

Mind-Body Transformations Therapy (MBT-T)

A single case study of trauma and rehabilitation: The psychosocial and cultural epigenomic theory, research and practice of the new neuroscience of psychotherapy and translational medicine

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Abstract

This single case study of trauma and rehabilitation explores a new evidence-based psychotherapeutic protocol of Mind-Body Transformations Therapy (MBT-T). The psychological theory, research and practice of MBT-T is reviewed and illustrated with the transcript of a single 90 minute session of psychotherapy with a 59 year old professional woman who experienced a post-traumatic stress disorder (PTSD) initiated during her adolescence. Replication of this study with large clinical populations and controls is now required to confirm how the MBT-T protocol could supplement the traditional cognitive-behavioral dynamics of psychotherapy for ameliorating stress-related disorders with the neuroscience of the 4-stage creative cycle. We first demonstrate an emerging psychosocial theory for the rapid facilitation of therapeutic RNA/DNA mind-body transformations. We then generalize this demonstration with the MBT-T Self-Reporting Response Form for collecting group data for documenting a new psychosocial epigenomics protocol for applications to translational medicine in our supplementary materials.

Key Words: Activity dependent gene expression, bioinformatics, consciousness, epigenomic psychosocial theory, 4-stage creative cycle, mind-body communication, psychotherapy, rehabilitation, RNA/DNA molecular dynamics, neuroscience, translational medicine.

Introduction

This single case study of the rehabilitation of a post-traumatic stress disorder illustrates the psychological theory, research and practice of a new psychosocial and cultural approach to the epigenomics of psychotherapy and rehabilitation suitable for large groups. Epigenomics is a scientific approach for exploring the interaction of nature and nurture: how genes interact with the environment to modulate behavior, cognition and consciousness (Bell & Robertson, 2011; Robinson, Fernald & Clayton, 2008; Feinberg, 2007). Recent research in neuroscience, clinical and social psychology documents how complex psychosocial and cultural epigenomic mechanisms modulate gene expression without altering the DNA code (Cole *et al*, 2005, 2007, 2009, 2010, & 2011). The Mind-Body Transformations Therapy (MBT-T) protocol focuses on a special class of epigenomic genes that are often described as “activity or experience-dependent genes,” which can be turned on (activated) or off (suppressed) by signals from the physical

and psychosocial environment that may be appropriate applications to translational medicine (Rossi, 1986, 1993, 2002, 2004, 2007, 2012; Rossi & Rossi, 2013; Lloyd & Rossi, 1992, 2008).

Sources of the psychosocial theory, research and practice of Mind-Body Transformations Therapy (MBT-T)

The theory, research and practice of Mind-Body Transformations Therapy (MBT-T) originated from the seminal studies of Milton H Erickson’s therapeutic hypnosis and medical rehabilitation by Ernest Rossi in the 1970s (Rossi, Erickson-Klein & Rossi, 2008-2014). In his neuroscience update of Erickson’s innovative cognitive-behavioural approaches to psychotherapy Rossi (Rossi, 2012, 2013; Rossi & Rossi, 2013) outlined how modern RNA/DNA microarray technology makes it possible to measure the expression levels of many thousands of genes simultaneously. This evidence-based research in psychosocial epigenomics has become a new standard in personalized and translational medicine (Eisen *et al*, 1998).

Current research documents the use of RNA/DNA microarrays for assessing psychotherapeutic responses via a variety of top-down therapeutic protocols that were originally developed by many diverse cultural, historical and spiritual traditions of mind-body healing. These include the relaxation response (Dusek *et al*, 2008), therapeutic hypnosis (Lichtenberg *et al*, 2000, 2004; Rossi, 2012; Rossi & Rossi, 2013), meditation (Creswell *et al*, 2012) social regulation of gene expression (Cole, 2009, Cole *et al*, 2005, 2007, 2010, 2011), emotional freedom techniques (Church *et al*, 2012; Yount *et al*, 2013), the therapeutic placebo (Sliwinski & Elkins, 2013) and yoga (Lavretsky *et al*, 2013) to facilitate optimal states of human consciousness as well as the amelioration of stress related dysfunctions (Unternaehrer *et al*, 2012).

This single case study explores the hypothesis that such top-down therapeutic protocols epitomized by the Mind-Body Transformations Therapy (MBT-T) protocol could become the foundation of a more general theory of mind-body communication, meditation, psychotherapy and rehabilitation (Rossi, 2002, Rossi *et al*, 2008, Atkinson *et al*, 2010). A full description of the administration and scoring of the new top-down MBT-T protocol (originally named the “Creative

Psychosocial Genomic Healing Experience, CPGHE) is freely available (Rossi, 2012). Confirmation of the results of this single case study could update the cognitive-behavioral efficacy of evidence-based translational medicine and psychotherapy recommended as a standard of clinical excellence by Insel (2009, 2010, & 2012), director of National Institute of Mental Health. In this paper we will first demonstrate the MBT-T with an individual and then outline how the MBT-T protocol can be used with groups.

A single 90-120 minute MBT-T demonstration of PTSD rehabilitation with one subject

Mind-body communication and transformations utilizes the normal circadian and 90-120 minute Basic Rest-Activity Cyclic (BRAC). Researchers are currently using time-series gene expression data to facilitate how mind-body communication could facilitate health and recovery from trauma and stress related problems (Atkinson, *et al.*, 2010) Bar-Joseph *et al.*, 2012; Lloyd & Rossi, 1992, 2008, Rossi, *et al.*, 2008; Qian *et al.*, 2013). This single 90-120 minute demonstration of MBT-T explores and illustrates a variety of interesting and insightful approaches for modeling Mind-Body Transformations Therapy on all levels from mind to gene with the 4-stage creative cycle.

STAGE 1 of the Creative Cycle: Focusing of attention and positive expectancy with hand balancing.

Rossi: May I demonstrate a gentle balance with your hand to help you learn how to deal with your own issues in your own way?

[Turns toward the audience] Milton H Erickson, MD would reach out with his hand and just lightly touch the wrist (Ernest Rossi touches the underside of Celeste’s forearm and wrist. I then move my hand gently upward and across Celeste’s forearm to her wrist as I lift it. But my touch is so light that the client gets the tactile cues to lift her hand herself (See Fig.1).

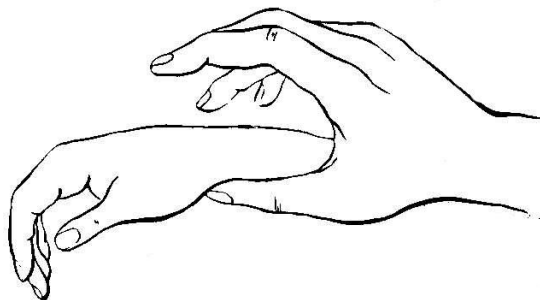


Figure 1. Hand, thumb and finger placement for facilitating inner balance, sensitivity and the novelty-neurogenesis effect to optimize the subject’s 4-stage creative cycle of mind-body awareness and problem solving (Rossi, Erickson-Klein Rossi, 2014).

Rossi: That’s right, yes! Allowing that ... I am not grabbing her hand roughly but moving my hand

very gently ... and I am not telling you to put it down.

[Turns toward the audience] And so you see Celeste’s hand remains suspended in midair. This is what Erickson called a “therapeutic catalepsy,” which is a position of balanced muscle tonicity and receptivity that is comfortable for the client. Erickson believed that this kind of balanced muscle tonicity led to what the modern neuroscience calls focused attention and a positive expectancy that something good is going to happen. It is the *novelty* of the surprising touch that activates the psychosocial epigenomic dynamics of the “novelty-numinosum-neurogenesis effect” (NNNE), to optimize the 4-stage creative cycle and problem solving (Rossi, 2002) summarized in Table 1.

Qualia of Human Experience that Activate The Novelty-Numinosum-Neurogenesis Effect

Neuroscience (Molecular Science)	Numinosum (Spiritual Practice)
<ul style="list-style-type: none"> ▪ Activity ▪ Novelty ▪ Enrichment 	<ul style="list-style-type: none"> ▪ Fascinating ▪ Mysterious ▪ Tremendous
<p>Kempermann, 2006 Ribeiro <i>et al.</i>, 2008</p>	<p>Otto, 1923 Jung, 1958</p>

Table 1. An integration of research consistent with the hypothesis that both neuroscience and traditional healing rituals of many cultures activate the NNNE to facilitate rehabilitation of PTSD from mind to genes and molecules (proteins, neurotransmitters, hormones, psycho-neuro-immune factors, etc. (Rossi, 2012, pg. 130).

The patient’s private thoughts: Wow, I would like to open my mind but my arm does not feel comfortable so I will move my shoulder back a bit to be supported by the chair. It is apparently important to be comfortable and balanced in this theory.

By facilitating this gentle hand balancing Rossi subtly focuses the client inward to experience focused attention with positive expectations. This is what Erickson would call “shifting the burden of effective responsibility of psychotherapy onto the subject” (Erickson, 1964, in Rossi, Erickson-Klein Rossi, 2008 Vol. 3, pgs. 67-71). The typical client begins with the attitude, “Oh, Doctor, please help me.” Erickson’s initial response was to immediately *shift the burden of creative inner work with focused attention and positive therapeutic expectation from the doctor to the patient* so that she becomes

active and receptive in expecting that something good will happen with *her new attitude of self-help!*

This therapeutic self-help attitude is an important but little recognized psychosocial epigenomic secret of Milton H Erickson's therapeutic hypnosis. People liked to believe that Erickson was some sort of master hypnotic manipulator. While this designation may have some superficial appearance of truth, Erickson actually taught simple effective techniques for activating the patient's own inner focus and creative process for inner problem solving.

Rossi: [Ernest pauses for 20 seconds looking at Celeste. Such creative pauses allow her to focus on private experiences with positive expectation.]

STAGE 2 of the Creative Cycle: Introducing the NNNE and the psychosocial epigenomics of the MBT-T

Rossi: [Turns towards the audience] You're introducing the subject to an experience of *novelty*, which for Erickson often meant experiences of unusual but comforting hand touch. This hand balancing initially focused the subject's attention with positive expectancy which Erickson would then proceed to help the subject explore some interesting questions about themselves, their past, etc. He would start to build on positive expectations and focused attention in appropriate and unique ways for every individual. He would ask people to explore some of their earliest memories. What are some of the earliest things they learned? How did they learn how to read? Could they see the first book they read? Could they remember back even further to when they learned how to walk? This early memory review facilitates activation of the NNNE in turning on the molecular level of experience-dependent epigenomic expression for rehabilitation and problem solving.

The patient's private thoughts: *Yes, I can remember looking at pictures and learning to read letters one by one, and I do have memories of when I learned to walk!*

Rossi: So you continue, Celeste, with your earliest memories of writing. I don't know if you can actually experience ... (creative pause) what some of your earliest focusing was? What were some of your earliest words when you were learning how to write? What did they look like? I don't know if you can go back even further learning how to ... Yes, what is the earliest memory of your learning how to do something? Can you remember talking to yourself to help you learn?

The patient's private thoughts: *Yes, I can remember the book 'The Little Bear' with its sweet watercolor images, black spine binding and blue mottled paper cover with a small line drawing of the Little Bear.*

Rossi: That little girl ... What did they call you as a little girl?

The patient's private thoughts: *"Child," they called me" Child!"*

Rossi: I don't know if you can remember ... Yes ... What was the first birthday you can remember? ... How old were you going to be? ... Do you remember what were the first gifts you received? ... And so continuing privately within yourself now, Celeste, going from one birthday to the next.

The patient's private thoughts: *Age 4 I received my doll that I named "Nancy" for my birthday. Nancy had brown hair and a pretty blue brocade dress my grandmother made for her. My grandmother made a trunk full of doll clothes for each of my many dolls throughout my childhood.*

Rossi: A year older ... Growing from one birthday to the next ... gradually until you are as old as the bigger kids.

The patient's private thoughts: *At age 5 I am all grown up and full formed. I see my face, my dress, my birthday cake with pretty pink roses and my new doll Debby. Debby was my favorite doll of all time and I still have her in my closet today.*

Rossi: I don't know if you can remember age 7, 8, 9?

The patient's private thoughts: *I see my face clearly at each age and remember my birthday parties.*

Rossi: And then, yes, becoming a ... teen? Age 11, 12, 13 ...

The patient's private thoughts: *Age 11 I joined the Orchid Society. Age 12 was when the first cute surfer boy asked my father for permission to date me – which my father declined. Age 13 when traumas began after my father died unexpectedly and my mother remarried.*

Rossi: Yes ... some of the best experiences ... some of the ... not so great experiences (Rossi quietly and warmly laughs) ...

The patient's private thoughts: *This is when the hell begins!!!* [Exclamation points as she begins to access the adolescent sources of her PTSD.] *How soon can we get this over with? Can't I just stay*

with happy memories? I just need to have the courage to stay fully with this age ascending since I know it is going to be time limited and I won't have to stay here long in therapy.

Rossi: Some of the high hopes ... and some of the worst of those earliest ... What you are going to be when you grow up?

The patient's private thoughts: *I'm going to be a psychologist and help people starting with me. That's what I am going to do, and did. I began to read books trying to learn how beginning with 'I'm OK, You're OK'.*

Rossi: And now moving into 15, 16, 17 Wow! ... When did you know you were ... going to college?

The patient's private thoughts: *The lost years of the worst of my trauma, abandonment, loneliness and dissociation. I graduated from High School early at age 17, took the weekend off and then began college just to get a head start on living my life as I dreamed it could be.*

Rossi: Yes. What was that young lady ... What were the thoughts of herself and her future?

The patient's private thoughts: *I am determined to create an independent life of my own where I don't have to depend on anyone to take care of me. I do not want to be stuck on the whims of others.*

Rossi: How was it learning new things? ... Really focusing in on all the transitions between adolescence, becoming a young adult ... going to college.

The patient's private thoughts: *It is always hard learning new things. Outwardly I was confident but inwardly very insecure.*

Rossi: I don't know if you remember the first day... the first time you entered your dormitory or place where you lived in going to college. I don't even know if you lived away from home.

[Turns toward the audience] This 'I don't know' technique is a therapeutic inquiry where the client takes responsibility for themselves, as I cannot possibly know everything. i.e. notice that the therapist really does not need to know everything! However, the therapist does need to know how to facilitate *the patient's private thoughts* that activate the NNNE to optimize the epigenomics of self-help in translational medicine.

The patient's private thoughts: *My first day of college in the winter was very rainy and cold. My small college had old military Quonset huts for buildings with wood stoves for heat and fantastic teachers. I guess I never told anyone about my living situations in college. I lived on Atoll Street for a little while sharing a room with my brother who worked at night when I slept, and he slept during the day while I was at school. Fortunately that only lasted a few months before I had my own room to myself.*

Rossi: What were some of those first college classes? ... Just watching yourself going to them ... one semester to the next ... some of the really surprising things ... some, I suppose, disappointments? ...

The patient's private thoughts: *I loved my classes of Shakespeare, American History, Physiology and survey Psychology classes. One English teacher was so condescending and terrible. He marked my papers with so much red ink that I couldn't see my words, while my Shakespeare teacher guaranteed me a "C" if I would simply write my essays. He wanted to help correct the negativity from the first English teacher. My physiology teacher did the same as I wanted to drop the class since I thought I was too stupid to pass. He assured me that I was the only non-nurse in the class and as such I couldn't possibly know, or learn as fast as they could. Both professors had a profound effect on me through their kindness and eyes to see that I really could succeed.*

Rossi: And then moving on to the miracle of all miracles, graduating ... but still not finished. The part of you that wanted to go on to graduate school ... and watching that whole process of graduate school ... working on your doctorate ... frustrations, breakthroughs ...

The patient's private thoughts: *My Bachelors Degree in psychology was useless because I could not afford to take a job in my field since the pay was too low.*

Rossi: And finally graduation. And was that? ... You would be a graduate, a professional and learning to become who you are today.

The patient's private thoughts: *I got a Masters of Arts Degree and still not afford to take a pay cut to work in the field of psychology. I had to go on to earn a doctorate. There were too many traumas along the way to think about all of them. Some of my professors wanted me to fail while some professors put me on a pedestal just so they could knock me down later. I finally graduated with top honors by not listening to the ones who wanted me to fail, nor*

to the ones who over-idolized me. Even though I broke my neck nearly becoming paralyzed, I persevered because I wanted to lead a life where I could take care of myself as I promised myself in my teen years.

STAGE 3 of the Creative Cycle:

Facilitating the Aha! Therapeutic experience with the private inner self observer

Rossi: I wonder if you can see the whole thing in perspective? Looking at that young child first learning ... all the way to the young adult? Yes, that *private inner self observer* ... knowing the simple truth that only you could possibly know. How will you use your inner observer to help yourself now and in the future?

The patient's private thoughts: *Yes. I am the same person throughout the years even though I broke my neck and successfully rehabilitated myself. Twenty-five years later I had another serious traumatic head injury that I also successfully rehabbed. I am proud of my recoveries. Come to think of it – I have always known how to help myself.*

Rossi: And continuing on to today in your growing maturity ... That's right, seeing and feeling your whole self, that whole journey from childhood to today ... That is all of it is one story. The story of ... Yes, what would you call the story of ...

STAGE 4 of the Creative Cycle:

Facilitating the self-help epigenomics of translational medicine via the MBT-T

Rossi: So continue focusing in your own mind privately ... getting this marvelous perspective ... opening your mind. This incredible journey you have been on.

[Turns toward the audience] By allowing people to have their own private experiences, without the need to confess everything the therapist bypasses most of the persons so-called "inner resistance" so their natural 4-stage creative cycle can proceed with optimal freedom and self-help!

The patient's private thoughts: *There truly is a whole continuity to who I was as a young child and who I am today.*

Rossi: And when you know that ... in a couple of minutes you can come back to the room fully alert, conscious, and ready to begin a ... deeper exploration of how you can work with yourself ... effectively ... optimizing your learning, healing and well-being in the wonderful adult you are now.

When you know you can do that let's see whether your eyes will open first, or will you stretch first? [These are the realistic behavioral inevitabilities that are signaling the end of the person's creative inner work.] Coming completely alert for the new process of inner optimizing creative ... mind and well-being.

Rossi: Let's see how you are. Do you feel ready, for example Celeste, to move on, or is there something else that you want to share that is appropriate to share with the audience at this time?

Celeste: That was really beautiful (therapeutic tears) about the *Continuity of My Life*. I've always known who I am from the earliest days. I can clearly remember my 4th birthday. By the time I was age five I deeply knew who I was. I distinctly remember thinking that I was all grown up and the age of 5, and do you know what? I was. There were a lot of things I didn't know yet. I was still a kid and needed to be taken care of. Even though I didn't have a full adult mind, I knew I was fully grown and fully formed by the time I was 5. I was a little lady at that point and I needed private time. I needed a lot of private time at the age of 5.

Rossi: Really?

Celeste: Yes I did. I knew at the age of 5 what I know to be important today:

- ♥ You have to be smart and think things through.
- ♥ You have to let people come to their own conclusions. You cannot tell people what their conclusions are, and certainly nobody can tell me what my conclusions are!
- ♥ You cannot tell me what to think or believe just as I cannot tell you what to think and I cannot tell you what to believe.

I really understood that all at the age of 5.

Rossi: Thank you. That is a beautiful summary of your personal path to self-help and recovery.

One week follow-up

A week Later Celeste reports another profound MBT-T group experience wherein she found her neck gently elongating in a continuing healing and freedom from her head and neck injuries.

Celeste: *It was really weird that I could not get comfortable during this week on account of neck pain. I stood up, sat down, lay down and tried to exercise to see if the pain in my neck would go*

away. Finally, I realized that this was a continuation of last weeks' therapeutic experience. I simply tuned in and allowed memories of breaking my neck and other concussions to come up. Rapidly, a kaleidoscope of memories ping-ponged in my brain and then my neck simply let go! I was so surprised to have new neck length and freedom from pain and freedom of movement. If you have an open mind you never know how far you can go with self healing!

Facilitating the 4-Stage Creative Cycle in the MBT-T: The Roles of the Therapist and the Patient

This case study reflects an example of Mind-Body Transformations Therapy (MBT-T) (formerly described as the Creative Psychosocial Genomic Healing Experience). This therapy consists of utilizing our natural 4-stage Creative Cycle in self-help.

STAGE ONE: Self Exploration

Stage 1 involves preparation and self exploration. The role of the therapist in this stage is to allow the client to use arousal and stress to motivate the client toward problem solving and healing. It is not the role of the therapist at this stage to alleviate emotional distress. Arousal is an inner stage of therapy that triggers a creative process of problem solving as illustrated in Figure 2.

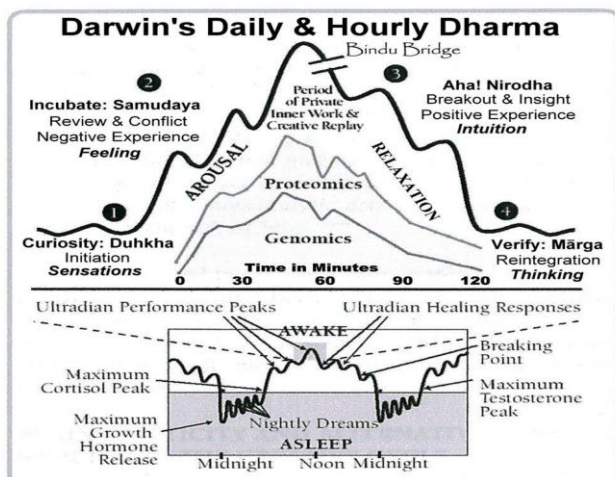


Fig. 2. Qualia of Darwin's daily and hourly work of the 4-Stage Creative Cycle in one 90-120 minute basic rest-activity cycle (top) of the ~24 hour circadian cycle (bottom). The Sanskrit terms represent the qualia of Buddha's Four Noble Truths. The proteomics (protein) profile in the middle curve depicts the energy landscape for protein folding within neurons of the brain (Cheung, et al, 2004). The functional concordance of the co-expressed genes are illustrated by the genomics profile below it (Levsky, et al, 2012). The lower diagram illustrates how the qualia of human experiences are typically experienced as the BRAC within the circadian cycle of waking and sleeping (Rossi, 2002, pg.129.)

STAGE TWO: The dark night of the soul: Privacy & Implicit Processing Heuristics

Stage 2 often involves the patient in inner conflicts and feeling stuck, which may elicit negative memories and abreactive emotions. This stage can be accompanied by crying, frowning, and feelings of inadequacy, stress and depression. The most important role of the therapist during this stage is to support the client's private inner work. Facilitating private inner work more often than not involves replaying painful past memories that are the source of the problem. The client is supported by the therapist's indirect permissive suggestions (also known as implicit processing heuristics).

For example, the therapist may ask in Stage 2:

Will it be okay to allow yourself to continue replaying that privately for awhile ... difficult though it may be, so that you can learn what you need for healing [problem solving, etc?]... [See top of Fig. 2].

Can you let yourself continue to experience that for another moment or two in a private manner—only long enough to experience what it leads to next?, And will it be okay to replay that trauma again privately in a way that you would really like to experience it? ...

This is also a time in which the therapist may need to assist the client to reframe negativity and confusion. Reframing confusion as a creative transition to Stage 3 Aha! can be very therapeutic. For example, the therapist may ask the client,

Have you ever experienced confusion before learning something new?

The most common error that therapists make during this stage is to offer advice that interrupts the client's private inner work and may stop her from working through the negative emotional arousal. The therapist can shift the primary burden of responsibility of effective therapy onto the client by using simple implicit processing heuristics such as,

Knowing you can continue receiving whatever comes up all by itself and saying a few words about it whenever you need to, but only what I need to hear to help you further.

These and many other novel and innovative techniques for facilitating Stage Two of the 4-stage creative cycle with the MBT-T helps the patients bypass their so-called "inner Freudian resistances" (Rossi, 1993, 2002, 2007, 2012) and focus on their positive inner resources to greatly shorten the total number of sessions (typically 2 to 10) required for effective brief psychotherapy.

1. Respecting patient's privacy

2. Patient's inner work
3. Sleep-Dreams-Early morning Thoughts
4. Implicit processing heuristics
5. Self-observer, self-healer, positive self-talk
6. Novelty-numinosum-neurogenesis-effect (NNNE)
7. Positive continuity of life review
8. Extended 90-120 minute sessions (BRAC)

STAGE THREE: The Aha! Creative Moment

Facilitating Stage 3 of the 4-stage creative cycle, the Aha! Moments, is the essence and high point of the MBT-T. Stage 3 usually surfaces as a result from the private inner work of replaying the origins of the problem in Stage 2. There may be a slight smile of surprise with the emergence of Stage 3 and the head may nod positively and slowly with minimal movement. In Stage 3 new solutions or insights are created along with positive self change. It is not unusual for clients to shift slowly back and forth between Stages 2 and 3. Clients often need help during this transition to recognize the value of their creative insights, especially if such insights were not valued or supported during childhood.

STAGE FOUR: Giving yourself your own behavioral prescription for everyday life

Stage 4 leads to *verification of positive experiences* and behavioral prescriptions that come from the client themselves. It is a fundamental part of MBT-T to take the insights gained in Stage 3 and apply them to make changes in real life. The client can be gently supported to do this by asking questions such as:

*How can this experience change your life?
How will you use this to make changes in your life?
What will you actually do in your life that is different this week?*

In this way, symptoms are reframed as signals and problems can be reframed into opportunities through accessing inner resources. MBT-T emphasizes the use of creative mind-body cycles that occur approximately every 90 to 120 minutes (also known as ultradian rhythms (Lloyd & Rossi, 1992, 2008)). The client is encouraged to explore such mind-body cycles in everyday life, taking a 20 minute break every 90 to 120 minutes and tuning into themselves in a sensitive and compassionate way, keeping a written record of experiences of anything new that comes up during this resting phase and his or her early morning thoughts. This can provide useful hints for therapeutic work in the next session. Clients can be told that they will go through 12 creative work cycles each day, which amounts to about 84 possibilities each week, to make positive changes in their lives and solve their problems.

With this opportunity clients may they learn to find the resources within themselves.

Summary

The theory, research and practice of Mind-Body Transformations Therapy (MBT-T) is a new psychosocial and cultural epigenomic method for facilitating recovery from post-traumatic stress disorder (PTSD) that is suitable for enhancing the new neuroscience of psychotherapy and translational medicine. A single session clinical demonstration with a with a 59 year old woman illustrates the details of a variety of novel neuroscientific epigenomic mechanisms that are hypothesized to facilitate the natural 4-stage creative cycle of self-help on many levels from private experiencing to the molecular dynamics of experience-dependent gene expression. Supplementary materials illustrate how this single session of MBT-T can be adapted for applications to large groups engaged in self-help programs for recovery from a variety of stress related disorders. This paper introduces a novel top-down psychosocial and cultural epigenomic approach to supplement the traditional bottoms-up molecular-genomic approach to translational medicine. We now recommend further research to assess the degree to which this top-down approach enhances the evidence-based efficacy of the traditional molecular-genomic applications of rehabilitation and translational medicine.

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Supplemental Material

Workshop 28 as a demonstration of the NNNE

This handout was used in our workshop with large groups (~200 therapists) at the December 2013 Evolution of Psychotherapy Conference presented by the Milton H Erickson Foundation. [This handout of Workshop 28](#), or appropriate parts of it, are used to begin facilitating the Novelty-Numinosum, Neurogenesis Effect (NNNE) of the entire audience. The MBT-T was then administered to everyone. For professionals in mental health the *novelty* of much of the new information in the PowerPoint presentation of this handout tended to evoke the *numinosum* as a motivating factor that sometimes evoked the psychosocial activation of epigenomics of experience-dependent gene expression and *neurogenesis* to facilitate the molecular genomics of the self-help appropriate for psychotherapy and translational medicine. This PowerPoint tends to evoke the NNNE just as the hand balancing therapeutic approach, which was used in the single session MBT-T experience with the 59 year old woman in the main section of this paper.

**MIND-BODY TRANSFORMATIONS
THERAPY (MBT-T) ©**

Group Self Report Version (2014)

Jane Mortimer, Kathryn Rossi, Ernest Rossi

NAME _____

DATE _____ TIME: _____

Initial Stress: On a scale from 0-10 rate your level of stress
0 - 10 _____

End Stress: On a scale from 0-10 rate your level of stress
0 - 10 _____

STAGE ONE: Accessing Inner Resources:

1. Warmer – Cooler: Yes / No

2. Stronger – Weaker: Yes / No

STAGE TWO: Engaging Personal Issues:

3. Adult - Child: Yes / No

4. Creating New Solutions: Yes / No

STAGE THREE: Creative Private Replays:

5. Negative Past Review: Yes / No

6. Positive Now & Future: Yes / No

STAGE FOUR: Integration and Reality Testing:

7. Positive Self-Change: Yes / No

9. Estimate in minutes how long the hand exercise lasted:
0 - 10 _____

10. On a scale from 0-10, how real was your experience?
0 - 10 _____

11. On a scale from 0-10, how surprised were you by your experience?
0 - 10 _____

12. On a scale from 0-10, how confident are you in your self prescription?
0 - 10 _____

OFFICE USE

Initial Time _____ am pm Real
Time (Min): _____

14. Creative Mental Engagement: Real Time ____ / Est.
Time ____ X 100 = _____ %

15. % Stress Reduction: Initial Stress% _____ (-) Final
Stress% _____ = _____ %

16. Numinosum (NNNE): (#11 + #12 + #13 + #14) / 4 =
_____ %

ADD TO INTAKE

Age: _____ Education: K8 HS BA MA Dr. Work:

Night Sleep Length: 1h 2h 3h 4h 5h 6h 7h 8h 9h 10h 11h 12h
+

Dreams: _____ Days/Week. Dreams/ Night _____ SISRI
24 _____ Tellegen _____ Harvard _____