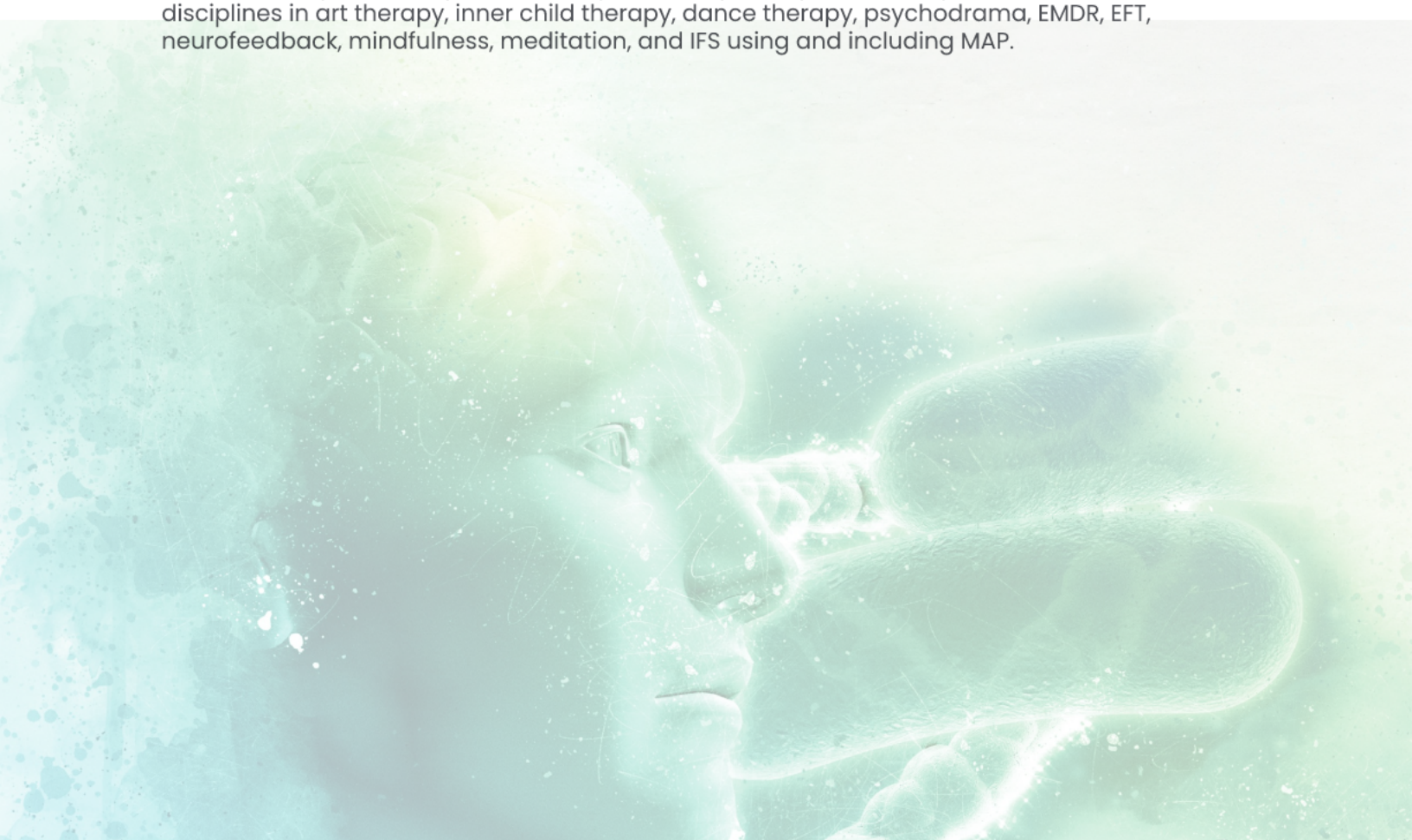
The methods that have been researched up to now are mostly geared towards adults or adolescents, and there are few methods which address the needs of children. The MAP Method can easily be added to any type of child therapy as it can be used during and between sessions. One way is to create a subliminal recording over music which is pleasant to the child.

For example, the story of a boy at age 4 and girl at birth who were abandoned by parents who suffered from addiction. The children were 7 and 11 years old when they began working with MAP, they had previously worked with a few other therapists.

They had deep fears of abandonment especially during the night, and always needed to sleep with a light on or next to mom. They also had learning disabilities and ADHD. The MAP coach did two one on one sessions with the mother and recorded a subliminal MAP session focused on releasing the traumas of the children since their conception.

After less than a month of listening to the subliminals while playing, the children were sleeping without a light or a parent in the room at night. They no longer experienced separation anxiety. They were able to have sleepovers for the first time. The children began to try doing new things without fear, and there was also a marked improvement in their grades and their behavior at school.

MAP's flexibility of delivery has also inspired many therapists to complement their own disciplines in art therapy, inner child therapy, dance therapy, psychodrama, EMDR, EFT, neurofeedback, mindfulness, meditation, and IFS using and including MAP.



© MAP Coaching Institute LLC. All Rights Reserved.

Let's wrap it up with a story

I am leaving you with the story of Alison. As a teenager, Alison consulted a psychiatrist who sexually abused her, from that experience she went downhill. Alison was diagnosed by a new psychiatrist in her twenties with Bipolar and C-PTSD. She also suffered from anxiety, insomnia, and brain fog.

Beginning at twenty three years old, Alison developed autoimmune disorders such as Rheumatoid Arthritis, Crohn's disease and Colitis. She was suffering from joint pain and ended up addicted to several painkillers along the years. Her psychiatrist diagnosed her as incurable, and her parents thought she would never be functional.

Turning fifty, Alison joined our MAP Body specialty program developed by Jelena Katic Ujevic, a trainer at the MAP Coaching institute. The program focuses on releasing the traumas that may be affecting the immune system. The program includes recordings of MAP sessions to listen to for at least one hour a day. There are also subliminals, which are MAP sessions inaudible to the conscious mind with gentle music and natural sounds over them.

After two months of following the program, Alison began to see the results of her inner work. The pain from Rheumatoid Arthritis diminished to the point she was able to stop all medications, and her inflammation numbers were very low. She felt joy and happiness for the first time in years and she didn’t need weekly visits to her psychiatrist anymore. Alison was now stable in her emotions, and didn't feel ups and downs anymore. She felt in control. She was able to sleep easily all night. Her memory and clarity of thought was back and she was able to work and take care of her own needs.

Eighteen months later Alison gave us another testimonial. She went from working in a cafe to finding work helping others in the community and she began training in energy healing methods. Alison was not using any medications of any kind anymore, and now lives her life like if she had never been diagnosed.

References

1. VAN DER KOLK, B.A. 2006. Clinical Implications of Neuroscience Research in PTSD. NYAS. 022 https://doi.org/10.1196/annals.1364.022 Citations: 205 https://nyaspubs.onlinelibrary.wiley.com/doi/abs/10.1196/annals.1364.022
2. SPIEGEL, D. CARDENA, E. 1990. New uses of hypnosis in the treatment of posttraumatic stress disorder. Journal of Clinical Psychiatry. Oct; 51 Suppl:39-43; discussion https://pubmed.ncbi.nlm.nih.gov/2211565/
3. PRETAK, J. M.- Thesis- Neurobiology of Trauma and Mindfulness: The Impact of Mindfulness-Based Interventions for the Treatment of Trauma through the Theoretical Frameworks of Sigmund Freud and Bessel van der Kolk https://www.proquest.com/openview/290d69bad1a8c5a11a35e255772566c3/1?pq-origsite=gscholar&cbl=18750
4. Interoception: The Hidden Sense That Shapes Wellbeing, David Robson, The Guardian, August 15,2021. https://www.theguardian.com/science/2021/aug/15/the-hidden-sense-shaping-your-wellbeing-interoception
5. National Institute for Clinical Application of Behavioral Medicine (nicabm). a- The Neurobiology of Trauma. b- Treating Trauma Master Series, with Ruth Lanius, MD, Ph.D. and Ruth Bucyznsk
6. VAN DER KOLK, B.A., J. SPINAZZOLA, et al. 2003(?) A Randomized Clinical Trial of Eye Movement Desensitization and Reprocessing (EMDR), Fluoxetine, and Pill Placebo in the Treatment of Posttraumatic Stress Disorder: Treatment Effects and Long-Term Maintenance. Journal of clinical psychiatry. https://www.psychiatrist.com/jcp/trauma/ptsd/randomized-clinical-trial-eye-movement-desensitization/
7. LEVIN, P., LAZROVE. S., VAN DER KOLK, B.A.1999. What Psychological Testing and Neuroimaging Tell Us about the Treatment of Posttraumatic Stress Disorder by Eye Movement Desensitization and Reprocessing. Journal of Anxiety DisordersVolume 13, Issues 1–2, January–April Pages 159-172 https://www.sciencedirect.com/science/article/abs/pii/S0887618598000450
8. VAN DER KOLK, B.A., Et all.,Yoga as an Adjunctive Treatment for Posttraumatic Stress Disorder: A Randomized Controlled Trial. Journal of Clinical Psychiatry. Jun;75(6):e559-65. https://www.psychiatrist.com/jcp/trauma/ptsd/yoga-adjunctive-treatment-posttraumatic-stress-disorder/
9. VAN DER KOLK, B.A., HODGDON, H., GAPEN, M., et al. 2016. A Randomized Controlled Study of Neurofeedback for Chronic PTSD. PLoS ONE. 11(12): e0166752 https://doi.org/10.1371/journal.pone.0215940
10. KUFULB, M., MALDEI, T., HERMANEK, A., BAUMANN, N. 2021. Somatic experiencing – effectiveness and key factors of a body-oriented trauma therapy: a scoping literature review. European Journal of psychotraumatology Volume 12, - Issue 1 Article: 1929023 https://doi.org/10.1080/20008198.2021.1929023
11. BROWN, G. O. 2021. Internal Family Systems Informed Eye Movement Desensitization and Reprocessing. An Integrative Technique for Treatment of Complex Posttraumatic Stress Disorder. International Body Psychotherapy. Journal The Art and Science of Somatic Praxis. Volume 19, Number 2, pp. 112-122. https://ibpj.org/issues/articles/Gillian%20OShea%20Brown%20-%20Internal%20Family%20Systems-Informed%20Eye%20Movement%20Desensitization%20and%20Reprocessing.pdf
12. Nader K. (2015). Reconsolidation and the Dynamic Nature of Memory. Cold Spring Harbor perspectives in biology, 7(10), a021782. https://doi.org/10.1101/cshperspect.a021782
13. Nader K, Hardt O, Lanius R. (2013). Memory as a new therapeutic target. Dialogues Clin Neurosci, 15: 475–486. https://doi.org/10.31887/DCNS.2013.15.4/knader
14. Nader, K., Schafe, G. E., & Le Doux, J. E. (2000). Fear memories require protein synthesis in the amygdala for reconsolidation after retrieval. Nature, 406(6797), 722–726. https://doi.org/10.1038/35021052
15. Björkstrand J, Agren T, Frick A, Engman J, Larsson E-M, Furmark T, et al. (2015) Disruption of Memory Reconsolidation Erases a Fear Memory Trace in the Human Amygdala: An 18-Month Follow-Up. PLoS ONE 10(7): e0129393. Frontiers in Psychology, 11, 545945 . https://doi.org/10.1371/journal.pone.0129393
16. Cayoun, B. A., & Shires, A. G. (2020). Co-emergence reinforcement and its relevance to interoceptive desensitization in mindfulness and therapies aiming at transdiagnostic efficacy. https://www.frontiersin.org/articles/10.3389/fpsyg.2020.545945/full