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COMMENTARY

# THE PSYCHOPATHOLOGICAL DOMAINS OF ATTACHMENT TRAUMA: A COMMENTARY

Frank M. Corrigan and Hannah Young

## Abstract

The contribution by Farina & Schimmenti (2025) highlights the impact of childhood maltreatment on adult health. Deep Brain Reorienting (DBR), a neurophenomenological approach, proposes that attachment traumas derive from two primary experiences: shock and pain. Shock, often pre-affective, precedes emotions such as fear or anger and can take different forms (implosive, impact). When it dissipates, a deep pain emerges, linked to loneliness, rejection, and existential emptiness. DBR aims to slow down the shock-pain-affect sequence, separating its components to reduce emotional overload and promote regulation. This allows pathological beliefs of unworthiness to be reworked and contradictory attachment patterns to be addressed. The therapy also addresses dissociative symptoms, differentiated into supracortical, intracortical, neurochemical, and structural forms, reducing fragmentation of the self. In conclusion, DBR hypothesizes that attachment traumas result from alterations in midbrain mechanisms of orientation and affective regulation, compromising attachment development, mentalization, and self-esteem.

**Key words**: attachment trauma, childhood maltreatment; Deep Brain Reorienting (DBR)

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## Introduction

Farina & Schimmenti's (2025) comprehensive review captures the implications of childhood maltreatment for many aspects of later-life health and well-being. Pathways to the polymorphic consequences must be varied but there may be identifiable components that are key contributors to the cascade of effects. We propose that a deep understanding of attachment trauma cannot be realized without the recognition of the elemental forms of traumatic experiencing – namely, shock and pain - that we suggest are giving rise to many clinical presentations. There is much to be gained from the integration of neuroscientific findings with phenomenological insights arising from psychotherapeutic practice (e.g. Stern, 2010; Solms & Turnbull, 2015). Deep Brain Reorienting (DBR) is a body-based psychotherapy developed from such a neurophenomenological approach which hypothesizes nervous system mechanisms for a range of trauma-based symptoms. We can then relate the specific processes underlying attachment wounding to a variety of physiological, psychological and behavioral effects. These putative mechanisms are revised according to how well they appear to explain what is reported by clients during trauma processing. The focus on deepening into the emerging body sensations and slowing down an anatomy-based sequence has revealed a new range of somatic responses to experiences that have been distressing, including those of an interpersonal origin. This also applies to those experiences that would seem to be related to attachment disruptions in early infancy: there are no episodic memories or definable affects around the disturbing sensations. As the application of this ongoing enquiry has proved useful in clearing symptoms of attachment trauma, we are sharing some of the results here while acknowledging the lack of research evidence other than for post-traumatic stress disorder (Kearney et al., 2023)[1]. In this commentary, we will describe the neurophenomenological consequences of attachment wounding arising from our work, and the conceptualization and objectives of DBR across the core clinical components outlined in Farina & Schimmenti (2025).

## Neurophenomenological consequences of attachment trauma

Many of the relational difficulties described by adult clients can be reflections of early life attachment wounding: sensitivity to cues of abandonment, rejection and betrayal; issues with intimacy and closeness; conflict; withdrawal, and avoidance (Mikulincer & Shaver, 2016). In DBR, these relational ruptures

[1] There is also a need for qualitative studies to capture the phenomenological aspects emerging from DBR work.

are one form of 'activating stimuli' to a specific neurophysiological sequence that is tracked throughout the session: orienting tension (superior colliculi), shock (locus coeruleus), and affect (periaqueductal gray) (Corrigan, Young & Christie-Sands, 2025). "Seeing him turn away from me", "there being no text message from him", "catching her looking at him", and "her dismissive comment" are just some examples of interactions that serve as targets for DBR processing. Clients are first invited to identify an 'orienting tension' associated with the activating stimulus from which they are encouraged to slow down and attend to the somatic sensations that are arising from shock, a general arousal that precedes other trauma responses. The therapist tries to prevent an involuntary rush into the more articulated affective and defensive responses, thought to arise from higher in the brainstem. Biding with this part of processing, we are discovering more of the *experiential* elements of attachment disruptions. It is beyond the scope of this paper - and DBR practice - to infer the specific nature of attachment trauma from the often varied and complex sensations. We can only surmise the form of historical misattunement, abuse or neglect when a client describes a painful draining of the arms, for example. Nevertheless, we suggest that however the caregiver has failed to meet the needs of the child, this failure is shocking, eliciting negative self-valence, registering as a threat to life regulation that is felt as painful.

### *Shock*

It was repeatedly found in therapeutic practice that sensations of shock – shivers, shudders, sinking sensations, hollowing, emptying, and electric sensations - were missed in trauma treatment because their transient nature was quickly swamped by the more protracted affects (e.g. PANIC/GRIEF, RAGE, FEAR and shame) and their associated physiological arousal. This led to the concept of *preaffective shock*, thought to arise from an intense activation of the brainstem locus coeruleus in response to a horrifying experience (Corrigan & Christie-Sands, 2020). This shock is described as preaffective because it arises fleetingly before the emergence of affective and defensive responses that are assumed to be engendered primarily in the midbrain periaqueductal gray and hypothalamus. One additional differentiation that has proved useful is our concept of *implosive shock* related to early attachment, a brainstem activation in response to adversity which may have separate characteristics, in part because there is an underdeveloped cortex to register and regulate the widespread arousal (Schore, 2003). This frequently presents in the adult client with intense pressure in the head and is sometimes accompanied by sharp, stabbing pains through the scalp, often with little else happening in the body. This contrasts with the more commonly seen *impact shock*: cold shivers down the spine, but the implosive variety may have an intense sense of coldness from which the person cannot get warmed. Distinguishing implosive and impact forms of preaffective shock has led to the hypothesis that implosive shock arises from deeper in the brainstem, for example in the gigantocellular nucleus of the medulla oblongata. The suggestion here is that the gigantocellular nucleus may respond to the *internally-registered* homeostatic needs of a neglected infant, for warmth and energy balance, for example, when needs for touch are unmet. The requirement for touch in young mammals is based in an area of the hypothalamus which responds to homeostatic needs and can influence a network of social behaviours (Liu et al., 2025). The absence of soft touch must be registered in the body's feedback to the lower brainstem before the affective and behavioral responses in the upper brainstem and hypothalamus. Impact shock, on the other hand, may arise from the *encounter* with the maternal still face (Tronick et al., 1978), physical separation or acute rejection, at a critical moment of reaching out. Implosive shock is not commonly reported alongside a loss of power in the arms, which we suggest is associated with attachment shock in the *older* infant who is suddenly *unable* to reach out for connection. Shock may be followed by shock-induced vigilance, a state of alertness, often with muscle rigidity, as the infant prepares for what may come next.

### *Pain*

As the shock energy dissolves during a DBR session, we are receptive to the presence of an underlying pain. It appears clinically that attachment-based shock is painful, but the pain arises only when the shock energy dissipates, as the pain-blocking effect of the locus coeruleus (Craigmyle, 2013) is diminishing. For adults, we often consider the pain of aloneness, abandonment, rejection, humiliation, betrayal or injustice. Painful sensations may be experienced as localized and acute: for example, a stab wound to the chest in response to betrayal. In infancy, the pain systems may be activated in a non-specific way, such that the aversive experience is one that cannot easily be turned towards; it may feel unbearable and interminable. The early need for connection through touch, warm facial expressions and vocalizations – which may be nested in ancient thermoregulatory mechanisms (Panksepp, 1998) - was not met in ways which arise as intensely painful. Clinically, when clients are invited - from the deepest sense of being in a body (Corrigan, Young & Christie-Sands, 2025) – to turn towards the activating stimulus, there can be difficulty in articulating the emerging feeling states: a hunger or yearning for connection/touch, sickness, a hollow*ness* or empti*ness* (as opposed to hollow*ing* or empty*ing*), unwell*ness*, a *loss* of life energy and a sense of being near death. Damasio (2021) might describe these felt responses as 'homeostatic feelings' – previously referred to as 'primordial feelings' – that arise as signals *about the body and life regulation,* existing along the continuum of pain to pleasure, positive and negative valence. Their emergence in conscious awareness is typically 'vague and diffuse'. The internal milieu, viscera, vestibular function and the musculoskeletal structure of the body form maps for the emergence of a 'Protoself', from which these homeostatic feelings relate. It is neuroanatomically located in the sensory structures of the parabrachial nucleus and nucleus tractus solitarius in the brainstem, with involvement of the hypothalamus (Damasio, 2000; Damasio, 2010). As shock and affective responses change the physiological – and therefore homeostatic - status of the body (Damasio, 2010), they shift the valence of the Protoself: the failure to maintain life regulation is experienced as painful. This is the reality for a body that has borne multiple shocks since early life.

## DBR conceptualization across core clinical components

## *Establishment of a safe therapeutic relationship*

In the randomized controlled trial of eight DBR sessions (Kearney et al., 2023) there was a need to move into processing from the first session. The time constraints imposed by the study design meant that there was no opportunity for prolonged building of the therapeutic relationship. Instead, the experience of DBR processing itself deepened the trust of the client in the therapy and in the therapist. In the more prolonged therapy typical of DBR for early attachment wounding there is, optimally, a confidence in the therapist and in the model which allows any disruption of the therapeutic relationship to be used as a way into processing. For example, a misunderstanding that feels like a rejection from the therapist can be used as the activating stimulus to gain access to the associated shock, pain and emotional responses. This not only clears the disturbance in the therapeutic relationship but also heals some of the unprocessed shock and pain from early life which have been activated in present-day interactions with the therapist.

## *Regulation of emotions and arousal*

DBR theory sees emotion dysregulation as a consequence of shock-induced amplification of affective responses to the pain of aloneness, abandonment, rejection, humiliation, betrayal and injustice. The primary anchor against overwhelm during processing is the orienting tension, the sine qua non of DBR, which is established before the tracking of subsequent somatic activations. A slowing down of this sequence - from shock to pain to affect – separates these somatic components and reduces the likelihood of them being overwhelming in combination. Both therapist and client 'bide with' the shock sensations to allow them to dissipate. When the affects then emerge, release breathing and slowing of the outbreath can be used to reduce the sympathetic nervous system activation derived from the dorsal periaqueductal gray and hypothalamus. For example, a person who feels devastated by a critical comment from an employer may be found to have a sequence of shock-pain-panic-terror derived from early life experiences of humiliation and abandonment. Experienced together, these neurophysiological components are likely to be overwhelming. Separated out, during careful experiencing of each response, they can be tolerated in a way which clears some of the troubling sensitization acquired in early life. Treatment may take many sessions as orienting towards the unbearable cannot be rushed without risk of overwhelm, always what we seek to avoid in DBR.

## *Modification of pathogenic beliefs, and promotion of mentalization and epistemic trust*

### Negative Self-valence

We argue that the self acquires a negative valence, a distaste or dislike or disgust for itself, through early experiences of attachment disruption. This is encountered when not being seen, heard, held or attuned to evokes a sense of intrinsic worthlessness: "I don't matter", "I'm not important" or "I'm unlovable". It is possible for the negative valence to be acquired at the Protoself level (as described above) when the homeostatic needs of the body have not been met. Further up the brainstem - in the deep layers of the superior colliculi and the dorsal columns of the periaqueductal gray, described by Panksepp & Biven (2012) as the Core SELF - there will be more of a sense of the *impact* of interpersonal stimuli. If these are harsh and unloving, and affective responses are overwhelmingly negative, then the self to which these midbrain structures contribute will reflect this valence. We could describe this as the 'affective weighting of the self'. We suggest here that pathogenic beliefs about the self in adolescence and adulthood will be rooted in the effects of attachment wounding from Protoself upwards to the Core SELF, and to the autobiographical self. In DBR, we are seeking to help clients process through the shock and pain that impact on the Protoself and Core SELF levels of valence that give rise to negative self-cognitions.

### Polyvalence of Attachment

The unconscious mental 'images' of self and other, theorized by Bowlby (1973) as internal working models, are also reflections of the motivational-behavioral systems that carry a valence around seeking connection. The motivation to be with others and the capacity to relate to others are, in some part at least, dependent on the dopaminergic projections from the midbrain to the limbic system and orbitofrontal cortex (Panksepp & Biven, 2012). The human capacity for *multiple* and conflicting motivational states, even in the one relationship, has been described as 'polyvalent' (Corrigan & Christie-Sands, 2020). Panksepp (1998) illustrated the social motivational system as rooted in the evolutionary antecedents of thermoregulation - that we have briefly alluded to above in relation to primordial feelings and valence at the Protoself level – but also in place attachment mechanisms. An infant seeking safety in the shelter of the mother will have an awareness of her direction stored in the retrosplenial cortex, if the animal model of Campagner et al. (2022) can be extrapolated. The mesolimbic system will have a shelter-related memory in a group of neurons (Jung et al., 2025) that promotes the drive to seek safety in the mother's direction. If the mother turns away in response to the infant's approach, the infant will be conflicted in relation to reaching out or pulling away from the mother, with associated affects (e.g. PANIC/GRIEF, FEAR), which will be painful. Internal working models of attachment figures may then develop around embodied concepts of cold and distant, rather than warm and present. In adult life, such a conflict may emerge, and give rise to an apparently exaggerated response, when a partner is preoccupied and inadvertently turns away from an approach. There may be a rapid transition from, for example, love to rage, attraction to repulsion, approach to withdrawal as different mesolimbic states respond to sensory-affective orienting in the midbrain.

In predictive processing terms (Putica & Agathos, 2024), childhood maltreatment disposes towards biases in "priors" and "hyperpriors" that meet incoming sensory information with mistrust, negative self-concept, unbalanced affective responses, and constricted expectations.

The polyvalent internal working models of attachment are approached in therapy through their impact on the present-day experiences of the client which allows access to the painful brainstem-based conflicts that exist below the autobiographical narratives of self and other.

### *Addressing detachment symptoms and dissociated self-states*

In DBR, we use a categorization of dissociative experiences we have encountered in therapeutic work. We differentiate supracortical, intracortical, neurochemical and structural dissociation. Whilst these have been described more fully elsewhere (Corrigan, Young & Christie-Sands, 2025), we outline their hypothesized origins here and how we work towards their resolution:

*Supracortical dissociation* describes the involuntary turning-away from the contents of consciousness which are too shocking or painful to bear. It is hypothesized to have arisen from the level of the midbrain superior colliculus. This is often seen when we are approaching the core aloneness pain which has been residual from neglect in infancy. There is an involuntary turning away from it, sometimes even a disowning of it: "this is not my pain". Following the turning away there is a variety of responses. There may be an emotional response, which now feels free-floating, unanchored in a causative stimulus; for example, generalized fear of interacting with others. There can be a quick move to the 'upper-level': thinking of a solution or connecting with memories of similar experiences. In DBR we are inviting clients to 'turn towards' something which has not fully processed. Separating out the shock and pain from the emotions and thoughts that have swamped awareness with their powerful urgency allows, in time, a full turning towards the core of the adversity.

*Intracortical dissociation* is considered to be the result of shock-induced disruptions of the coherent functioning of the cortex, resulting in phenomenological alterations to our sense of self and reality: derealization and depersonalization. Even extreme experiences of disrupted body awareness accompanying shock can be resolved when conditions are right and the process is slowed down. The client may feel that their body - or parts of their body – have abnormal sensations; have disappeared; have shrunk or grown; or have become detached. The emergence of these states during processing requires re-focusing on the orienting tension and awareness of the therapist for safety and grounding.

*Neurochemical dissociation* describes a putative capping of intense affects by stress-induced analgesic chemicals. The "high arousal" neurochemical dissociation is seen when one or more of the basic affects – PANIC/GRIEF, RAGE, FEAR and shame – is activated to a degree that the physiological arousal becomes extreme. This shows up in treatment sessions when high arousal states appear to be ameliorated by light-headedness or numbing, associated with endogenous cannabinoids. Endogenous opioids, on the other hand, are involved in the "low arousal" neurochemical dissociation associated with drowsiness, warmth, a falling heart rate, breathing rate, blood pressure and muscle tone. When these occur in DBR therapy we can continue to process if the client can still identify the orienting tension, has awareness of the therapist's presence, and feels able to continue.

*Structural dissociation* is a term borrowed from van der Hart, Nijenhuis & Steele (2006) to refer to parts of self that have become relatively independent. We conceptualize the emergence of these states not in the deep brain, but instead in 'upper level' cortico-striato-thalamo-cortical loops (Alexander, Crutcher & DeLong, 1990) that have become functionally detached from the deeper brain subcortical loops (McHaffie et al., 2005). Most patients with the diagnosis of dissociative identity disorder will have a history of physical or sexual abuse, as well as early attachment disruptions (Lyons-Ruth et al., 2006) which can make it difficult to know where to start therapy. In the early stages of treatment, a recent experience is used as an activating stimulus for processing. Later in treatment, pivotal experiences of aloneness will often emerge, and this has led to the focus on the "lower-level" shock and pain rather than the "upper-level" parts. We do not ignore parts of self – and may even invite clients to turn towards an alter as the activating stimulus – but we aim to stay with the shock, pain and affects rather than with the narrative, the offering of interpretations or with meaning-making. Attending to the deeper levels of aversive experience has been found to gradually reduce dis-integration with a progressive reduction in the various forms of dissociation.

### *Processing implicit and explicit traumatic memories*

Working with explicit memories in DBR often leads into the processing of early aversive experiences for which there are no episodic memories – and no words. The orienting tension has emerged as a way into underlying conflicts apparently derived from early life. It appears that, in some cases, a present-day stimulus is felt as encountering the relevant sensations from preverbal life: the distress relating to hospitalizations in infancy, for example, reduce when the shock, pain and affective responses clear. This lends support to the idea of unconscious healing mechanisms which are liberated under the right conditions. The clinical benefits are undeniable for individuals even when the mechanisms remain obscure. However, the most fundamental conflict we see is an orienting conflict in which there is an urge to turn towards, simultaneous with an urge to turn away. (For precision, the conflict should be seen as a turning one as there will be consistent overt or covert orienting to the source of the threat, awareness of the other, while the body feels unable to effect a movement towards or away from the source.) This type of conflict can be seen when processing a sense of wanting, as an infant, to turn towards the mother because being alone feels painful – simultaneous with an urge to turn away because being with the mother feels threatening and produces fear. We see this as fundamental because it engages the neural apparatus in the midbrain for reaching for connection – or turning away from it – accompanied by basic affective responses.

## Conclusion

The critical review of attachment trauma literature, provided by Farina & Schimmenti (in press), reveal a lack of specific underlying neurobiological mechanisms of attachment trauma that also account for its range of effects. For example, most of the voluminous literature on attachment makes no reference to the midbrain. Instead, DBR conceptualizes the sensory-affective orienting properties of the midbrain as fundamental to relational connection and the development of attachment patterns. It is in the midbrain structures of the superior colliculi and the periaqueductal gray that the first sensorimotor response to an interpersonal stimulus occurs. We have described the phenomenological consequences of attachment trauma as including shock

and ineffable pain, from which there is an impact on the core SELF and from here the creation of polyvalent modules of seeking attachment. The root structures are not provided with the optimal conditions for promoting stable attachments, mentalization, affect regulation, and positive self-value. Unmet homeostatic needs may be shocking and painful through different pathways and have a significant impact on the upward cascade of brain systems towards higher functions. The resulting internal working models are also colored by the associated primordial feelings from deeper in the brainstem. We have offered a range of neurobiological hypotheses underlying attachment trauma, which can be approached carefully and slowly through therapy with DBR.

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