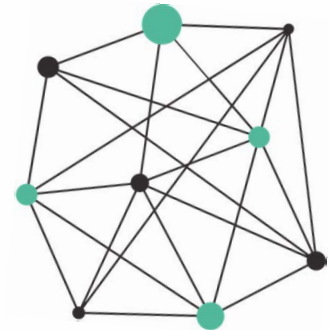
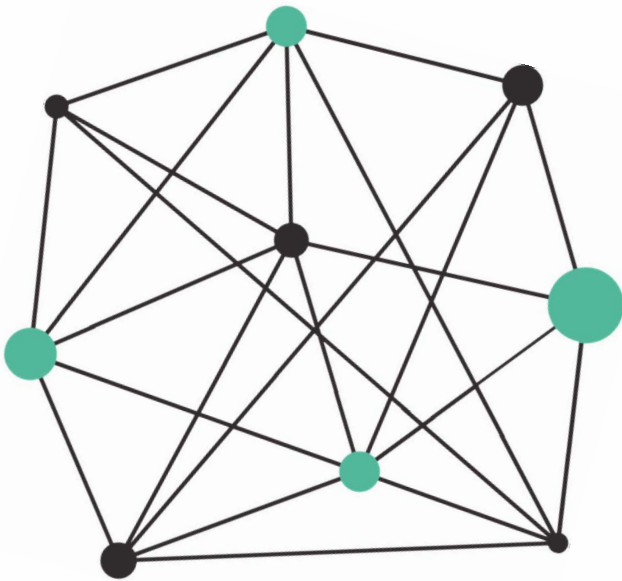


Perspectives on Trauma

The Journal of the Complex Trauma Institute



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What is complex trauma?

Part 2: Working with the body

Michael Guilding

Abstract

This paper follows directly from my previous article, 'What is Complex Trauma?' which outlined a theory of complex trauma as a chronic condition in which the biological fear system is unable to deactivate. This current paper is the first of several in which I reflect on the implications of this theory for clinical practice, starting with what it shows us about our need to work with the body. It looks at 1) bodily regulation as an enabler of therapeutic engagement, 2) releasing chronic physical tension and 3) encouraging the completion of the physical impulses of defence to trigger fear system deactivation, and 4) methods of increasing ventral vagal signal in order to strengthen the regulation of fear system responses.

Introduction

The following ideas are a continuation of my paper 'What is Complex Trauma?' (Guilding, 2020). This article outlined a theory of complex trauma viewed from the perspective of the biological fear system, while the present paper is the first of several attempting to relate this theory to our practice as therapists. In this current article, I begin with a summary of this theory of complex trauma and then examine one of its key implications for therapy – our need to work with the body.

Summary of complex trauma theory

This theory defines trauma as a condition where the fear system has activated in response to a threat but then fails to switch off or 'goal-correct' when the threat has passed. Complex trauma is then seen as the impact of an ongoing or chronic failure of the fear system to switch off, which then has an increasingly detrimental impact on a wide range of biological, behavioural, cognitive and social systems over time.

Within this theory, I describe the most primitive (in evolutionary terms) of the body's responses to threat as the 'Fear System', and I refer to the different biological states of the fear system as:

- Fear-alert: otherwise known as the orienting response. This is the state of tension, raised heart rate and elevated startle response with which we respond to the first indications of danger.
- Fear-arousal: which I see as the 'action' states of fight and flight, and the 'inaction' states of freeze (a rigid state of locked muscles when there is no clear escape route) and fright (the peak state of fear arousal which is the tipping point into collapse). All these states involve a huge increase in blood flow to the limbs and in nutrients in the bloodstream, with a range of other metabolic changes to enhance survival.
- Fear-collapse: a metabolic shutdown, also referred to as immobility, mediated by a drop in blood pressure (the same mechanism as a faint) which triggers physical collapse and disables higher brain functions, including our thinking and our ability to engage socially.

The fear system is a physical response that evolved in the context of the physical threat to life of predation. The mechanisms by which it switches off once a threat has been survived are also physical – intense running or fighting, followed by rest or deep abdominal breathing and shaking. However, the essential factor that enables the fear system to deactivate after a threat is the availability of a place of *safety*.

Where no place of safety is available, the very systems that normally ensure that the fear system switches off become disabled. The body remains tense, and this blocks the deep breathing and shaking that can reset the fear system.¹ Prolonged fear system activation desensitises the cortisol receptors in the brain, so the hormone production underpinning the fear system fails to deactivate. However, perhaps the key factor is that prolonged fear activation weakens the signal on the ventral vagus nerve, which regulates heart rate, and the main brake on the continued activation of the fear system thus becomes ineffective. This means that the longer the fear system remains active, the harder it becomes to deactivate.

The consequences of an unregulated fear system are wide-ranging and potentially catastrophic:

- The fear system is stuck in fear-alert, and cycles between metabolic arousal and collapse, creating panic, anxiety, uncontrolled anger, depression and dissociation.
- The impact of this on the body over time can create chronic conditions of physical illness, pain and fatigue.
- When this is suffered early on in life, it can lead to problematic behaviours of self-neglect and self-harm, avoidant, violent or offending behaviours or a whole range of addictions.
- Chronic activation of the fear system impairs our ability to think and can put people at a grave educational disadvantage.
- As fear activation disables or inhibits our social engagement system, it has a disastrous impact on relationships and undermines the support these could potentially give.
- These impacts can hugely impair the ability to earn money and escape from hostile environments, resulting in a loss of autonomy and power.
- The impacts of complex trauma on societies over time create deep-seated social rifts as the collective fear system focuses on danger and finds it in any sort of difference, creating 'other-ing', intolerance, oppression, persecution, warfare and genocide.

Why we need to work with the body

Trauma arises from an autonomous biological response to threat. This is not a response of our 'thinking mind' or our will but is an automatic response of the body to sensed danger.

Fear system responses are primarily physical changes to the body, either acute reactions to threat or chronic bodily states established over time. If we want to reduce the distress our clients' experience when these responses activate, we have to help them to become aware of their body's responses, find new ways of relating or reacting to their body's responses and find ways of making changes to their body's responses. So, one of the key things we learn from looking at the biology of trauma is that we need to work with the body.

This is necessary because:

¹ This hypothesis is based on Levine's (2010) comments about medical practices which inhibit the shaking that resets the fear system and is supported by the clinical example below (p. 7)

- Bodily states of arousal or collapse paralyse the very systems that make therapeutic change possible. We therefore need to regulate the body as part of our work.
- We may need to encourage the reduction of chronic physical tension, which can prevent fear system deactivation and block therapeutic progress.
- It may be necessary to help the body to complete the physical responses of defense as part of fear system deactivation.
- We may need to use or encourage practices that strengthen the signal on the ventral vagus nerve.

Regulating the body to make therapy possible

In working with trauma, it is often necessary to focus on regulating the body because metabolic states of arousal or collapse can paralyse the ability to engage with and benefit from therapy.

Dan Siegel (2012), in his book *The Developing Mind*, introduced the idea of the 'Window of Tolerance'. This relates to two key aspects of the impact of the fear system on the body – it switches off our ability to think reflectively, and it switches off our capacity to be sociable. Broadly speaking, the 'Window of Tolerance' (Fig. 1) refers to a particular metabolic state when the body is sufficiently calm for our Social Engagement System² (Porges, 2011) and our thinking faculty to be fully functional.³

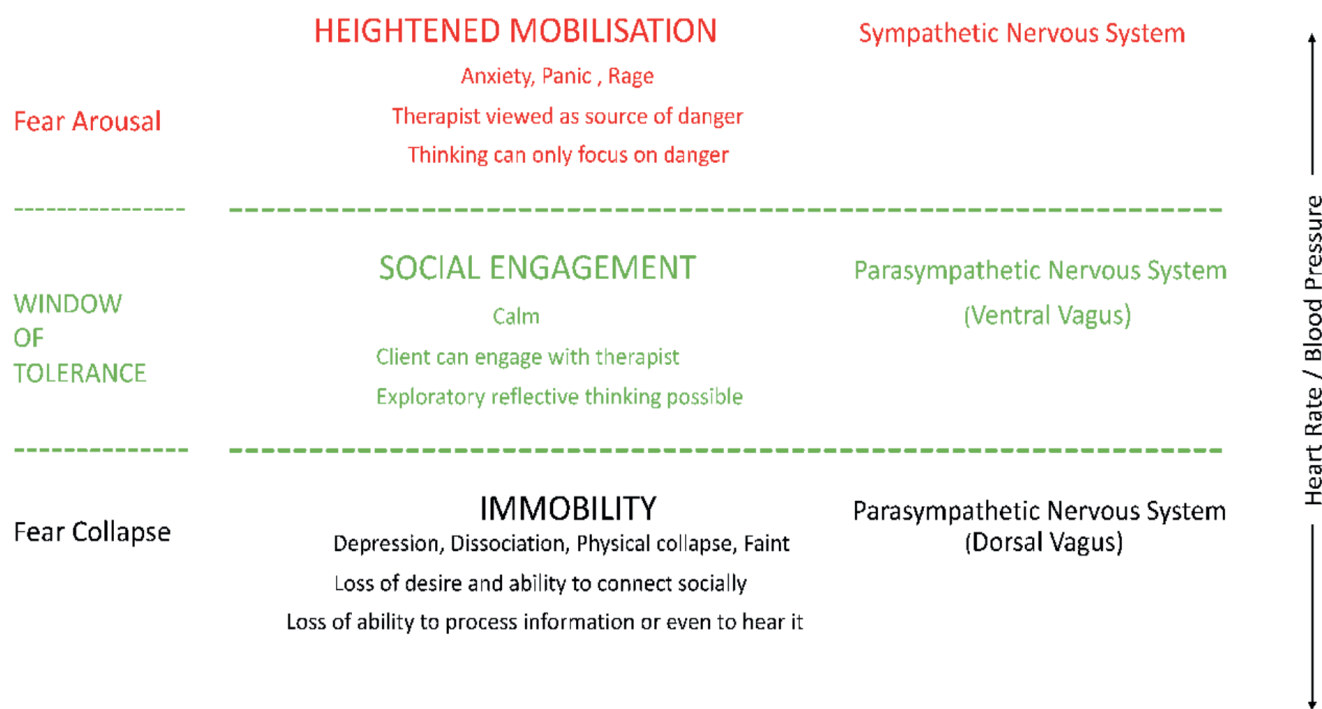


Fig.1 - The Window of Tolerance

² The biological system involved in sending and receiving signals of safety which enable us to engage with each other without activating defensive responses. The Social Engagement System allows us to give and receive care, share interests, work cooperatively, and establish and maintain affectionate relationships.

³ I am oversimplifying the concept of the window of tolerance here. It does not just equate to metabolic calm but varies from individual to individual. Some traumatised people have very narrow windows of tolerance, while those with effective emotional regulation may have very wide windows of tolerance which enable them to experience certain levels of fear arousal and collapse while still retaining an ability to relate socially and think reflectively. The expansion of the window of tolerance is an important goal of therapy.

Within this window, we can connect with another person, and we can take in new information, reflect on it and integrate it. When a client comes to see us in this state, therapy is possible, and the exploratory process that brings about real change can be active.

However, when a client comes to see us in a state of fear-arousal, with their body in a heightened state of mobilisation, and presenting in anxiety, panic or rage, their social engagement system is inhibited. They are therefore attuned to seeing us as a potential threat, and their thinking capacity is limited. While they might be able to hear what we say, they cannot process it – it is as if words bounce off a protective shield around their head.

When a client comes to see us in a state of fear-collapse, with their immobility response activated, and presenting with low mood, depression, dissociation, physical lethargy or collapse, the brain cells in the cortex are losing their supplies of oxygen and glucose and can no longer energise. As a result, the client is losing the desire and ability to connect socially, including the ability to pick up social cues, losing the capacity to process information, and even losing the ability to hear the human voice clearly (Porges, 2011).

So, we have two very different tasks to undertake as therapists. First, if our client is not in the window of tolerance, our only task is to help them to regulate their body until they calm or re-energise sufficiently and enter their window of tolerance.

Once they are there, or if they start from that place, our task is to help them in their exploration. However, whenever that exploration triggers fear and throws them out of their window of tolerance, (as will happen repeatedly in trauma therapy), we switch back to regulation until exploration becomes possible again.

This regulation, which is the essence of the first stage (stabilisation) of Judith Herman's (1998) three stage trauma therapy model, has two aspects. If the client is in a state of arousal, we need to down-regulate, to slow down metabolic activity. If they are in a state of collapse, we need to up-regulate, to speed up the metabolism and enliven them.

In my own practice, I use a grounded posture as a starting place, followed by a lot of focus on breathing. For fear-collapse, a series of long in-breaths followed by short out-breaths raises heart rate and inflates the body out of collapse, helping to re-establish a good posture. Sometimes simply inviting a client to get up and move about can help to reverse the start of a shutdown. For fear-arousal, I use slow equal breaths or out-breaths that are longer than in-breaths to slow down the heart rate. De Couck et al. (2019) note that both of these types of breathing increase the strength of signal on the ventral vagus nerve, as measured by increased heart rate variability.

At times, I also supplement this with calming actions such as alternating tapping of one's knees with a slow regular rhythm or the butterfly tap⁴. However, there is a huge range of interventions to regulate emotional volatility. For those new to such practices, I would recommend a comprehensive guide such as Arielle Schwartz's (2020) workbook on complex trauma or Deb Dana's (2018) approach to regulation, based on Stephen Porges' Polyvagal Theory (2011).

Although this is often not thought of as 'working with the body', I find psychoeducation hugely helpful for emotional regulation. The physical responses of the body to trauma triggers can be deeply disturbing. A client of mine with a history of childhood sexual abuse was terrified whenever her trauma was triggered, and her legs failed to support her. She thought she was going crazy, could not trust her body, and was afraid of leaving the house. She was hugely relieved when I explained fear-collapse to her as a biological mechanism with which her body was trying to protect her.

⁴ Palms crossed over on the chest with tips of fingers touching the collar bone on each side, and then tap the collar bone rhythmically alternating side to side.

She could then begin to tolerate these episodes so that they no longer created a vicious circle of fear activation.

As we work to regulate our clients so that they can access the exploratory reflective thinking that is possible in the window of tolerance, it is just as important that we also work to regulate ourselves. It is a simple fact of human relationships that our bodily states are altered by the bodily states of those we are with. Aroused clients will arouse our metabolism, and collapsed clients will collapse our metabolism. Additionally, however advanced we might be on our therapeutic journey, there are few of us that do not have a number of triggers to our own past trauma that our clients' stories or behaviours can activate.

We will all be well acquainted with feeling tense and holding our breath, which lets us know we have gone into fear-alert when a client pushes us out of our comfort zone.

We will all also have experienced times of fear-arousal when it feels as if things are spinning out of control. This can happen when our client is furious with us or emotionally overwhelmed and we do not know what to do or say next. We can be afraid we are going to be found out as useless, and we feel our heart-pounding, and our mind just going blank.

In the same way, we will probably all have experienced the sudden and surprising exhaustion that can come on us when we are with a collapsed or dissociated client, where our eyelids are drooping, and we are scared we might fall asleep. Or those moments where a client's story can trigger our own disturbance or our own self-attack, and we feel hopeless, disheartened and overwhelmed. These are the moments where our fear-collapse response has been activated.

All of those are times when we are thrown out of our own window of tolerance and start to lose our capacity for reflective and exploratory thought and our ability to relate socially. In therapy, particularly when we work with complex trauma, our first priority should be regulating ourselves. Then, we can turn our attention to regulating our clients.⁵ I do a lot of my own regulation in my practice by working alongside my clients and mirroring all the activities I am asking my clients to do. It can help to reduce a client's sense of embarrassment if they are able to do exercises such as breathing or tapping alongside someone else.

Reducing chronic bodily tension

Apart from physical regulation aimed at helping a client to stay within the window of tolerance, we may need further work with the body to help the fear system switch off in cases where fear activation is kept going by chronic physical tension. Let me give an example of this:

A young woman who came to see me with anxiety and depression had become a premature caregiver to her depressed father and complaining mother in childhood. Then, at the age of 12, she had an accident where she was hit by a car. At the roadside, she was attended by the driver who was furious with her, and by a highly distressed teacher who had told her it had been safe to cross the road. Later in hospital, she felt she had to convince her parents she was fine so that they would not be too upset. So, in the aftermath of the accident, there was no place of safety for her by the roadside nor any place of safety in the hospital afterwards.

She was not long married when she came to see me, and thoughts about possibly having a baby terrified her and made her feel miserable. Thinking directly about her fears of having a baby got us nowhere, so we used a Focusing-Oriented approach (Gendlin, 1996). This gives very slow and focused attention to sensations in the body. I helped her notice these sensations. I then encouraged her to describe them with no attempt to theorise or explain, simply noticing and trying to describe the sensations for protracted periods of time.

⁵ I think of this as equivalent to the airplane safety instructions about fitting one's own oxygen mask first before helping anyone else with theirs.

She noticed tension in the calf muscle in the leg injured in the car accident, and for a long while we paid attention to this. Then, this tension disappeared and was replaced by a sensation of tension around her right shoulder blade. I encouraged her to focus on this sensation and describe it for quite a few minutes. Suddenly there was an audible 'crack'⁶ and she reported the tension had gone from her shoulders. From that point on, her level of general anxiety dropped significantly. Her mood improved, and over the next few weeks, she reported becoming able to state her own needs and establish boundaries with her parents. Shortly afterwards, she became pregnant and we finished our work just before the baby was due with her feeling positive and able to look forward to becoming a mother.

Referring back to the trauma theory, chronic physical tension would appear to block the deep breathing and shaking that enables the fear system to switch off once the immediate environment is safe. My client was unable to relax and deactivate her fear system in the safe context of the therapy room because her body was chronically tense. However, when her muscles were able to fully relax following the focusing work, her fear system deactivated, and her anxiety and depression disappeared.

This leads on to the point that in working with the body to overcome trauma, we have to acknowledge that some important areas of this work are outside of the scope of talking therapies. We should be outward-looking and encourage our clients to use a much wider range of resources. For example, for some clients, complementary therapies such as massage, acupuncture or osteopathy may be necessary to give the body a chance of relaxing and serve as a very useful adjunct to the work of therapy.

Completing the physical actions of the original defensive response

There is another reason we need to work with the body with clients who have experienced complex trauma. When the body's defensive mechanism has been interrupted by a collapse response, completing the physical actions of this defense can play an important role in switching off the fear system. When a prey animal has been caught and gone into fear-collapse, but a window of opportunity for escape has presented itself, the way out of immobility is through the reactivated fight-flight response.

Where a physical escape is not needed after an immobility collapse, there is still an impulse in the limbs to complete their response. This can be seen in Peter Levine's (2010) account of the aftermath of being hit by a car, where he notices the impulses in his arms to push out and protect himself from the impact. Levine uses such responses in his Somatic Experiencing therapy. He sometimes gets a client to directly act out these actions, for example, by pounding on a cushion with their feet to replicate running. At other times he gets clients to notice the actions they want to make and then repeat these actions but slowing them right down. However, it is not always necessary to physically replicate defensive impulses, because replaying these movements in the imagination can have the same effect as physical movement as far as switching off the fear system is concerned.⁷

Several years before I came to understand this aspect of the fear system, I was taught a method to alleviate depression by Yvonne Agazarian (2004). The method involved a detailed examination of the events leading up to a drop in mood, and very frequently it was possible to discover some event that had been experienced as a threat or a 'blow to the self' which had elicited an angry response, which Agazarian described as the 'retaliatory impulse'. In the moment, this response was so fleeting

⁶ The 'crack' phenomenon was described by my client as being exactly the same as the crack she was familiar with when being manipulated by an osteopath. Osteopaths understand this as nitrogen being released from fluid in the joints. It would appear that the focusing technique can result in a similar release of muscular tension. In my practice so far, the audible crack has only happened twice, but the experience of tension release after focusing is common. As far as nitrogen is concerned, I wonder whether this might relate to the function of nitric oxide, an unstable molecule involved in signalling the dilation of blood vessels, which is the key mechanism activating fear collapse.

⁷ This is because there is an overlap in the brain between the neural systems controlling both imagined and actual movement (Guillot et al., 2012).

as not to be noticed, but it would be followed immediately by a drop in mood. The method involved inviting the client to notice and re-experience this retaliatory impulse, to give it a voice and act it out in the imagination. This would often result in the depression dissipating and a rise in mood.

I now understand this method from the context of the fear system. It is not uncommon that expressions of rage in infancy are met by parental rage and punishment (and sometimes by parental anxiety or distress), so we can become terrified of our own rage or anger. When this happens, the experience of the onset of rage in the present can evoke traumatic body memories of a parental response to our rage in the past, triggering an immobility collapse. Where this is established over time, as a habitual or default response of our fear system, the bodily sensation of rising anger itself becomes a trigger to an immobility collapse. The onset of this can be so rapid that the sensations of rising anger or rage are not usually noticed. Where these can be noticed again and given space in the safer environment of the therapy room, the retaliatory impulse (the physical actions the body wants to make in response to the perceived threat) can be given expression in the imagination. Thus, the fear system response reaches completion, is able to switch off, and the depression is resolved. Let me give an example of working with this retaliatory response:

A young woman with an early history of emotional neglect, who had been driven from her job by a bully and abandoned by her husband, was forced to move to a different area and accept a job at a lower grade. She wanted to get a job at her original grade, but whenever she applied for a new job, she failed the interview as she went into a fear-collapse. Her body would feel small and weak, and her mind would go blank, leaving her unable to think. Another bully dominated her present team at work, and she felt powerless to voice her opinions.

I helped her to get in touch with her retaliatory impulses – what her body wanted to do in response to those who had mistreated her in the past. Shortly afterwards, frustrated by the workplace bully's dominating behaviour in a team meeting, she imagined herself slapping this person across the face with real force. The next moment, she found herself speaking out - she challenged the bully, survived the counterattack, and ended up with most of the team supporting her viewpoint. Further work on the retaliatory impulse helped her to focus on tension in her arms – she wanted to shake the first bully who had driven her out of her better-paid job, and I encouraged her to imagine herself doing this. Afterwards, she reported she was much calmer and mentioned 'shuddering' in bed before falling asleep at night. Soon after, she managed two interviews without collapse and got a job at her original grade.

So, to go back to the theory, this is an example of a fear-arousal response that had been interrupted by collapse in the past, where reconnecting with and completing the physical impulses of defense was instrumental in deactivating the fear system. The shuddering in bed afterwards was my client's experience of the release of the fight-flight energy as the fear system switched off, restoring her to normal vitality after a long period of depressive immobility. I believe that the principle of completing the physical actions of the original defensive response underpins the effectiveness of many other ways of working in therapy that encourage the safe expression of anger.

Strengthening the ventral vagus signal

The final area I want to look at when thinking of our need to work with the body in trauma is the important role of the ventral vagus nerve. This nerve regulates our heart rate by sending a signal to the heart's pacemaker, which calms our metabolism. However, in fear-activation this signal is withdrawn (or 'switched off'). Kolacz and Porges (2018) note that where there are long periods of fear activation, this signal to the heart's pacemaker becomes weakened.⁸

Once this signal is chronically weakened, the autonomic nervous system becomes more volatile, and the task of deactivating the fear system becomes harder.

⁸ I think of this as equivalent to the way in which a muscle will become weakened if it is not used for long periods of time.

This can seriously undermine therapeutic approaches relying on reason, narrative and building a therapeutic relationship, unless these are underpinned by a focus on reducing fear activation. We may therefore have to find ways of strengthening the signal on the ventral vagus nerve in order to regulate the fear system.

I have touched on the use of breathing exercises above when talking about the window of tolerance. This is a powerful tool for the therapist, because slower patterns of breathing strengthen the signal on the ventral vagus and increase the ability of the autonomic nervous system to regulate fear system responses. Let me give an example of this from my practice:

A young man who had recently left the army, presented with uncontrolled anger towards his children. This resulted in his wife telling him to leave home, though he was still of necessity involved in a certain amount of childcare. He had experienced three 'layers' of trauma – being held down to be anaesthetised in hospital aged 4, suffering physical violence from his father during his primary school years, including when he wet himself, and more recently, surviving a bomb blast when his armoured car hit a roadside device in Afghanistan. One of the main triggers for the rage that got him thrown out of the family home was when his eight-year-old son wet himself.

I started by inviting him to work on his breathing as part of the stabilisation phase of trauma work. My client's breathing was shallow, with in and out breaths taking about one second each. We practiced lengthening the time of each breath until we could slow his breathing down to 4 seconds for each inhalation and exhalation. Then, I proposed he went about this like a military training and did not just practice once or twice a day, but twenty, or thirty times a day, getting in a few minutes practice in every possible gap.

At first, he only managed the breathing exercises a couple of times a day. However, after a week of this, he found he was able to notice the rise in his heart rate before his anger exploded, and he was able to get himself out of the room before taking it out on the children. He had previously told me that he had absolutely no warning of a temper outburst. This encouraged him to take the breathing seriously, doing the exercises even more frequently than I had suggested.

It was three weeks before he could see me next, and when he did, he was beside himself with delight. His eight-year-old son had wet himself, previously a key trigger for his rage, and he experienced no anger response whatsoever. He just said, "Oh dear, let's get you cleaned up". He described his son just looking at him in disbelief and saying, "Aren't you going to shout at me, Dad?" Needless to say, I was delighted at the change, but a bit shocked and disbelieving, wondering how long it would last. With his immediate aims achieved, my client finished counselling at this stage, but his wife contacted me six months later and told me that his anger was still well under control, and she could completely trust him to look after the children.

A caveat here – regulating breathing is not a magic bullet that immediately gives us control over our emotions. My client, in this case, was only able to deactivate his fear response triggered by his son's bedwetting because his intensive practice of slower breathing changed his habitual breathing patterns, thus re-establishing a degree of ventral vagal control over emotional volatility.⁹

Furthermore, there is a key rule of thumb which is 'do not go against the body'. If the body is convinced that heightened mobilisation is required and we try to force our breathing to be slower, we will find our heart rate will shoot up even further as our body tries to override our efforts. This is why breathing exercises need to be practised repeatedly while we are in a relatively calm state to change the capacity of our autonomic nervous system to regulate volatility and not just be used as a one-off when we are feeling panicky.

9 I do not believe that this brief intervention alleviated the legacy of a long history of trauma. It simply helped with one area of his life and its long term impact will be determined by a whole array of supportive or unsupportive life circumstances and events in the aftermath of therapy.

Regular practices that support changes in breathing, such as yoga and meditation, are known to strengthen the signal on the ventral vagus and thus calm the metabolism (Gerritsen & Band, 2018). Singing, too, with its pattern of short in-breaths and long out-breaths has a calming effect and, over time, can help with emotional regulation, particularly when this takes place in the sociable context of a choir.

It is also generally known that regular physical exercise is beneficial in reducing the symptoms of depression (Josefsson, Lindwall and Archer, 2014). It would appear that regularly stimulating the Sympathetic Nervous System by physical exercise in a non-fear context increases the signal on the ventral vagus nerve¹⁰ (Goldsmith et al., 1992; De Meersman 1993) and thus exercise can play an important part in regulating fear system responses.

Once again, this raises the point that much that is needed in the task of changing the default settings of our autonomic nervous system in order to heal the impact of trauma has to be found outside of the therapy room. Part of our task may be to educate our clients about the workings of the body and to encourage practices that regulate our fear responses. We share the responsibility for helping our clients to escape from the impact of trauma with practitioners from many other disciplines, whether these be yoga or meditation teachers or personal trainers and sports coaches. As psychological therapists, we cannot do all of the work in healing trauma, though we might be the only ones in our clients' lives with something approaching a map which might give them an overview of their journey.

Summary - Why we need to work with the body

Bodily states of arousal or collapse can block therapeutic change. Many of our clients in fear activation cannot think, understand, or even hear what is said to them. We need to work on bodily regulation to help our clients stay in the window of tolerance so that they can start to explore and make therapeutic changes. We also have to work with our own body as we undertake the task of working with others in distress – noticing and regulating our own fear alert, arousal and collapse, so that we can help our clients to explore.

We may also have to work with the body to release blockages to fear system activation created by chronic physical tension. We have looked at the case example of the woman hit by a car when she was a child – releasing chronic tension through focusing-oriented work, resulting in a deactivation of the fear system and reducing anxiety and depression. We might need to encourage our clients to look outside of therapy for additional support in reducing chronic physical tension, such as massage, acupuncture or osteopathy.

For the fear system to switch off, there may be a need for the physical reactions of defence to be completed when these have been interrupted by immobility. We have looked at the case example of the woman and the workplace bully, where completing the retaliatory response released the shaking mechanism that switched off chronic fear activation.

Finally, we may need to work with or encourage activities that increase the signal on the ventral vagus nerve to strengthen this key regulator of emotional volatility. We looked at a case example of the ex-soldier, whose son wet himself, who was able to increase emotional regulation through an intensive practice of slowed breathing. This also indicated the helpfulness of encouraging other activities that strengthen the signal on the ventral vagus, such as yoga, meditation, singing and intensive physical exercise.

In Part 3, I will examine the issue of complexity and look at the implications for therapy of the tangle of dysfunction created by complex trauma, which becomes more entrenched and more difficult to alleviate over time.

¹⁰ Measured as increased heart rate variability.

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