THEORY

THE THERAPEUTIC ALLIANCE: EXPLORING THE CONCEPT OF "SAFETY" FROM A NEUROPSYCHOTHERAPEUTIC PERSPECTIVE

Kobie L. Allison Pieter J. Rossouw School of Psychology, The University of Queensland

The role of the therapeutic relationship in the counseling process has been extensively demonstrated in the literature; however, the neurobiology of this relationship and the critical role of safety in enhancing therapeutic outcomes, and to ensure compliance and prevent relapse, are less will understood. The need for a safe space has deeply rooted neurobiological markers that have been well described by Seymour Epstein's cognitive-experiential self-theory and Klaus Grawe's neuropsychotherapeutic model. Epstein showed how attachment and control are two of the basic human needs that must be fulfilled to facilitate change—indeed, these mental conditions must be obtained in order for the human species to flourish—and Grawe subsequently demonstrated how these needs play a vital role in the therapeutic relationship.

Recent research by Allan Schore, Richard Davidson and Eric Kandel indicates that the right hemisphere of the brain is generally responsible for assessing safety or danger from others and in organizing a sense of the emotional self. Importantly, it is this appraisal of events that may lead to the development of motivational avoidance or approach schemas during the course of one's life in order to satisfy basic needs.

This paper explores the fundamental neurobiological markers that need to be considered in the therapy process as without effective regulation of these primitive neurobiological markers, the process may be jeopardized. Crucially, the therapeutic relationship captures these key indicators. Clients who seek counseling not only have difficulties with the presenting problem itself but also need a safe space to effectively address the issues. For people in distress their experience of safety is an area of critical importance yet, to date, little research has investigated this factor. The focus of this paper is the need for attachment and control, which are discussed in relation to their dual function in facilitating safety within the therapeutic alliance.

urrent research in psychotherapy has shown unequivocally that what clinicians do in psychotherapy is effective on a neurobiological level (Furmark et al., 2002; Goldapple et al., 2004; Kandel, Schwartz, Jessell, Siegelbaum, & Hudspeth, 2013). Contemporary neuroscience and psychotherapy have identified neural correlates not only with mental disorders but also with therapeutic changes (Fuchs, 2004). Furthermore, recent research has demonstrated that the formation of the brain is inseparably connected to a person's environment and life history (Cacioppo, Bernston, & Adolphs, 2002; Fuchs, 2004). The growing field of neuropsychotherapy integrates analyses of the biological, psychological and social elements of mental disorders into a coherent framework that will further stimulate effective psychotherapeutic theory and practice (Cacioppo et al., 2002). Neuropsychotherapy thus provides the necessary framework for therapists to direct their attention to their patients' brains whilst providing them with a safe enriched environment.

Safety and its Neuropsychotherapeutic Implications

Research has progressed beyond viewing the human brain as hardwired and static to an understanding that brains have the capacity to change through a process called synaptic and neural plasticity (Davidson & Begley, 2012; Kandel et al., 2013; Sporns, 2011). In 1998, Eric Kandel outlined the beginnings of a new intellectual framework for psychiatry that linked psychiatric thinking and training to biology, arguing that the biological components of behavior might best be studied by analyzing the interaction between the biological and the social determinants of behaviour (Kandel, 1998). He suggested that psychotherapy might induce both alterations in gene expression and structural changes in the brain, whereby the neuronal machinery in the therapist's brain has an indirect effect upon the neuronal machinery of the client's brain. He posited that client care is the therapist's most important responsibility and thus that therapists ought never let client care become secondary (Kandel, 2006). Indeed, he maintained that client welfare

is the ultimate goal of biological science; consequently therapists must develop an understanding of the neuropsychological principles governing their own behavior—and their client's behavior—or otherwise risk violating these basic principles and being ineffective with their clients.

Contemporary research has also progressed from seeing the brain as a chemical system to perceiving it as a network of neural connections (Cozolino, 2010; Davidson & Begley, 2012; Kandel, 2006; Kandel et al., 2013; LeDoux, 2005; Rossouw, 2010; Schore, 2012; Sporns, 2011). This recent shift includes the way in which safe environments through talking therapy can facilitate the establishment of new and more effective patterns of neural firing. The research currently maintains that on a molecular level neural connections form the essence of memory (Kandel et al., 2013). Indeed, memory is more than the connection of a single axon with a dendrite, rather it is a sequence of neurons in a network that forms the basis of neural functioning (Kandel et al., 2013). In other words, one neuron in isolation is not effective but when a network of neurons forms a memory sequence, thoughts, feelings, and perceptions may be generated (Kandel et al., 2013). Whilst there is a genetic element to these connections, the environment enables the unique expression of genetic predispositions that permit the creation of emotions and cognitions-one's sense of self and the mind. Ultimately, this is a higher order function, as networks are constantly changing in association with the environment, and new pathways of firing are facilitated (Kandel et al., 2013). As Feinberg (2009) suggested, the self is defined by thoughts and memories that influence our emotions. Neural responses of protection and avoidance may form as a result of trauma, whereas positive experiences are more likely to induce responses of approach and growth (Wilkinson, 2004; Feinberg, 2009). Thus, the role of therapy is to engender new pathways of firing via the creation of a safe environment and a corrective emotional experience.

Studies of learning and memory suggest that synapses are modified by experience and that they form a crucial aspect of brain plasticity (Ekstrom, 2004).

Correspondence concerning this article should be addressed to : Dr. Pieter Rossouw, PO Box 6460, St Lucia, Queensland, Australia, 4067. e-mail: p.rossouw@uq.edu.au

Allison, K. L., & Rossouw, P. J., (2013). The therapeutic alliance:Exploring the concept of "safety" from a neuropsychotherapeutic perspective. *International Journal of Neuropsychotherapy*, 1, 21-29. doi: 10.12744/ijnpt.2013.0021-0029

INTERNATIONAL JOURNAL OF NEUROPSYCHOTHERAPY

While LeDoux (2005) posited that genes shape the broadest outline of mental and behavioral functions, he further argued that the essence of the individual is in fact determined by the patterns of synaptic connections in the brain.

Neuroplasticity extends the existing paradigm for understanding the capacity of the brain to change by enhancing our understanding of neural activation (Ekstrom, 2004). As noted above, the early neuroscientists adopted a deterministic approach, likening the brain to an electrochemical system (Ekstrom, 2004). This approach is often referred to as the "medical model" because it was primarily concerned with the individual achieving a neurochemical balance amongst the chemical agents involved in communication between neurons (LeDoux, 2005; Rossouw, 2013; Valenstein, 1998). Whilst this approach resulted in the development of a number of drug treatments for various mental disorders, it has proved inadequate in terms of understanding the pathogenesis of illnesses such as depression, schizophrenia and anxiety (Rossouw, 2013; Valenstein, 1998). The study of brain circuits has proved to be a more constructive approach (LeDoux, 2005).

Recent studies have shown that talking therapies affect neural activation through chemical balance, neural firing, neural structure and neural networks (Furmark et al., 2002; Grawe, 2007; LeDoux, 2007; Sporns, 2011). However, in contrast to the earlier chemical theory, in network theory the provision of safe environments is now seen as a vital additional factor to understanding the brain (Rossouw, 2013). The implications are both profound and clear-that a safe environment for talking therapy, which would include mechanisms to manage stress and affect regulation, can address unhelpful patterns of neural activation and enable more functional outcomes (Rossouw, 2013). Research has shown that a safe enriched environment actually facilitates the development of new neural patterns, which, in turn, leads to enhanced attachment and control, and stress reduction (Rossouw, 2013). Psychotherapeutic approaches that provide safe environments will thus enhance the positive social interaction that is an essential element of healthy neural proliferation (Rossouw, 2013). This process can be attributed to the neuroplasticity of the brain, which is instrumental in re-writing neural pathways (Rossouw, 2012b). It is only at this point, when down-regulation of unhelpful neural patterns of avoidance and stress is facilitated, that an individual feels safe. At this point also the individual may be able to open up and reveal why they have presented to therapy, because so often the stated reason why a person presents is not at the

core of what is happening for them.

Grawe (2007) states that organisms are biologically driven to patterns of approach oriented to what is life-sustaining, and to avoid danger. Such approach and avoidance decisions influence whether or not an organism survives and it appears that the fight or flight circuitry in the brain evolved in association with areas of the cerebral cortex used to consciously identify danger (Grawe, 2007).

Internal homeostatic processes—such as balancing approach and avoidance, excitation and inhibition, and fight and flight responses-are actively involved in the body's regulatory systems (Kandel et al., 2013). These systems regulate an individual's biological and emotional states-for example, the body's response to stress and threat is regulated through the secretion of stress hormones (cortisol and adrenalin) from the hypothalamic-pituitary-adrenal axis (Kandel et al., 2013). While short-term survival is governed by the immediate response to stress, a rapid return to homeostasis is necessary for long-term survival (Kandel et al., 2013). The implications of prolonged stress, therefore-such as that which occurs in attachment breakdown, parental deprivation or prolonged traumatic stress-may result in long-term damage (Kandel et al., 2013). Prolonged stress results in elevated levels of stress hormones and the hypothalamic-pituitary-adrenal axis system acts as a mediator to reduce the long-term consequences of cortical arousal (Kandel et al., 2013).

However, the release of such hormones from the amygdala initiates a fight-flight response to fear, pain and discomfort in what has been described as a firstline protective survival mechanism that activates a sympathetic branch of the autonomic nervous system, producing symptoms of anxiety, agitation or panic (Cozolino, 2006). Thus, the primary function of the amygdala is to protect us by pairing stimuli with a fear response (Cozolino, 2006). It has a reciprocal relationship with the orbital medial prefrontal cortex, which functions to constrain the amygdala through conscious awareness (Beer, Heerey, Keltner, Scabini, & Knight, 2003). However, when an individual experiences high levels of distress, the orbital medial prefrontal cortex becomes inhibited, and its capacity to control thoughts and to be rational and logical is reduced (Beer et al., 2003). The networks linking the orbital medial prefrontal cortex and the amygdala are molded by experience, thus an individual's understanding of safety and danger (Beer et al., 2003; Silberschatz, 2005).

The implications of this for neuropsychotherapy

are, first and foremost, the importance of establishing a good therapeutic alliance with the client at the outset, which can promote the safety needed to allow for the down-regulation of distress responses (Rossouw, 2012a). This emphasizes the need for therapists to work from a bottom-up approach rather than a top-down approach-specifically because the establishment of a safe environment allows physiological symptoms to down-regulate unhelpful neurotransmitter firing of the stress hormones norepinephrine, corticotrophin releasing factor, corticotrophin hormone, adrenalin and cortisol (Rossouw, 2012a). It also allows for the up-regulation of serotonin flow, dopamine release, and activation of the parasympathetic nervous system, as well as addressing the scanning for novelty (danger) by the amygdala (Blackford, Buckholtz, Avery, & Zald, 2010).

As stated previously, a therapeutic environment facilitates an enriched safe environment where psychotherapy has the potential to facilitate neural change and proliferation. Safety is essential for people in distress because it down-regulates the hypothalamus-pituitary adrenal system (Rossouw, 2013). When the fear response, which is triggered from the pons, amygdala, basal ganglia, hypothalamus, pituitary and adrenal glands, is activated, the distress activates the release of the corticotrophin releasing factor, adrenocorticotrophic hormone, adrenalin and cortisol (Rossouw, 2013). If these patterns are activated frequently, the patterns of firing will become well established resulting in a default neural activation when a trigger is received (Rossouw, 2013). Through psychotherapy it is possible to facilitate down-regulation of the stress response system and encourage the development of new patterns of neural activation (Rossouw, 2013). Hence it is vital to enable change through the provision of a safe environment in which the individual can experience controlled incongruence, or stress, to prevent activation of the default distress response (Rossouw, 2013). A controlled environment is essential; however, if change is facilitated too quickly, the stress signal may be activated and the habitual pathological patterns facilitated (Rossouw, 2013).

By understanding the role of neural activation in brain activity, the need for safe environments to facilitate effective neural pathways becomes clear (Rossouw, 2013). It is also clear that the basic human needs of safety and nurturing provide the basis for the development of strong open neural networks—and for the brain to maximize development, open neural activation is vital (Rudy, 2008). The contemporary understanding of neurobiology has revealed the profound impact of the lack of safety on the functioning of the brain, and emotional wellness. This demonstrates the critical role of safety within the therapeutic alliance.

A Neuropsychotherapeutic Model of Safety

Epstein (1990, 1993, 1995) developed cognitive-experiential self-theory as a means of understanding the basic human needs of the individual. Grawe (2004) extended Epstein's theory using a consistency-theoretical model to provide a more sophisticated meta-theory to examine the basic needs. The fundamental needs for attachment and control seen within the context of neuropsychotherapy influence safety within the therapeutic alliance.

Grawe (2004) also referred to consistency regulation as a basic principle of mental functioning; however, this need for coherence cannot be subsumed as one of the basic needs but rather it is foundational by way of the consistency principle. He described consistency regulation as a state of emotional wellness that can be understood in relation to goal-orientated activity, which is largely oriented toward the fulfillment of the basic needs. In this context the term consistency refers to the state of the organism-that is, the consistency of mental processes (Grawe, 2004). The consistency principle supersedes all other needs as without consistency among the neural processes a violation of the fulfillment of needs can occur. In contrast to the consistency principle, basic needs relate to the experiences of the individual that are determined by their environment (Grawe, 2004). These experiences result in perceptions with positive or negative associations with regard to the respective need (Grawe, 2004). Thus, consistency regulation and need satisfaction are intrinsically linked. The link connecting the two can be explained by the construct of congruence, that is, the compatibility of current motivational goals and actual perceptions.

Motivational schemas are developed in the course of one's life in order to satisfy basic needs and to protect them from violation (Grawe, 2004). Although it is not a mainstream psychological perspective—that a person's goals during their life ultimately serve the satisfaction of basic needs—examples of such conceptualizations are provided by the cognitive-experiential self-theory of Epstein (1990, 1993, 1995) and the self-determination theory of Deci and Ryan (2000). In addition, the consistency-theoretical model described in Grawe (2007) further states that if a person is raised in an environment that is oriented to fulfilling their needs, the person will develop primarily approach motivational goals and will gain great experience in achieving such goals. In contrast, if a person is raised in an environment where their basic needs are repeatedly violated, threatened, or disappointed, the individual will develop avoidance motivational goals, to protect him- or herself from further harm (Grawe, 2007).

Grawe (2007) stated that there are two "levers" of mental functioning—the striving for congruence and the striving for consistency—and that mental functioning is oriented toward enabling perceptions which are consistent with activated motivational goals that develop around them. While people differ in terms of the absolute and relative constitution of their basic needs, inconsistency leads to the impairment of the effectiveness of an individual's engagement with their environment—in particular, over a long period of time inconsistency can lead to a state of incongruence and impairment in the attainment of the individual's needs (Grawe, 2007).

When incongruence emerges, the goals, means, plans and behaviors that have been effective in the down-regulation of incongruence under the specific conditions are activated (Grawe, 2007). Given that inconsistency is detrimental to need fulfillment, mental systems form mechanisms to avoid states of strong inconsistency, or to down-regulate them if they occur (Grawe, 2007). In fact, various schools of psychology have provided labels for consistency-securing mechanisms-defense mechanisms, coping mechanisms and emotional regulation, for instance-that emerge automatically from the unconscious (Grawe, 2007). In accordance with this meta-theory, mental illness arises from the process of consistency regulation. For example, avoidance motivational schemas may be dominant in individuals who have experienced trauma (Grawe, 2007). Such schemas impair an individual's positive need fulfillment and lead to a permanently elevated level of incongruence. These experiences consequently result in decreased well-being and poor mental health, limiting a person's ability to cope with difficulties (Grawe, 2007). Thus, physical and emotional safety is a prerequisite for effective development of the young brain (Rossouw, 2013). This leads to congruence and consistency, emerging from a secure attachment to a primary caregiver.

The basic human needs of attachment and control are briefly described below.

The need for attachment. Epstein (1990, 1993, 1995) referred to the need for attachment as human reliance on other people. Whilst the need for attachment is fundamental, its critical importance for human well-being has only been given credence in recent

decades (Grawe, 2007). For instance, Sullivan (1953) was among the first to explicitly regard interpersonal aspects as the central causes of mental disorders, but he failed to provide empirical evidence for his views. With regard to the etiology of mental disorders in contemporary psychology, the need for attachment is now considered the most empirically substantiated basic need (Grawe, 2007).

In terms of Grawe's (2007) consistency theory, this inner-working model corresponds with the motivational schemas that develop around the need for attachment. For instance, childhood trauma may lead to the child internalizing the perceptual, behavioral and emotional experience of the event, such that the event has been encoded in implicit memory.

According to Grawe (2007), the availability and empathy of the primary attachment figure in early childhood will determine whether an individual develops approach or avoidance motivational schemas. Young (1994) posited that a good attachment figure is one that provides a safe haven, which affords physical closeness, protection, security and support. An avoidance motivational schema develops when a child has limited or impaired access to a primary attachment figure or when such an attachment figure is not consistently accessible (Grawe, 2007).

A helpful framework for understanding the developing brain in relation to attachment is the circle of security model proposed by Cooper, Hoggman, Powell, & Marvin (2005), which shows how a child develops a sense of safety and security that will lead to normal development. The circle of security model is based on supporting parents to create an environment through which secure attachment is facilitated (Cooper et al., 2005). The basic premise of this model is that if a child has an adverse experience, they may traverse back to a secure base in order to be taken care of. For instance, the therapeutic relationship may be an opportunity for individuals who have experienced childhood trauma to experience safety and stability in their environment (Cooper et al., 2005). Through the provision of a safe environment, therefore, the circle of security fosters secure attachment relationships that in turn create neural pathways. Importantly, these new neural patterns facilitate approach rather than avoidance motivational schemas.

The need for control. According to Epstein (2003), the most fundamental of human needs is the need for control, whereby an individual assimilates real experiences into their model of reality. The inner working model proposed by Bowlby (1973) is a similar such model in the domain of relationship experiences. This is an important part of what Epstein terms "conception of reality." He suggested that people form conceptions of reality, based on their life experiences, which they attempt to maintain through their interactions with the environment (Epstein, 2003).

An individual's experience of real-life events is based on their motivational schemas and this influences how the individual interacts with their environment (Powers, 1973). Accordingly, a person will continuously aim to achieve control over their perceptions, if their behavior is oriented towards the attainment of perceptions that fit with their activated motivational goals. Thus, based on their life experiences, an individual develops a fundamental belief about whether predictability and control are possible (Powers, 1973). Mental functioning is largely dependent upon control, such that one needs control in order to fulfill the other basic needs (Epstein, 2003).

Grawe (2007) derived his understanding of control from the construct of self-efficacy beliefs proposed by Rotter (1966) and Bandura (1977). In particular, Bandura (1977) suggested that individuals with high self-efficacy-that is, those who believe that their performance is within their control-are most likely to view difficult tasks as goals to be mastered, rather than goals to be avoided. According to Powers (1973), all behavior is motivated toward the attainment of perceptions that are congruent with specific goalstherefore, if successful, the need for control may be satisfied, whereas non-satisfaction or violation of this need may lead to a state of incongruence. Furthermore, the need for control is permanently activated when important goals are involved. Thus, events that satisfy the need for control will almost always lead to an improved mental health state through the creation of neural pathways that facilitate approach rather than avoid patterns (Powers, 1973).

On the other hand, events that frustrate or violate the need for control will lead to impoverished mental health functioning (Powers, 1973). A violation of the need for control exists when a client experiences mental disorders, as these experiences are beyond the client's locus of control (Powers, 1973; Rotter, 1954). In this view, the goal of psychotherapy is thus to provide the opportunity for the client to learn to better cope with their problems and regain a sense of control (Powers, 1973). A positive control experience that facilitates a person's sense of safety may ultimately restore the violation of the person's need for control (Powers, 1973); therefore, when an individual regains belief in their ability to exercise control over events a sense of safety may be restored.

In undertaking psychotherapy with a new patient, the therapist has a responsibility to endeavor to create an atmosphere of safety (Grawe, 2007). This can be achieved by the therapist providing a predictable, respectful relationship-for example, when a therapist is curious about an individual's life, including the history of their control experiences, they are in a better position to then understand how the client developed their present disorder (Grawe, 2007). Crucially, the fulfillment of an individual's need for attachment and control in the therapeutic setting may lead to improved emotional wellness (Grawe, 2007). In addition, with a secure attachment environment leading to a greater locus of control, individuals are likely to experience enhanced well-being and mental health (Grawe, 2007; Rotter, 1954).

Safety and the Therapeutic Alliance

The therapeutic alliance has emerged as an important variable for psychotherapy process and change (Orlinsky, Grawe, & Parks, 1994). In this comprehensive review of the literature, Orlinsky and colleagues (1994) demonstrated links between aspects of the therapeutic relationship and a range of treatment outcomes in a wide variety of psychotherapies (see, e.g., DeRubeis & Feely, 1991; Eaton, Abeles, & Gutfreund, 1988; Greenberg & Webster, 1982; Safran & Wallner, 1991; Salvio, Beutler, Wood, & Engle, 1992).

Researchers have argued that improved therapeutic outcomes may be the result of the therapist being more able to consistently form stronger alliances with their clients (Del Re, Fluckiger, Horvath, Symonds, & Wampold, 2012). Indeed, several recent studies have found evidence suggesting that the therapist contribution is more critical than the patient contribution to the therapeutic alliance and resulting outcomes (Baldwin, Wampold, & Imel, 2007; Dinger, Strack, Leichsenring, Wilmers, & Schauenburg, 2008; Marcus, Kashy, Wintersteen, & Diamond, 2011; Zuroff, Kelly, Leybman, Blatt, & Wampold, 2010).

Therapists who practice from psychodynamic, humanistic and cognitive behavioral orientations have all advocated that the quality of the therapeutic relationship is dependent upon the therapist being able to provide a safe enriched therapeutic environment (Basch, 1980; Rogers, 1961; Sampson, 1990; Shay, 1996; Yalom & Bugental, 1997). In neurobiological terms the therapeutic relationship is comprised of right-brain to right-brain interaction (Rossouw, 2013). This includes mirror neuron activity, down-regulation of limbic responses, and the establishment of safety by creating a safe, empathic, and supportive environment (Schore, 2012). In addition, the therapeutic relationship facilitates the up-regulation of safety and control that are linked closely to the primary need for attachment. Thus, through engaging in therapy, the therapeutic process which involves controlled incongruence (rather than uncontrolled incongruence), open neural firing (rather than up-regulation of the stress response), and enhanced cortical activity (rather than a reduction of cortical blood flow due to the stress response), are vital aspects of the overall therapeutic relationship (Rossouw, 2013). New neural patterns can be activated by down regulating the stress response and enhancing the basic needs of attachment and control. Safety is thereby facilitated through the development of new neural pathways that shift unhelpful patterns of thinking, feeling and behaving (Rossouw, 2013). Facilitating safety is essential in activating open neural patterns rather than closed, protective, neural activation, which reflects psychopathology (Rossouw, 2012b). It is important to be aware that building rapport takes time, and to be mindful that imposing techniques too soon may activate the client's stress response, inhibiting the therapeutic process (Rothschild, 2000).

These implicit right brain operations are activated in the therapeutic alliance and are essential for adaptive interpersonal functioning (Schore, 2012). The right hemisphere is dominant for aspects of communication and subjective emotional experiences (Schore, 2012). The implicit communication of affective states between the right brains of the patient and therapist may be referred to as intersubjectivity (Schore, 2012). In the therapeutic relationship, the neurobiological correlate of this is expressed through the self-organization of the developing brain, which occurs in the context of an inter-personal relationship (Schore, 2003). Engaging in therapy is a deeply personal experience. Essentially the human brain is a social entity which flourishes through its connections to other brains (Schore, 2012; Siegel, 2012). However, in the absence of an environment in which to flourish, pathology may develop (Rossouw, 2013). The therapeutic process may therefore provide an environment in which the basic needs of safety and control are met-specifically, in a safe therapeutic environment a gradual shift may take place, from patterns of protection to patterns of approach. Neural integration may also lead to cognitive, emotional and behavioral integration (Siegel, 2010). Ultimately, neuroscience clearly indicates that who we are as therapists is far more significant than our body of knowledge (Kandel, 2006).

Summary and Concluding Discussion

This paper contends that the preferred approach to facilitate safety within the therapeutic alliance is from a bottom-up approach rather than a top-down approach. Due to the up-regulation of distress in the primitive regions of the brain, which result in deep brain activity, and shifts in cortical blood flow away from left pre-frontal cortical areas, cognitive interventions that are introduced at the beginning of therapy may not be effective. The capacity of the brain to activate new neural connections and ultimately new pathways is facilitated only when a safe therapeutic relationship is established and down-regulation of the fear response is effectively addressed (Rossouw, 2011). It is in this safe enriched environment that cognitive, emotional and behavioral interventions can be successfully introduced.

In this paper we propose a meta-theoretical model within the context of neuropsychotherapy in which the fundamental needs of attachment and control work together to facilitate safety within a therapeutic alliance. The implications of this research for service delivery are significant-first, effective delivery of early interventions is required to assess, identify and address violations of the needs for attachment and control; and, second, effective service delivery to enhance neural development has to be a collaborative activity between mental health services and parental systems (Rossouw, 2013). Future research will extend this model, utilizing a neurobiological experiential study to provide specific therapeutic guidelines for the ways in which clinicians can maximize wellness from a neurobiological perspective. Exploring the concept of safety from a neuropsychotherapeutic perspective demonstrates that facilitating safety should not be assumed but incorporated as an essential part of the therapeutic process.

References

- Bandura, A. (1977). *Social learning theory*. New York, NY: General Learning Press.
- Baldwin, S. A., Wampold, B. E., & Imel, Z. E. (2007). Untangling the alliance–outcome correlation: Exploring the relative importance of therapist and patient variability in the alliance. *Journal of Consulting and Clinical Psychology*, *75*, 842–852.
- Basch, M. F. (1980). *Doing psychotherapy*. New York, NY: Basic Books.
- Beer, J. S., Heerey, E. A., Keltner, D., Scabini, D., & Knight, R.T. (2003). The regulatory function of

self-conscious emotion: Insights from patients with orbitofrontal damage. *Journal of Personality and Social Psychology*, 85, 594–604.

- Blackford, J. U., Buckholtz, J. W., Avery, S. N., & Zald, D. H. (2010). The unique role of the human amygdala in novelty detection. *NeuroImage*, 50, 1188– 1193.
- Cacioppo, J. T., Berntson, G. G., & Adolphs, R. (2002). *Foundations in social neuroscience*. Cambridge, MA: MIT Press.
- Cooper, G., Hoffman, K., Powell, B., & Marvin, R. (2005). The circle of security intervention. In L. J. Berlin, Y. Ziv, L. M. Amaya-Jackson, & M. T. Greenberg (Eds.), *Enhancing early attachments: Theory, research, intervention, and policy.* New York, NY: Guilford Press.
- Cozolino, L. (2006). The Neuroscience of human relationships: Attachment and the developing social brain. New York, NY: Norton.
- Cozolino, L. (2010). *The neuroscience of psychotherapy: Healing the social brain*. New York, NY: Norton.
- Davidson, R. J., & Begley, S. (2012). The emotional life of your brain: How its unique patterns affect the way you think, feel and live – and how you can change them. New York, NY: Hudson Street Press.
- Del Re, A. C., Fluckiger, C., Horvath, A. O., Symonds, D., & Wampold, B. E. (2012). Therapist effects in the therapeutic alliance–outcome relationship: A restricted-maximum likelihood meta-analysis. *Clinical Psychology Review*, 7, 642–649.
- DeRubeis, R. J., Brotman, M. A., & Gibbons, C. J. (2005). A conceptual and methodological analysis of the nonspecifics argument. *Clinical Psychology: Science and Practice*, *12*, 174–183.
- Dinger, U., Strack, M., Leichsenring, F., Wilmers, F., & Schauenburg, H. (2008). Therapist effects on outcome and alliance in inpatient psychotherapy. *Journal of Clinical Psychology*, 64, 344–354.
- Eaton, T. T., Abeles, N., & Gutfreund, M. J. (1988). Therapeutic alliance and outcome: Impact of treatment length and pretreatment symptomology. *Psychotherapy: Research and Practice*, *25*, 536–542.
- Ekstrom, S. R. (2004). The mind beyond our immediate awareness: Freudian, Jungian, and cognitive models of unconscious. *Journal of Analytical Psychology*, 49, 657–682.
- Epstein, S. (1990). Cognitive-experiential self-theory. In L. A. Pervin (Ed.), *Handbook of personality: Theory and research* (pp.165–192). New York, NY:

Guilford Press.

- Epstein, S. (1993). Implications of cognitive-experiential self-theory for personality and developmental psychology. In D. C. Funder, R. D. Parke, C. Tomlinson-Keasey, & K. Widaman (Eds.), *Studying lives through time: Personality and development* (pp. 399–438). Washington, DC: American Psychological Association.
- Epstein, S., & Morling, B. (1995). Is the self motivated to do more than enhance and/or verify itself? In M. H. Kernis (Ed.), *Efficacy, agency, and self-esteem* (pp. 9–29). New York, NY: Plenum Press.
- Epstein, S. (2003). Cognitive-experiential self-theory of personality. In T. Millon & M. J. Lerner (Eds.), *Comprehensive Handbook of Psychology: Vol. 5. Personality and social psychology* (pp. 159–184). Hoboken, NJ: Wiley.
- Feinberg, T. E. (2009). From axons to identity: Neurological explorations of the nature of the self. New York, NY: Norton.
- Fuchs, T. (2004). Neurobiology and psychotherapy: an emerging dialogue. *Current Opinion in Psychiatry*, 17, 479-485.
- Furmark, T., Tillfors, M., Marteinsdottir, I., Fischer, H., Pissiota, A., Långström, B., & Fredrikson, M. (2002). Common changes in cerebral blood flow in patients with social phobia treated with citalopram or cognitive-behavioral therapy. *Archives of General Psychiatry*, 59, 423-433.
- Grawe, K. (2004). *Psychological therapy*. Seattle, WA: Hogrefe & Huber.
- Grawe, K. (2007). *Neuropsychotherapy: How neurosciences inform effective psychotherapy.* New York, NY: Taylor & Francis.
- Goldapple, K., Segal, Z., Garson, C., Lau, M., Bieling,
 P., Kennedy, S., Mayberg, H. (2004). Modulation of cortical-limbic pathways in major depression:
 Treatment-specific effects of cognitive behavior therapy. *Archives of General Psychiatry*, 61, 34–41.
- Greenberg, L. S., & Webster, M. C. (1982). Resolving decisional conflict by Gestalt two-chair dialogue: Relating process to outcome. *Journal of Counseling Psychology*, 29, 468–477.
- Kandel, E. R. (1998). A new intellectual framework for psychiatry. *American Journal of Psychiatry*, 155, 457–469.
- Kandel, E. R. (2006). *In search of memory: The emergence of a new science of mind*. New York, NY: Norton.

- Kandel, E. R., Schwartz, J. H., & Jessell, T. M. (2013). *Principles of neural science* (5th ed.). New York, NY: McGraw-Hill.
- LeDoux, J. (2005). Synaptic self: How our brains become who we are. New York, NY: Penguin.
- Marcus, D. K., Kashy, D. A., Wintersteen, M. B., & Diamond, G. S. (2011). The therapeutic alliance in adolescent substance abuse treatment: A one-with-many analysis. *Journal of Counseling Psychology*, 58, 449–455.
- Orlinsky, D. E., Grawe, K., & Parks, B. K. (1994). Process and outcome in psychotherapy – noch einmal. In A. E. Bergen & S. L. Garfield (Eds.), *Handbook of psychotherapy and behavior change* (pp. 270–376). New York, NY: Wiley.
- Powers, W. T. (1973). *Behavior and the control of perception*. New York, NY: Aldine.
- Rossouw, P. J. (2010, August). *Neurobiology and the treatment of mood and anxiety disorders: How talk-ing therapies change the brain.* Paper presented at the 11th International Mental Health Conference, Gold Coast, Australia.
- Rossouw, P. J. (2011). The triune brain: Implications for neuropsychotherapy. *Neuropsychotherapy News*, 5, 2–3. Retrieved from http://mediros.com. au/wp-content/uploads/2012/11/NPTIG-Newsletter-5.pdf
- Rossouw, P. J. (2012a). Effective client focused interventions: The top-down and bottom-up discourse. *Neuropsychotherapy News*, 11, 2–4. Retrieved from http://mediros.com.au/wp-content/ uploads/2012/11/NPTIG-Newsletter-11.pdf
- Rossouw, P. J. (2012b). Neuroscience, learning and memory: From sea slugs to mental health. *Neuropsychotherapy News*, 13, 2–6. Retrieved from http://mediros.com.au/wp-content/uploads/2012/11/NPTIG-Newsletter-13.pdf
- Rossouw, P. J. (2013). The end of the medical model: Recent findings in neuroscience regarding antidepressant medication and the implications for neuropsychotherapy [Departmental article]. *Applied Neuropsychotherapy*. Retrieved from http:// www.neuropsychotherapist.com/the-end-of-themedical-model/
- Rotter, J. B. (1954). *Social learning and clinical psychology*. Englewood Cliffs, NJ: Prentice-Hall.
- Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. Psychological Monographs, 80 (Whole No. 609).

- Safran, J. D., & Wallner, L. K. (1991). The relative predictive validity of two therapeutic alliance measures in cognitive therapy. *Psychological Assessment* , 3, 188–195.
- Salvio, M. A., Beutler, L. E., Wood, J. M., & Engle, D. (1992). The strength of the therapeutic alliance in three treatments for depression. *Psychotherapy Research*, *2*,31–36.
- Sampson, H. (1990). How the patient's sense of danger and safety influences the analytic process. *Psychoanalytic Psychology*, *7*, 115–124.
- Schore, A. N. (2012). *The science of the art of psychotherapy*. New York, NY: Norton .
- Shay, J. J. (1996). "Okay, I'm here, but I'm not talking!" Psychotherapy with the reluctant male. *Psychotherapy*, *33*, 503–513.
- Siegel, D. J. (2010). The mindful therapist. A clinician's guide to mindsight and neural integration. New York, NY: Norton.
- Siegel, D. J. (2012). *The developing mind* (2nd ed.): *How relationships and the brain interact to shape who we are.* New York, NY: Guilford Press.
- Sporns, O. (2011) *Networks of the brain*. Cambridge, MA: MIT Press.
- Valenstein, E. S. (1998). *Blaming the brain: The truth about drugs and mental health*. New York, NY: Free Press.
- Yalom, V., & Bugental, J. F. T. (1997). Support in existential-humanistic psychotherapy. *Journal of Psychotherapy Integration*, *7*, 119–128.
- Zuroff, D. C., Kelly, A. C., Leybman, M. J., Blatt, S. J., & Wampold, B. E. (2010). Between-therapist and within-therapist differences in the quality of the therapeutic relationship: Effects on maladjustment and self-critical perfectionism. *Journal of Clinical Psychology*, *66*, 681–697