A neuroscientific perspective on the therapeutic alliance and how talking changes the brain: Supporting a common factors model of psychotherapy

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Return to Articles

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Introduction

Neuropsychologist Allan Schore (2014) describes psychotherapy as a dance, a synchronicity of mind and body that occurs between therapist and client. His description of the psychobiologically attuned clinician recognises the intricacy and inextricable entanglement between human biological processes, unique experience, and mental life. Shore paints an evocative image of psychotherapy as an arena for intimate, authentic, and unique encounter between the client and the therapist. However, Shore's dance metaphor is not merely a romantic notion; the assertions contained within are truisms supported by a larger scientific body of evidence.

For decades, the application of psychotherapy has been informed and driven by the medical model paradigm (Duncan, Miller, Wampold, & Hubble, 2010). This framework of practice is empirically based, informed by double-blinded randomised controlled trials (RCTs), and subsequently seeks to identify specific therapeutic ingredients in psychotherapy (Duncan et al., 2010). Couched within this paradigm, for a psychotherapeutic treatment to be classified as "empirically supported," the therapeutic intervention alone must be demonstrated to be the mechanism responsible for change. The rigid criteria of this model fail to recognise the innate human qualities of the client to grow and heal, and as such are not suited to the discipline of psychotherapy. Most importantly, the model ignores research evidence suggesting that only 15% of psychotherapeutic outcome is accounted for by the type of therapy engaged in (Hubble, Duncan, & Miller, 1999) and that therapist qualities and the overall therapeutic alliance account for a significant portion of the curative outcomes of therapy (Norcross & Lambert, 2018). Over the past 80 years, psychotherapists have argued that non-specific *common factors* are responsible for the success of their work (Groth-Marnat, 2009). Indeed, the research evidence to date does not conclusively support the superiority of any one psychotherapy over another (Sparks, Duncan, & Miller, 2008). Common factors (e.g., collaborative goal setting, therapeutic alliance, unconditional positive regard, and therapist congruence) are believed to be the potent mechanisms that underly the efficacy

of psychotherapy. Understanding the unique context of the client's life is viewed as the most significant factor, closely followed by therapist attributes and the working alliance (Hubble et al., 1999).

In an era where neuroscience now informs psychotherapy (Grawe, 2017), Carl Rodgers is vindicated. The empathetic relationship formed between therapist and client has been neurologically demonstrated to provide the "necessary and sufficient conditions for psychotherapeutic change" (Rogers, 1957). Talking changes brains, both structurally and functionally, and limbic states are shared (Siegel, 2006). Consequently, the role of the psychotherapist is to operationalise adaptive patterns of neuronal activation in their client.

Despite the impracticable framework of a medically based model to support psychotherapy, the efficacy of psychotherapeutic treatments is strongly upheld by robust neuroscientific foundations. Psychotherapy and science integrate when the therapist incorporates scientific principles and evidence-based theories within the idiographic context of each client. An integrative framework of this nature supports the formulation of flexible and individualised therapeutic interventions for each client. The therapist elegantly intertwines these processes with the potency of empathetic, attentive, and authentic presence. To date, the codifying process of what constitutes an "evidence-based" treatment has failed to recognise the evidence basis of these interpersonal factors (Norcross & Lambert, 2018). Such an omission seriously undermines the integrity of a so-called codification process that would seek to inform best practice and training on the basis of scientific and clinical rigour. Techniques such as practice-based research, process-based research, transdiagnostic methodology, and evidence-based case formulation both inform and enhance best practice methods in psychotherapy (Norcross & Lambert, 2018). Importantly, each of these protocols provides a viable alternative to a rigid manualised and diagnostic framework of practice.

The current paper discusses: (1) the implications of contextualising psychotherapeutic practice within the framework of the medical model, and the limitations of this perspective; (2) the neuroscientific vindication for the acceptance of a common factors approach, whereby interpersonal factors and the strength of the therapeutic alliance can affect neural networking; 3) the need to review and address current conceptualisations of what constitutes successful psychotherapy; and, 4) the need for an acceptance of evidence-based protocols other than the RCT paradigm. Finally, recommendations are presented in support of an integrative approach to psychotherapy that is guided by person-centred, idiographic considerations, yet underpinned by neuroscientific and evidence-informed treatment protocols.

A Very Brief History

For millennia people have sought out personal healing and context through talking in order to ease their troubled minds (Duncan et al., 2010; Van Deurzen, 2012). Such an enduring human pursuit suggests that these relationships have not been coincidental, that talking as a therapy does affect personal healing, and that maybe humans are drawn to interpersonal healing by innate forces.

Despite this time-old practice of healing through talking, driven by the influence of Sigmund Freud during the 19th century, the medical discipline increased its strong hold on the practice of psychotherapy; so much so that by the later periods of the 19th century, it was decreed that only physicians would be qualified to conduct psychotherapy (Duncan et al., 2010). Today, however, psychotherapy is no longer purely an arena for physicians, and also encompasses the disciplines of psychology and counselling. Nonetheless, to a great extent, psychotherapeutic practice is still heavily intertwined within the medical model (Duncan et al., 2010). This integration is problematic for psychotherapists who do not bind themselves to a medical model of practice or to diagnostic taxonomies such as the Diagnostic and Statistical Manual of Mental Disorders (DSM) and the International Classification of Diseases (ICD) (Duncan et al., 2010). The aim of these practitioners is not to diagnose or label; instead, they endeavour to work within the idiographic framework of each client (McLeod, 2013).

A Medical Model of Practice

The medical model encapsulates a framework of best-practice for medicine. It guides research and diagnostic formulation regarding both physical and psychological difficulties within a causation-remediation paradigm (Laing, 1971). The five assumptions of the medical paradigm that have also been applied to the psychotherapeutic model are: there is a disorder, problem or complaint; there is a biological explanation for the disorder; mechanisms of change exist that are congruent with theoretical explanations for the disorder; mechanisms of change dictate the type of therapeutic application; and, specificity (i.e., the therapeutic intervention alone is responsible for psychotherapy outcomes, and not aspects such as therapeutic alliance or other non-specific factors) (Duncan et al., 2010). Within this model, RCTs are heralded as the “gold standard” research protocol when establishing the validity of *empirically supported therapies* (ESTs), which are psychotherapeutic treatments that have demonstrated clinical significance through RCTs (Goldfried & Wolfe, 1998; Yontef & Jacobs, 2008). This is because RCTs aim to illuminate the efficacy of specific therapeutic ingredients while controlling for extraneous confounding effects, such as placebo and unspecified factors (Wampold & Imel, 2015). Whilst this can be a useful model for the medical discipline, it tends to be problematic, inadequate, and impractical when applied to psychotherapy, as non-specific common factors are reported to be responsible for the majority of the change outcomes that occur from therapy.

Non-Specific Common Factors

More than 80 years ago, Rosenzweig (1936) suggested that non-specific common factors underpinned the success of psychotherapy, as opposed to any specific ingredient attributed to any specific treatment. Research evidence continues to support this argument; the psychotherapeutic relationship has been consistently demonstrated to substantially contribute to therapeutic outcomes irrespective of the treatment type used (Norcross & Lambert, 2018). Research has also indicated that the strength of the working alliance formed between client and therapist is a stronger predictor of treatment outcomes than actual treatment type (Flückiger, Del Re, Wampold, & Horvath, 2018; Fluckiger, Del

Re, Wampold, Symonds, & Horvath, 2012; Horvath & Symonds, 1991; Martin, Garske, & Davis, 2000) and that within-group variances due to therapist qualities was greater than the variances observed between different treatment groups (Crits-Christoph, 1997; Wampold & Serlin, 2000). These findings suggest that the interpersonal relationships formed during therapy are more potent than the actual psychotherapeutic treatment. In fact, specificity is reported to account for a mere 1% of the overall therapeutic outcome (Duncan et al., 2010; Sparks et al., 2008). Despite the absence of specificity in psychotherapy, meta-analyses have demonstrated that clients receiving psychotherapeutic treatment are 80% better off than clients who do not receive treatment (Ahn & Wampold, 2001; Asay & Lambert, 1999). Comparative analysis has established that psychotherapy is equivalent to, or more effective than, many current evidence-based medical practices, including angioplasty and beta-blockers used in cardiology, budesonide used to treat asthma, and alendronate sodium and calcium used to treat osteoporosis (Wampold, 2007). Moreover, psychotherapy has been demonstrated to be as effective as pharmacotherapy for mental health difficulties with the outcomes more enduring (Imel, Malterer, McKay, & Wampold, 2008; Nemeroff et al., 2003).

Quite clearly, the research identifies that psychotherapy works. Subsequently, a more appropriate model for psychotherapy than a medical model that requires specificity is one that: (a) emphasises common factors, such as the strength of therapeutic relationships, as indicative of successful outcomes; and, (b) predicts that all treatments intentionally engaged in by therapist and client that are intended to be therapeutic are equally effective (Duncan et al., 2010). The nuances of these common factors appear to emerge from client attributes, therapist attributes, and the therapeutic alliance (Duncan et al., 2010; Groth-Marnat, 2009; Hubble et al., 1999). By their nature, common factors are uniquely dynamic for each client-therapist relationship thus cannot be manipulated in experimental protocols (Imel & Wampold, 2008).

Four common factors are believed to account for change in all therapy (Asay & Lambert, 1999; Hubble et al., 1999). First, each client brings a unique theory of change to therapy, such that roughly 40% of the therapeutic benefit is attributed to unique client factors. These factors may encompass qualities such as the client's willingness to change, the client's theory of change given the context of their challenges, and the client's belief that change can occur and that the chosen therapy can affect this change (Carter et al., 2011; Duncan & Miller, 2000). Second, the relationship between therapist and client accounts for around 30% of therapeutic outcome. Therapeutic alliance encompasses both the bond between client and therapist and their mutual agreement regarding the structure and goals of therapy (Horvath & Symonds, 1991). Research suggests that: therapists who are able to form better alliances report better client outcomes (Baldwin, Wampold, and Imel, 2007); therapists' personal characteristics and in-session activities positively influence therapeutic alliance (Ackerman and Hilsenroth, 2003); and, therapists' hypotheses-generating skills are an important factor in clients' therapy experiences (Morran, Kurpius, Brack, and Rozecki 1994). Third, 15% of the therapeutic outcome is accounted for by clients' expectations; their hopes and beliefs that change will occur as a consequence of treatment (Greenberg, Constantino, & Bruce, 2006). Fourth, the remaining 15% of what

works in therapy is presumed to be related to the actual treatment type. Consequently, with 85% of psychotherapeutic outcome purportedly reliant on factors other than specific treatment type, and minimal evidence supporting treatment superiority for any one particular psychotherapy over another, it is no wonder that practitioners question the necessity and validity of ESTs (Sparks et al., 2008).

A Neuroscientific Perspective Supporting a Common Factors Model

Neuroscience informs us that the human brain is a highly social organ wired to seek out, connect to, and learn from other brains (Cozolino, 2002; Grawe, 2017). Through the creation of experiences that foster adaptive capacities and encourage self-regulation and well-being in the client, psychotherapy is able to affect enduring structural and functional changes within the brain (Siegel, 2006). Further vindication for the field of psychotherapy is that the mechanisms of change involved in operationalising altered neuronal patterns appear to be congruent with those underlying a common factors model. Specifically, the right neural hemisphere, the limbic system (emotional centre), and the mirror neuron system (a system that mirrors the affective and behavioural states observed in others and is believed to constitute the neural basis of empathy [Siegel, 2006]) are significant neural correlates of psychotherapeutic outcomes.

Talking, or creating narrative, promotes the integration of the brain's left hemisphere (which is predominately semantic, sequential, concrete, narrowly focused, and interpretive) and right hemisphere (which is predominately holistic, creative, emotion-detecting, and autobiographical) (Siegel, 2006). Integrating these two hemispheres enhances the client's ability to view their life story holistically and coherently (Siegel, 2006). Narrative reflection in therapy enables the client to consciously identify their maladaptive patterns while also offering them the opportunity to change these patterns (Siegel, 2006). Just as the coherent narratives of parents have been demonstrated to be a strong predictor of adaptive attachment in children (Harter, 1999) the coherent narratives of therapists may also enhance healthy attachment styles in clients. One-to-one attuned communication through verbal and non-verbal behaviours (e.g., eye contact, reflective comment, empathy, and perceiving expressions) create internal states within the therapist that resonate with the client (Siegel, 2006). In fact, therapist empathy is believed to create adaptive patterns of neural activation in the client (Gallese, 2003). This state of limbic resonance alters physiological, affective, and intentional states (Siegel, 2010), opening the client's mind to experience the adaptive social states resonated by the therapist**.** Armed with this extraordinarily powerful influence, it is vital that the therapist remains authentic, congruent, and vigilantly mindful of their cognitive and affective states. The mechanisms for change that are suggested by the common factors model and supported by neuroscience include, but are not limited to: the client's experience of an authentic, congruent empathetic relationship; unconditional positive regard; therapist authenticity and congruence; and, the therapist's experience of and engagement in the therapeutic process.

Arising from these neuroscientific principles, *interpersonal neurobiology* (e.g., Siegel, 1999) emerges as a new paradigm of understanding. Interpersonal neurobiology provides an integrative framework for understanding how mental processes arise from the brain and how these processes are directly shaped by interpersonal experiences (Siegel, 1999). Interpersonal neurobiology is a multidisciplinary field that harnesses knowledge from all branches of science and knowing, and seeks to understand ways in which the brain interacts with subjective experiences to form mental lives (Siegel, 2010). Patterns in the flow of energy and information that define mental processes not only occur within one brain, but also flow between other brains. Such interactions have the capacity to alter neuronal structure and function and are the key component to successful psychotherapeutic outcomes (Siegel, 2001). Interpersonal neurobiology is a phenomenally powerful approach to understanding the mechanisms of psychotherapy and breathes new life into an age-old debate that questions the evidence basis of talking therapies. This multidisciplinary field offers a practical example of how a synchronous understanding and appreciation between science and the common factors of therapy might be achieved.

An Evidence-Informed Approach to Psychotherapy

Whilst a purely evidence-based approach that relies on RCT as a gold standard has significant limitations in psychotherapy, this does not relinquish the need for research evidence to inform the discipline. Evidence-based practice (EBP) is a process that collates a broad range of clinical activities, such as the best available research, psychological assessment, case formulation, client attributes and experience, and therapeutic relationship (APA, 2006). However, ESTs based on clinical research data alone, drawn purely from RCTs conspicuously lack valuable input and expertise from practicing psychotherapists. They also fail to recognise the significant role that “evidence-based psychotherapeutic relationships” have in the curative outcomes of therapy (Norcross & Lambert, 2018). Thus, understandably, many therapists are reluctant to adopt these treatments (Goldfried, 2010). This is probably also due to a perceived lack of relevance by therapists as clinical research settings do not easily translate to natural psychotherapeutic settings.

With advances in neuroscience highlighting the inextricable relationship between cognitive, behavioural, social, emotional, neurological, and biological processes, and the potency of limbic resonance between therapist and client, it would seem logical that contemporary psychotherapy removes the shackles of pure evidence-based approaches and moves towards a more integrative formulation of determining treatment efficacy and selection. Furthermore, fostering an understanding among researchers that different research questions may be better answered by different research techniques that are equally as valid as RCTs (Greenberg & Newman, 1996), and that an openness to evidence-based research by means of clinical observation, client feedback, qualitative research, systematic case studies, process outcome studies, and meta-analysis might enhance clinician-researcher collaboration. Findings from these types of research may offer more practical means for therapists to determine the utility of certain treatments in

the context of their client. A purely diagnostic approach merely reduces clients to their mental health difficulties, ignoring the significant contribution of their unique social contexts.

Transdiagnostic approaches, case formulation-driven psychotherapy, and process-based research simultaneously embrace nomothetic and idiographic practice. These practices contrast the reductionist approach of a purely medical/scientific/evidence-based model against more constructivist approaches (Goldfried, 2010; Persons, 2006). Integrative and client-centred approaches to therapy individualise psychotherapeutic treatment by integrating diverse theories and techniques in response to each client's unique world view, experiences, and theory of change (Norcross & Goldfried, 2005; Persons, 2006), thus strengthening the therapeutic alliance and the likelihood of positive change for the client. Importantly, these approaches are guided by continuous assessment protocols which recognise the evolving nature of psychotherapy; the therapist works with their client dynamically, weaving an ever-evolving therapeutic space in response to their client's immediate needs.

Conclusions

As science and medicine grapple with rigid evidence-based models to establish specificity and best-practice for psychotherapy, therapists and their clients sit at the coalface of psychotherapy. Brought together by the forces of being human and enmeshed in an intimate relationship of trust and vulnerability, each case is unique. Indeed, at first glance it would appear that the sciences relentlessly seek to reduce complex human experiences to rigid diagnostic criteria, manualised treatment protocols, and biological/neurobiological states. However, on closer investigation it is probably more prudent to consider the differences between a purely evidence-base/scientific/medical framework of practice and a hybrid of client-centred, scientifically, and medically informed procedure. There is certainly a place for science in psychotherapy. Essentially, the practice of psychotherapy is an art and the therapist the artist; the therapist is required to draw on the mediums of science, theory, clinical expertise, and client contextualisation to create a unique picture of psychotherapy for each client.

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