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Psychological Trauma – What Every Trauma Worker Should Know.

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Abstract

In this paper I outline the basis of psychological trauma. I surmise what happens to the human brain and nervous system at the point of trauma, and during trauma recall (both choiceful and intrusive). I discuss how, and why, some people may be more susceptible to developing traumatic symptomatology, and possible reasons for the repeat victimization experienced by so many victims/survivors of interpersonal trauma. I suggest how psychotherapists, and other trauma workers, might use this knowledge to support the client to recover, and to sustain themselves in undertaking trauma work.

Introduction

A traumatic incident is one in which a person experiences, witnesses or, in certain circumstances, hears about a (real or perceived) threat to the physical and/or psychological integrity of self, or others, whereby the person's response involves great fear, horror and/or helplessness (APA, 2000; Rothschild, 2000). Exposure of a child to the sexualized behaviour of adults or older children, regardless of whether the child responds with great fear, horror and/or helplessness, also constitutes a traumatic incident, due to the developmentally inappropriate nature of the sexualized behaviour(s) (APA, 2000), and the child's inability to give informed consent.

Traumatic experience, and traumatization, can be subdivided into: primary trauma, secondary trauma, vicarious trauma and trans-generational trauma. People susceptible to primary trauma are present when the traumatic incident occurs; secondary trauma is a possibility for people who witness the aftermath of a traumatic incident; vicarious trauma is potentially a concern for people who hear about traumatic incidents (psychotherapists for example); and trans-generational trauma is a term sometimes used to describe the traumatic symptomatology displayed by the descendants of trauma survivors. Following exposure to traumatic stimuli some people become traumatized. I discuss the possible reasons for some people being more susceptible to developing post-trauma

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symptomatology in this paper. It is important to note that although traumatization frequently occurs following a single traumatic incident the condition is also an accumulative one. This is especially significant to anyone who works in an environment where they are exposed to traumatic stimuli (primary, secondary and/or vicarious) for example members of the emergency services, armed forces, medics and those engaged in psychological therapies with traumatized people.

Arguably, what separates people who are traumatized from those who once had something unpleasant happen to them, is a difficulty for the former with past/present differentiation (Herman, 1992; van der Kolk, 1989 & 1996). For the traumatized individual some aspect of the trauma is experienced as a here and now reality. In this paper I offer a framework for understand why some people become stuck in an aspect of the trauma, and how this knowledge might inform recovery.

Neurobiology of trauma – a basic outline

The human brain is immensely complex and I do not profess to be a neurobiologist. I have, however, found the neurobiological research to be invaluable in understanding how the human animal behaves when threatened, and how these behaviours might be the key to understanding traumatization and, subsequently, to recovery.

Humans are mammals, very highly advanced mammals, but mammals all the same. The human brain has evolved to incorporate, amongst other things, the capacity for: language, reasoning, creativity, philosophy and self-awareness. The higher brain functioning enjoyed by humans sets us apart from other mammals. Yet the human brain evolved to possess advanced capabilities, and the higher levels rest upon more instinctive and reflexive structures – figuratively and literally.

The human brain is hierarchically organized into three sections: the lower, or reptilian, brain incorporates the brain stem and is primarily associated with the unconscious regulation of internal homeostasis (van der Kolk, 2003); the upper brain, or neo-cortex, is responsible for higher brain functions (Siegel, 1999), analysis of the external world (van der Kolk, 2003), and self-awareness and consciousness (Lanius et al., 2006); and the middle, or limbic, brain

which surrounds the reptilian brain, is found in all mammals and is involved with learning, motivation, memory, emotional regulation and some social behaviour (Cozolino, 2002; Lanius et al., 2006). Additionally, the brain consists of two hemispheres: right and left. The two sides of the brain, for the most part, work together yet specialize in differing functions (Siegel, 1999). The left brain is generally accepted to be closely identified with cortical functioning and the right more densely connected with the limbic and reptilian brain (Cozolino, 2002). The left brain is concerned with what Siegel refers to as the "three L's – linear, logical, linguistic" (Siegel, 2003: 15); and the right brain is connected with the body, regulation of the autonomic nervous system (ANS), nonverbal aspects of language and more emotional functions (Cozolino, 2002; Siegel, 2003).

Significantly, in terms of trauma, the structures largely involved in responding to threat are located in the lower and mid sections of the (predominantly) right brain. This means when threatened human beings respond, initially at least, instinctively and reflexively.

Most people will have had an experience of responding to something perceived as threatening *before* they were aware of the threat. For example, a man walking through the Australian bush might find himself immobilized moments before his higher brain functions process the snake-like-stick on the floor. He responds instinctively to the snake-like object with behaviour most likely to ensure survival. It is some moments later that his neo-cortex processes the finer detail and assesses the stick to be less threatening than originally perceived. The reason for the brain processing information in this way is simple: it prioritizes survival. The capacity for philosophical theorising is worth little to a man who just stood on a venomous snake!

The significance of the amygdala

"The amygdala is the key component in neural networks involved with fear, attachment, earlymemory, and emotional experience throughout life" (Cozolino, 2002: 71).

The human brain is wired up in such a way that survival is given precedence. The amygdala's role in survival is paramount. Every piece of sensory input that enters our brain is routed via the thalamus (in the reptilian brain) and then to the amygdala (in the limbic brain) (Cozolino,

2002; van der Kolk, 1996a). The neural pathway from the thalamus to the amygdala is fast- and necessarily so (LeDoux, 1996). The amygdala filters the information searching out threat. If any threat is recognised, whether real or perceived, the hypothalamus is immediately stimulated to respond. It does so by triggering the release of stress hormones to prepare the body to defend itself (Cozolino, 2002), and by alerting the sympathetic branch of the ANS to become highly aroused in readiness to meet the threat (Ogden & Minton, 2000; Rothschild, 2000; Siegel, 1999).

A split second after the thalamus sends sensory information to the amygdala it begins the much slower neural process of sending the same information to the hippocampal and cortical circuits for further evaluation (LeDoux, 1996). The findings of the hippocampus and cortex are then relayed back to the amygdala. In the previous example, of the man and the stick that resembles a snake, the amygdala will be encouraged to calm (motionless sticks do not usually pose a threat to physical or psychological integrity).

Terror overwhelms higher brain functioning (Siegel, 2003), as "the focus on immediate survival supersedes all medium- and long-term goals" (Cozolino, 2002: 252). Possible reasons for this include the necessity of the brain to surrender oxygen to the body, and the high levels of stress hormones such as cortisol (Ogden et al., 2006), and norepinephrine (Cozolino, 2002) affecting hippocampal functioning (van der Kolk, 1996a).

When the structures of the brain lose, or lack, integration, dissociation may occur (Cozolino, 2002). "In trauma, dissociation seems to be the favoured means of enabling a person to endure experiences that are at the moment beyond endurance" (Levine, 1997: 138). While dissociation is a creative way of surviving in the moment, it bodes ill for future psychological and physical wellbeing (van der Hart et al., 2006).

The five Fs

The human system broadly responds in one (or more) of five predictable ways when threatened. 'Fight, flight and freeze' are well documented responses to threat (Levine, 1997); to these I add 'friend' and 'flop' (Ogden and Minton, 2000; Porges, 1995 & 2004).

The five Fs, are instigated by the amygdala upon detection of threat. The amygdala responds to the threat in the way it perceives will most likely lead to survival.

Friend is the earliest defensive strategy available to us. At birth the human infant's amygdala is operational (Cozolino, 2002), and they utilize their cry in order to bring a caregiver to them. The non-mobile baby has to rely upon calling a protector to its aid, in the same way that the terrified adult screams in the hope that rescue will come. Once mobile the child may move toward another for protection, and with language comes the potential to negotiate, plead or bribe ones way out of danger. Throughout life when fearful most humans will activate their social engagement system (Porges, 1995).

The social engagement system, or *friend* response to threat, is evident in the child who smiles or even laughs when being chastised. To smile when fearful is likely to be an unconscious attempt to engage socially with the person causing the fear.

Fight, as a survival strategy, is fairly self explanatory. The threatened individual may respond with overt aggression or more subtle 'fight behaviours', for example saying "no".

Flight is any means the individual uses to put space between themselves and the threat. It may involve sprinting away from the perceived danger, but is more likely exhibited as backing away or, particularly in children, as hiding.

When the amygdala deems that friend, fight or flight are not likely to be successful it will elicit a *freeze* response. Levine points out that immobility has several advantages to mammals when threatened by a predator, namely: that the predator has less chance of detecting immobile prey; that many predatory animals will not eat meat that they consider to be dead; and that if the predator does kill, the freeze mechanism provides a natural analgesic (Levine, 1997). Between mammals of the same species the freeze response indicates submission, with the victorious animal recognising their dominance and leaving the subordinate animal alone. In the majority of inter-personal threats between humans

however, the advent of one party freezing is often either ignored or taken as consent to the assault (whether verbal, physical or sexual).

Flop occurs if, and when, the freeze mechanism fails. The moment the threat increases, despite freeze having intended to put an end to the situation, the amygdala will trigger the ANS to swing from predominantly sympathetic activation to parasympathetic activation (Rothschild, 2000). The body will shift from a position of catatonic musculature tension (as is observed in 'freeze') to a 'floppy' state, whereby muscle tension is lost and both body and mind become malleable (hippocampal and cortical functioning will very likely be severely impaired at this point). The survival purpose of the flop state is evident: if 'impact' is going to occur the likelihood of surviving it will be increased if the body yields, and psychologically, in the short-term at least, the situation will be more bearable if the higher brain functions are 'offline'. People who have elicited flop as a survival mechanism are very submissive and will make little or no outward protest concerning what is happening to them. They will bend to the will of the person perceived as threatening in an attempt to stay alive.

Which 'f' and why?

It is my contention that the survival strategy adopted in any given situation will depend on a number of factors, namely:

1. What is most likely to ensure survival (and also maintain vital attachments)?
2. What worked in the past?
3. What was unsuccessful in the past?

Different survival strategies are ideally suited to certain threatening situations; for example, flight would be well employed upon hearing a fire alarm, yet to flee from a hungry tiger is inadvisable. The reflexive response of the amygdala is informed by the genetically encoded information, shared by all humans, regarding the nature of certain threats (Levine, 1997), and the individual's subjective experience that has resulted in the pairing of a fear response with certain stimuli (Cozolino, 2002).

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Because the purpose of the five Fs is survival, success will be gauged in survival terms; "success doesn't mean winning, it means surviving, and it doesn't really matter how you get there. The object is to stay alive until the danger is past." (Levine, 1997:96). Successfully used strategies will be reinforced and strategies employed but unsuccessful, will be less likely to be used in future.

A person who is successful in actively defending against a threat (i.e. utilizes friend, fight or flight) is less likely to become traumatized than someone who uses passive defences (freeze or flop) (Herman, 1992; van der Kolk 1996). If active defences are weakened, by lack of success, and/or passive defences strengthened through successful utilization, the likelihood of a person becoming traumatized and/or a repeat victim of trauma are increased. I will illustrate this point with an example:

Jenny was sexually abused throughout her childhood by her father, her uncles and a number of other men. Some years later Jenny was standing at the side of the road waiting for her friend (who was 10ft away buying greengrocery from a market stall). A car pulled up alongside Jenny and the man inside (one of the men who had abused Jenny as a child) opened the back door and said, "Get in". Jenny got into the car and the man reached back and closed the door. He then drove her to a flat, took her inside, and raped her.

I met Jenny a few weeks after that incident. In our initial psychotherapy sessions she was furious with herself for getting in the car, she ruminated over questions such as "why didn't I run, or shout, or say 'no'?" and berated herself with "I'm such an idiot, when will I learn?" Of course, when judging herself so harshly, Jenny had the benefit of the hippocampal and cortical functioning that had been unavailable to her when she chose to obey the man's command. Jenny had responded in the way her amygdala had been 'programmed' to respond. The traumatic experiences of her childhood would, undoubtedly, have resulted in a coupling of this man's presence with an amygdala-mediated flop response; a response that would have been reinforced by its repeated 'success' throughout her childhood (in much the same way that our genetic heritage favours and reinforces a freeze reaction to the presence of a snake). The fact that many years had passed since she had last seen the man was of no consequence, the neural networks that mediate reflexive fear responses are "context free, meaning that [they] contain no information about the location, time, or perspective from which the learning took place" (Cozolino, 2002:246). Hippocampal input is

required to ascribe a sense of time (LeDoux, 1996) – to both experience and memory – and with the level of fear Jenny was experiencing hippocampal processes would be unlikely to function. As a result Jenny would not have been able to support herself with the reality that many years had passed since her last encounter with this man, nor with the fact that she is now a grown woman with other options available to her.

Sadly, the consequences of the amygdala's learnt response can be grave for the most vulnerable people in our society. Fear results in a lowering of, the predominantly left brain, cortical and hippocampal functioning (van der Kolk, 1996a) and the individual becomes "dependent upon the neural circuits that evolved to provide adaptive defences for more primitive vertebrates" (Porges, 2004:24), the upshot of the fast reflexive response to perceived threat, is that longer-term wellbeing is too frequently compromised for short-term survival (Siegel, 1999).

Because the amygdala is densely linked into the neurological processing of both fear and attachment (Cozolino, 2002), survival and maintaining attachments are inextricably intertwined (Porges, 2004). Bessel van der Kolk maintains that terrified people do not move away from danger toward safety, rather that people fleeing threatening situations move toward 'home', the familiar, or their attachment object (van der Kolk 2004). This has significant implications for individuals who perceive threat in their 'home' and/or perpetrated by someone they love. When confronted with a significant threat from someone depended upon, most people respond in a way that best ensures continued attachment to that person. Meaning, that even when escape is objectively possible, the likelihood of the amygdala eliciting a fight or flight response is low. This, coupled with the amygdala's tendency to replicate previously 'successful' survival strategies, results in many people being vulnerable to repeated (verbal, physical and/or sexual) assaults by their 'loved ones'.

If you have ever found yourself wondering why people 'go back for more', consider a time you had your heart broken by someone ending a relationship with you. I imagine there were family and friends willing to support and comfort you – yet I also imagine the person you wanted was the one who had caused the pain in the first place. Logical? No. But logic isn't the amygdala's strong point –survival and attachment are.

The extent to which we use attachment as a survival strategy can be observed in the phenomena referred to as Stockholm syndrome (van der Kolk, 1996). The term Stockholm syndrome was adopted after a 1973 bank siege in Sweden resulted in the hostages 'protecting' the criminals who had taken them captive, resisting rescue and ultimately refusing to give evidence against the hostage takers. Stockholm syndrome or trauma bonds result in the victim experiencing positive feelings toward their victimizer, negative feelings toward potential rescuers, and an inability to engage in behaviours that will assist detachment or release (Carnes, 1997). It develops after just four days of captivity within which the victim fears for their life, is isolated from other people and is subject to cruelty interspersed with small kindnesses. Hostage situations are relatively rare yet the described conditions are frighteningly common in domestic situations (Herman, 1992).

Why are some people more susceptible to traumatization?

Experience of trauma is part of the human condition (van der Kolk & McFarlane, 1996), and in a world where all creatures are located somewhere in the food chain, nature has evolved mechanisms to contend with the terror inherent in existence (Levine, 1997). Yet, despite these mechanisms, some people develop traumatic symptomatology following a traumatic incident. Symptoms of psychological traumatization include: the persistent re-experiencing of the traumatic event whilst (unsuccessfully) trying to avoid stimuli associated with it (APA, 2000); an inability to modulate ANS arousal (Ogden et al, 2006; Rothschild, 2000; Siegel, 1999); somatic symptoms (Briere & Scott, 2006); alterations in sense of self and identity (Herman, 1992); and compulsive re-exposure to, or re-enactment of, the trauma (Herman, 1992; van der Kolk & McFarlane, 1996).

Traumatic symptomatology has, at its foundation, a lack of sufficient neural integration (Cozolino, 2002; van der Kolk, 2003). The debilitating symptoms suffered by so many traumatized individuals are manifestations of survival strategies (the five Fs), at a time when survival strategies are objectively not needed. The person's nervous system continues to respond as if they are in danger days, weeks, months even decades after the threat is passed.

There are a number of possible reasons for some people being more susceptible to developing traumatic symptoms. Notably, a person is more likely to become traumatized if:

1. they are very young (Schore, 2003) or very old when the incident occurs (Briere & Scott, 2006);
2. they have previous experience of trauma (van der Kolk, 1989);
3. they experience early life relational/developmental deficit (Schore, 2001);
4. they are in captivity when the trauma occurs (Herman, 1992);
5. they utilize passive defences (freeze and/or flop) at the time of the incident (Levine, 1997), or are rendered immobile by some other means – anaesthesia for example (van der Kolk, 2003);
6. they dissociate at the time of the incident and/or exhibit dissociative symptoms immediately afterwards (McFarlane & Yehuda, 1996; van der Hart et al, 2006);
7. they do not discharge their high autonomic arousal levels once the threat had passed (Levine,1997);
8. they do not receive sufficient social and psychological support after the trauma has ended (Briere & Scott, 2006).

Additionally, interpersonal traumas, "whereby the incident is of human design" (APA, 2000:464), render the victim particularly vulnerable to traumatization (van der Kolk et al, 2007). The element of betrayal inherent in such traumas (Salter, A. 1995; Freyd, 1996) adds complexity to the task of recovery not observed with non-interpersonal trauma.

The cyclic nature of trauma

"Traumatized people lead traumatic and traumatizing lives" (van der Kolk & McFarlane, 1996:11). Notions of repetition are central to most models of psychotherapy (Moursund & Erskine, 2004; O'Brien & Houston, 2000) and for traumatized individuals their day to day existence is plagued with intrusive replays of the original trauma. van der Kolk (1989) argues that contrary to Freud's belief that repetition is an attempt to gain mastery, traumatized individuals rarely do so and, the cycling of behaviours, cognitions and affect associated with the trauma merely cause more suffering to the victim and the people around them. Trauma re-enactments are common and take the forms of: revictimization, self-injurious and self-harming behaviours and externalizing the trauma by victimizing others (van der Kolk & McFarlane, 1996).

My close colleague, Kim Hosier, illustrates the concept of trauma re-enactment with an ice-skating metaphor: If a skater makes a circuit of the ice, a shallow groove will be left. If the skater then repeats the circuit the groove will deepen. Add a third, fourth and fifth circuit and the groove becomes significant. Soon the skater will find taking a different route across the ice difficult, and to do so will take concentration and effort. Should the skater manage to alter her route there is high probability that she will slip back into the groove created by the original circuit. Kim contends that psychotherapy with traumatized people is all about helping them to make different patterns in the ice.

In neurobiological terms the 'grooves in the ice' are neural networks created by the firing, and wiring, together of neurons. This is the basis of all learning (Cozolino, 2002). Without the capacity of the brain to create readily, and unconsciously, activated neural pathways it would be necessary to relearn how to walk every time. Indeed, the neural pathways that govern walking were organized at a time when hippocampal and cortical functioning were under-developed (similar neurological conditions to those elicited by trauma) yet walking is something we remember how to do, even if we do not recall how we learnt to do it (Cozolino, 2002). The habitual patters of behaviour that result in the cycling of trauma are encoded similarly.

For traumatized individuals memories of trauma are determined differently to non-traumatic memories. The hippocampus and cortical regions of the brain are central to the mediation and storage of *explicit memory*, which is autobiographical, organized by language, adaptable, contextualized and subject to conscious organization and recall (Cozolino, 2002; Siegel, 1999). Because trauma disrupts hippocampal and cortical functioning their vital role in mediating explicit memory is also disrupted. As a result traumatic experiences are more likely to be stored predominantly as *implicit memory* (Cozolino, 2002; LeDoux, 1996; Siegel, 1999), which is emotional, sensory, less adaptable, context-free, and concerned with unconscious procedural learning (Cozolino, 2002; Rothschild, 2000).

Let us again consider Jenny's experience outlined earlier in this article. When told to get into the car she did, and only afterwards did she berate herself for not having elicited an active defence: "why didn't I run, or shout, or say 'no'?" (shouting would have constituted a

'friend response', saying "no" a 'fight response' and running a 'flight response'). Remember, when threatened the human system responds reflexively with amygdala-mediated defences, and because the amygdala is densely linked to implicit memory (including implicit data about previous traumas) it will be hyper-sensitive to any trigger related to previous trauma. As outlined earlier the amygdala has a tendency to generalize (e.g. snake-like objects elicit the same response as snakes) and coupled with the context free form of implicit memory this is a cocktail for trauma replay.

For traumatized individuals to break the trauma cycle they must be supported to assign the original trauma to the past, where it belongs.

Principles of recovery from trauma

I have thus far outlined current neurobiological thinking concerning the human response to threat. A basic understanding of the processes involved is essential to any trauma worker. Because implicit memory is context free whenever it is triggered the traumatized client will re-experience, to a greater or lesser extent, the amygdala-mediated survival response and the ANS (autonomic nervous system) activation, experienced at the time of the incident. Memory can be triggered unconsciously within therapy (stimuli that cause intrusive non-choiceful recall and/or replay of the incident) and also consciously (when we ask, or encourage, our clients to talk about their traumatic experiences). Whether consciously or unconsciously elicited, unless the client is actively supported toward regulating their out-of-context fear response, the likelihood is that recall will simply add another groove to their trauma script.

In this section it is not my intention to present a model for working with trauma, there are many excellent models available (Herman, 1992; Ogden el al, 2006; Rothschild, 2000; Shapiro, 1995), instead I intend to outline some basic principles that will be readily integrated into most therapeutic paradigms. I will briefly address each of the principles:

Prepare well: A solid working alliance is essential to trauma work. The client needs to be well enough resourced (Shapiro, 1995), both internally and externally, before you can begin to process the trauma.

Support the client to remain within their window of tolerance (Siegel, 1999). "Each of us has a 'window of tolerance' in which various intensities of emotional arousal can be processed without disrupting the functioning of the system" (Siegel, 1999:253). Emotional arousal beyond tolerable levels results in either hyper-arousal (which roughly correlates with fight and flight) or hypo-arousal (akin to freeze and flop) of the ANS (Ogden & Minton, 2000; Siegel, 1999).

The client's experience of hyper or hypo arousal, during a psychotherapy session, is likely to indicate a replay of the original trauma, and a displaced (in time) fight, flight, freeze or flop response. It is important to support the client (and yourself) in countering the effects of hyper and hypo arousal and thus remaining in, or returning to, the window of tolerance. Only when the client is firmly within their window of tolerance will they possess the integrative brain functioning necessary for recovery. My clinical experience suggests that a combination of the following techniques work well in helping the person to remain within their window of tolerance and also in expanding the breadth of the window:

1. Monitor and manage respiration (note: breathing is the only function of the ANS that most people can bring under conscious control). To regulate hyper-arousal (fight/flight) encourage the client to 'blow out' through their mouth; for hypo-arousal (freeze/flop) encourage the client to take deep in breaths.
2. Draw attention to the current, non-threatening, reality. You can do this in a multitude of ways. For example you might state: "right here, right now nothing bad is happening", or "you are remembering something that already happened, it is not happening now – it is a memory"; or you might ask the client to look around the room and name the things that are familiar to them.
3. Ensure that cortical and hippocampal functioning remain available to the client. If functioning appears to be significantly impaired ask the client simple cortical questions like: "how many fingers am I holding up", "what colour is that lamp", or "how many panes can you count in that window". Keep the questions simple and observable.
4. Ensure that neither you nor your client becomes immobilized during sessions. If you discover either, or both, of you are frozen immediately act to rectify the situation. Start with small movements, for example encourage the client to wiggle their toes (obviously it is important to explain why you are doing this).

5. Ground, the client, through their body, to the here and now (Rothschild, 2000). There are many ways of doing this and it is especially useful for clients who experience periods of dissociation, depersonalization and/or derealization during sessions. You might, for example, bring the clients attention to the physical sensation of the ground under their feet and perhaps suggest that the client pushes into the ground (as if to push their chair over backwards, but without actually doing so).
6. Utilize what you know of your client's good experiences, relationships and 'safe place' (Shapiro, 1995), to slow the process down (Rothschild, 2000). For example, if you know your client feels safe in his garden encourage him to imagine himself there and to describe what he sees, hears, smells, tastes and feels; or if your client has a beloved pet encourage them to conjure up an image/sense of that pet as if they are with them now.

At all times aim to expand the client's window of tolerance and their neurological integration. Putting narrative to traumatic experience increases integration among neural networks (van der Kolk, 1996a) however, it is imperative that you only do this whilst the client is contained within their window of tolerance. It is also important to recognise that *the 'story' is therapeutically less important than the present moment experience.* Bring your attention, and that of the client, to the moment by moment experiencing of cognitions, emotions, five-sense perception, movement, inner body sensation and the shifting relationship between them (Ogden et al., 2006).

Work toward symptom reduction, be patient and encourage the client to be patient too. The implicit memories being addressed, whether directly or indirectly, are often as hard wired into the brain as the way we walk. If you have limited time to work focus on managing the symptoms and increasing the client's resources.

Be predictable. Client's need to be able to rely on your 'sameness' – trauma is about dysregulation and you need to model regulation. Traumatized clients will, frequently, be hyper-vigilant and will pick up any changes in you and their environment. Often their senses are spookily astute, yet they will tend to interpret their findings within their traumatic experience. For example a woman who was physically abused by her sadistic mother might

interpret your tiredness (induced by antihistamine) as being an indicator that she has angered you and that she is in danger.

Know that *"recovery can only take place in the context of relationships*....In her renewed connections with other people, the survivor re-creates the psychological faculties that were damaged or deformed by the traumatic experience" (Herman, 1992:133). And, above all *be vigilant for the 'pull' to re-create the client's trauma!*

Sustenance for the trauma worker

Fear is readily transferred from being to being, to increase the likelihood of the herd, pack or the clan's survival (Levine, 1997). This is very useful when genuine danger is present, however for workers who spend hours in close proximity with traumatized individuals the affect on their ANS can be profound. For that reason it is vital that anyone who works with trauma, not only supports their client to regulate their nervous system, but ensures they attend to their own – both within, and after, sessions.

The psychotherapist needs to be attentive to their own ANS activation to ensure that they remain within their window of tolerance. Indeed, the therapist who becomes adept at paying mindful attention to their own ANS and bodily states will have a useful barometer for what might be occurring within their client. If a therapist recognises a significant swing toward either hyper or hypo activation they must first attend to their own need for regulation before concerning themselves with their client. This might seem harsh to the empathically attuned psychotherapist but a dysregulated therapist is of little use to his or her client(s).

Similarly, I strongly recommend that therapists actively choose not to imagine the traumatic scene as the client tells their story (this is not easy for clinicians and that is why I suggest an active decision not to 'go there'). Instead attune to the client's current ANS activation and provide vital support to the client in remaining sufficiently grounded in the here and now.

In conversations with colleagues I have recognised that it seems to be a common experience that, despite good diary management, clinicians will sometimes find that all of their most traumatized clients are coming on the same day. Ensure you have time between sessions to attend to your needs and, ideally, have colleagues available to support you in noticing what you are missing.

It almost goes without saying that good, regular, supervision is imperative for anyone undertaking trauma work. Ideally your supervisor should be familiar with the affects of vicarious traumatization and burn out, and should be vigilant at recognising when you are 'stepping into' some form of trauma replay. A good solid supervisory alliance is essential if the therapist is to feel safe enough to allow the depth of supervision necessary for this type of work. The mechanisms of *friend, fight, flight, freeze and flop* will almost certainly be evident in the supervisory process, as will traumatic re-enactment, and the reactions so often experienced by trauma survivors themselves will, from time to time, be elicited; notable among them are: denial, withdrawal, disgust, admiration, voyeurism and blame.

Conclusion

Trauma has a dis-integrative impact on brain functioning. The dissociation between neural networks is, initially at least, intended to optimize the individual's chance of survival. For some people the dissociation and lack of integration persist and a wide array of traumatic symptomatology are exhibited. Psychotherapy with traumatized individuals should ideally aim to increase neural integration, top to bottom (Ogden et al., 2006), and left to right (Shapiro, 1995). Neural integration is increased when the client is supported to remain within their window of tolerance and, previously dissociated, cognitions, affect and body sensations are reconnected. With neural integration comes better regulation of the ANS and associated symptom reduction. Traumatic experiences can then be assigned to the past, where they belong, and the once traumatized individual is released from the cyclic nature of trauma.

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