Article

Why clinical psychology needs process research: An examination of four methodologies

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Abstract
This paper advocates for process research as a valid source of evidence in clinical psychology, research that focuses on why and how therapy works, both across the course of treatment and in the minutiae of interactions between therapist and client. Process research is consistent with the aims of the scientist-practitioner model, supporting the provision of practical and realistic guidance to clinicians. Specific examples of methods are provided, including the analysis of mechanisms of change, patient-focused research, conversational analysis and interpersonal process recall.

Keywords
evidence-based practice, process research, scientist-practitioner model

Introduction: The science–practice divide

One of the major contributions of clinical psychology to the helping professions has been the scientist practitioner model. This model, first developed at the Boulder Conference in 1949 (Petersen, 2007), stipulates that clinicians both rely on empirical evidence to guide their choice of treatments and contribute towards the research endeavour (Jones & Mehr, 2007). The primary aim of the Boulder Conference was to develop guidelines for the training of clinical psychologists, setting a standard approach, given the diversity of training curriculum in the United States at the time. This conference was successful in ensuring that the majority of clinical training programmes include a strong research dimension.

Despite this contribution there is a growing consensus that the ideals of the Boulder Conference have failed to be realized (Chwalisz, 2003; Stricker, 2002, 2003). Of particular concern is an emphasis on the use of randomized controlled trials as the primary research methodology. This method relies on a uniform sample of clients and a strict adherence to techniques and the timing of sessions, circumstances that do not mirror the complexity of the real world of clinical practice (Rothwell, 2005). There is also increasing recognition that a reliance on manualized treatments can fail to recognize the critical role of the therapeutic relationship in determining efficacy (Wampold

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et al., 1997), a factor that has been found to be responsible for a much as 30 percent of variance (Lambert & Barley, 2001). In addition, manuals do not adequately consider the role of the clinician in guiding the client to recovery (Duncan & Miller, 2005), including dealing with common obstacles, such as 'non-compliance', clinical impasses or difficulties between therapist and client (Pachankis & Goldfried, 2007; Persons & Silberschatz, 1998).

Sackett, Strauss, Richardson, Rosenberg and Haynes's (2000) tripartite model of evidence-based medicine allows for a greater integration of science and practice, by recognizing the role of clinical wisdom in the implementation of treatment techniques. These notions are far from novel, with Kuhn (1962) proposing that scientific theory is insufficient and that 'puzzle solving' was required for a scientist to be considered as competent. The American Psychological Society (APA) (2006) also recognizes this approach, stating that practitioners need to consider research findings, clinical expertise and patient characteristics in decision making. Clinical expertise is seen to include self-reflection, interpersonal skills and patient characteristics, including their unique strengths, cultural context and preferences.

The APA also recommends greater methodological diversity in research, with methods based on the research question being asked. These questions include the exploration of how clinicians make decisions in a sensitive and flexible manner, the effects of race and culture on the treatment process, how the psychologist manages the therapeutic relationship and its connection to outcome and more. Norcross, Beutler and Levant (2005) mirror this recommendation in their important edited book, *Evidence-based practices: Debate and dialogue on the fundamental questions*. The authors represented call for greater recognition of a host of methodologies, including single-participant designs (Hurst & Nelson-Gray, 2005), qualitative research (Hill, 2005) and process studies (Greenberg & Watson, 2005). Critics from counselling and family therapy (Chwalisz, 2003; Sexton, Kinser, & Hanes, 2008) argue that such endeavours imply an expansion of what is considered evidence. From the APA's perspective, however, this simply implies a more faithful and open-minded interpretation of the existing definition.

The aim of this paper is to focus specifically on the critical role that process research can play in supporting the further integration of science and clinical practice. Greenberg and Watson (2005) argue for this eloquently, stating that the interplay of therapist and patient variables needs to be studied in all its complexity if we are to understand the means by which outcomes are established. This is reinforced by Duncan and Miller's (2005) statement that 'the manual is not the territory,' a reference to Bateson (1972) and an assertion that structured protocols do not describe the dynamic of psychotherapeutic change. The specific aims of this paper will be to describe process research methods in more detail, to cite specific examples of studies, and to demonstrate their direct practical relevance to clinicians. Four specific process research methods will be described − mechanisms of change research, patient-focused research, conversational analysis and interpersonal process recall. The first two methods allow for the careful analysis of the dynamics of change across sessions. The last two allow for a closer look at the processes inherent within sessions.

The examination of change across sessions

Mechanisms of change

Kazdin (2007, 2008) argues that while the efficacy of many forms of psychotherapy has been established (Kazdin & Weisz, 2003) the most pressing question in the field is how and why this change comes about. The primary focus of research of this kind is to isolate mediators of treatment. Baron and Kenny (1986) defined a mediator as a third variable that may account for the relationship

between an initial independent variable and an outcome. This independent variable may be the treatment itself, with the mediator being the component of that treatment that is hypothesized as its critical component. The identification of treatment moderators, however, is also central to the exploration of mechanisms of change. A moderator is the characteristic that influences the extent of the relationship between independent variable and outcome and as such should be inherently related to mediators. If a specific treatment is more effective for males than females, for example, different treatment processes may be implicated (Kazdin, 2007).

Research on moderators and mediators is significant for a number of reasons. A careful analysis of the active ingredients of treatment can provide clinicians with some guidelines for the creative application of treatments developed in controlled settings. Decisions can be made concerning which components should be retained and what can be modified, casting the clinician as an intelligent professional guided, rather than controlled, by research findings. Kazdin (2007, 2008) argues that randomized controlled trials need to be routinely designed to include the analysis of mechanisms of change.

Research into family therapy for anorexia nervosa serves as an ideal example to explicate this further. The Maudsley model of family-based treatment has been subjected to a relatively large number of randomized controlled trials (Eisler et al., 2000; le Grange, Eisler, Dare, & Hodes, 1992; Lock, Agras, Bryson, & Kraemer, 2005; Russell, Szmukler, Dare, & Eisler, 1987) and is currently one of the most promising forms of treatment for patients under 19 years of age (Lock, Le Grange, Agras, & Dare, 2001; Rhodes, 2003). Relatively little research, however, has been conducted regarding the mechanisms of change for this treatment, particularly in terms of treatment mediators. There is a consensus across studies that 60−70 percent of patients recover after the Maudsley treatment. While this is impressive, modifications and augmentations to the model need to be tested to cater for families who drop out of treatment or fail to succeed. This is not possible without a clear understanding of how the treatment works.

In our own study (Ellison et al., 2010) the core tenets of the Maudsley model (Lock et al., 2001) were tested as part of a randomized controlled trial. The aim was to discover whether parental control of anorexic behaviour, parental unity, the capacity to externalize the illness, the management of criticism of the patient and the provision of sibling support to the patient were related to greater weight gain. A total of 59 patients under 19 years of age received standard Maudsley treatment. Parental control was found to be the central treatment component, predicting both weight gain and less drop-out. Higher scores on all other treatment variables served to predict parental control. This study supports augmentations to the Maudsley model directed specifically at the enhancement of parental control over anorexic symptoms. This may be particularly relevant in the minimization of drop-out and when considering those populations that fare less well with family-based treatment, particularly in sole-parent families, for whom treatment takes longer (Lock, Agras, Bryson, & Kraemer, 2005). This has direct relevance to the clinician working with the 30−40 percent of families who may struggle in treatment. Additional measures can be taken to bolster parental control without fear of jeopardizing the overall efficacy of the model.

Patient-focused research

While studies of moderators and mediators can augment the randomized controlled trial, making it more relevant to the clinician and the clinical decision-making process, the direct generalizability of trial results to individual patients is still highly problematic. Chief among these problems is the reliance of trials on statistical significance, a measure that does not account for within-group variability (Newnham & Page, 2010). An outcome built on averages cannot generalize directly to the

therapy room because the patient in question may be similar to one that did not recover. In addition, if researchers fail to report effect sizes, it is still possible that a treatment seen as yielding significant results does not bring about recovery. Thankfully these concerns have contributed to the development of patient-focused research, spearheaded by psychotherapy researchers Howard, Moras, Brill, Martinovich and Lutz (1996).

Patient-focused research is a form of empirical case-study methodology that allows the clinician to evaluate progress and modify treatment based on the patient's deviation from an expected rate of recovery. The calculation of this expected rate is based on Howard, Kopta, Krause and Orlinsky's (1986) dose-dependent curve, one that predicts outcome from early treatment response. This model, coupled with the patient's individual characteristics, provides a profile against which actual progress can be compared via hierarchical linear modelling. This technique employs tools of research to directly support the decision-making of clinicians, allowing them to make changes to their approach once progress is threatened. There has been a burgeoning of similar endeavours in the past ten years, from Lutz et al.'s (2005) development of the Nearest Neighbour standard, allowing for comparison between a current patient and one with similar characteristics who recovered, to Lambert's empirically-derived decision-making system for patients who are not responding (Lutz et al., 2006). These techniques are highly promising, especially given the findings that such monitoring can have a direct impact on treatment outcomes (Lambert, 2007).

The examination of change within sessions

A hierarchy of evidence based on the scale of the phenomenon being investigated begins with the 'blunt' method of the randomized controlled trial (Eisler, 2002) and is followed by mechanisms of change. Mediators can also be considered treatment outcomes, critical stepping stones for the final post-treatment result. Patient-focused research works on the same scale as mechanisms of change, but applies to the individual patient rather than the group. If we turn the microscope further, however, these phenomena should also be the result of smaller-scale processes and outcomes within sessions (Strong, Busch, & Couture, 2008), the product of interactions between therapist and client. Methods for examining change within sessions include conversational analysis and interpersonal process recall.

Conversational analysis

The primary assumption behind conversational analysis is that human interaction follows an organized pattern, one where each participant uses specific methods to communicate meaning, leading to a turn-taking process that achieves a specific goal (Atkinson & Heritage, 1984). The researcher uses audio or video recordings of naturally occurring (non-experimental) interactions to reveal patterns in the sequential features of conversation. Strong, Busch and Couture (2008) advocate for conversational evidence, using methods for evaluation of what therapists do when it works. They distinguish between big 'O' outcomes ('are we there yet?') and little 'o' outcomes ('are we on the right track?'), a process that implies collaboration based on the therapeutic relationship and the movement towards mutually agreed goals. It is important here to differentiate between conversational analysis and discourse analysis, with the former more concerned with the practical uses of language and the latter more closely aligned with a postmodernist critique of logical positivism (Avdi, 2008). Proponents of discourse analysis are concerned with a fundamental critique of modern psychology and its claims to empirical truths (Parker, 1989, 1992). The field of psychology and the products of research are seen as a series of stories about the human condition, rather than the

study of universal truths. Conversational analysis fits more with the apolitical ethos of clinical psychology, concerned with understanding linguistic repertoires. While there is increasing rapprochement between the two disciplines (Woofit, 2005), discourse analysis is concerned more with the deconstruction of talk as rhetoric, exposing societal inequality.

Conversational analysis has been used across the helping professions to explore interactions between professionals and clients. The focus of studies includes the use of psychodynamic interpretations (Perakyla, 2004), how to give advice while maintaining a collaborative therapeutic relationship (Couture, 2006), how to build alliances between family members (Sutherland & Couture, 2007) and how to explain medical illnesses to patients (Heritage & Maynard, 2006).

Perakyla's (2004) study of psychodynamic interpretations demonstrates the potential contribution that conversational analysis can make to our understanding of therapy. The practice focus of this method is particularly relevant for psychoanalysis, which is sometimes presented as esoteric and idealized in the literature. Interpretations in psychoanalysis are statements made by the therapist to attribute a current phenomenon, such as a symptom, a dream or an event in the therapy room, to some greater meaning, including to the patient's childhood (Rycroft, 1995). In traditional descriptions the analyst is portrayed as neutral and distant, a reflective and intuitive person whose interpretations are among the few statements made in therapy. Perakyla's (2004) analysed 60 sessions conducted by two analysts with three clients, looking specifically at this technique, and discovered that the interpretation resulted from a long series of collaborative conversations between client and therapist, as the end product of a process of drawing parallels between the different domains of the client's life through language. This is a promising finding, one that supports the demystification of this modality and provides practical guidance to clinicians.

Sutherland and Strong (2011) explore how collaboration works in couple therapy. Collaboration between therapist and client, as opposed to advice-giving or an expert position, has long been the hallmark of constructionist couple and family therapies (Anderson, 2001; Hoffmann, 1985; Tomm, 1987). In particular their research explores the question of how the therapist negotiates a participatory relationship with clients while still stimulating change. The micro-analysis reveals a number of specific practices used by the therapist, not to impose new ideas onto the couple regarding their interactions, but to carefully offer them in a way that supports the reciprocal development of new perspectives. New formulations concerning the couple's interactions are introduced as proposals or 'candidate answers' rather than established formulations. This is achieved through a wide variety of techniques including the use of yes/no questions rather than statements, the use of uncertainty markers at the end of statements ('"I guess') and the modification or downgrading of new ideas if the clients express hesitancy in their responses.

Close investigation of therapeutic conversations have important clinical applications. They demonstrate how therapeutic techniques are actually applied within the dynamic of interactions with a client, supporting the real-world education of professional psychologists. This knowledge differs significantly from that of the treatment manual, revealing some of the art of therapy, sensitizing clinicians to the subtleties of effective interactions with their clients. They provide a means by which students and clinicians can discover what therapy really looks like, not a didactic phenomenon, but one that requires significant interpersonal skill.

Interpersonal process recall

One of the aims of this paper is to advocate for research that looks beyond what works best in therapy to how therapy works best. Studies of this nature have the potential to bridge the gap between academic researchers and practitioners, exploring phenomenon of direct relevance to the

generic clinician in the field. While conversational analysis explores the rules of interaction within sessions, it is possible to turn the microscope yet again, beyond these behavioural observations into the reflections, decision-making processes and affect of therapist and client participating in therapy. Interpersonal process recall is a technique designed for this purpose, one most frequently used in the fields of counselling and psychotherapy. It enables the researcher to undertake a detailed comparison of client and therapist perspectives during therapy. Interpersonal process recall is a systematic methodology that allows the researcher to access conscious yet unspoken experiences (Larsen, Flesaker, & Stege, 2008). A video is made of a single session or a segment of a session and is then watched by both the participant and the researcher together. The video is stopped at regular intervals and the researcher conducts a semi-structured interview, focusing on the thoughts and affect of the participant. These interviews are then transcribed and analysed using the grounded theory method (Strauss & Corbin, 1990). This involves the constant comparison of themes found across subjects until a theory emerges that describes the phenomenon in question.

Interpersonal process recall has been applied to a variety of phenomena, including the exploration of disengagement by clients in the midst of sessions (Frankel & Levitt, 2008), the meaning of silence in therapy (Levitt, 2001) and the explication of the internal dialogue of the clinician during therapy (Rober, Elliot, Buysse, Loots, & De Corte, 2008). Each of these studies has inherently practical implications, supporting the training and supervision of therapists, not simply in terms of building specific competencies, but developing self-awareness and maturity. Rober et al.'s study (2008), for example, helps to dispel the myth of the therapist as an external observer who simply uses logic to apply his or her skills in a logical and professional manner. Interpersonal process recall allowed for the development of a complex model, one that reveals multiple positions that must be held by the therapist. Rober and colleagues find that there are four consistent domains of in-session experience described by therapists: (1) attending to the client process (*Where is the client in the dialogue?*); (2) processing the client's story (*What is the client telling me?*); (3) focusing on their own experience (*Where am I in the dialogue?*); (4) managing the therapeutic process (*How can I help the client in his or her process?*). Therapy is revealed as a highly complex phenomenon, involving a dialogue between these positions. In terms of practical implications, Rober suggests that it may be possible to identify what is occurring in this dialogue that leads a therapist to become stuck in their therapeutic work, suggesting a dynamic option for clinical supervision.

Conclusion

One of the primary motives for the development of the scientist-practitioner model was to ensure that clinicians remain accountable for the quality of their work, providing services that are far more than a product of their own personal biases and preferred methods. This has helped to define the field of clinical psychology as trustworthy, providing boundaries that help to mediate against quackery and its damaging effect on clients (Lilienfeld, Lynn, & Lohr, 2003). One of the side effects of this endeavour, however, has been a focus on the content over process in therapy, on the application of technique over a more realistic engagement with the dynamic processes of change.

The four examples of research methods provided in this paper relate directly to the greater integration of science with the everyday demands of practice. Each method supports the recognition of the clinician as an intelligent and experienced professional, not simply a consumer and disseminator of branded treatments. The delivery of treatments and the application of technique ares mediated by careful decision-making within a complex set of collaborative interactions with the client.

If process research in clinical psychology is to develop, scientists need to become more informed about these methods and look more to practitioners for research questions. Academics may have to

operate as research facilitators and methodological consultants, supporting practitioners to develop and execute their own studies at the coalface (Stiefel, Renner, & Riordan, 2003). This can be a challenge, given the sometimes conservative standards of prestigious journals and funding bodies. New and innovative researchers using non-traditional methodologies can be excluded from the mainstream (Breen & Darlaston-Jones, 2010); indeed, many of the researchers highlighted in this paper are more closely aligned with the fields of counselling, psychotherapy or family therapy.

There is evidence, however, that these constraints are lifting. Norcross et al.'s book, in particular, demonstrates that there is an established debate among academics concerning the future of psychological research. Harper (2008) also notes that in the UK there is a growing diversity of methods taught in clinical programmes and that there is a small, significant increase in qualitative studies appearing in major journals. New diverse research texts are also appearing in the field (Camic, Rhodes, & Yardley, 2003; Willig & Stainton-Rogers, 2008), as well as the journals, such as *Qualitative Research in Psychology*. Let's hope that these developments are a sign of the future, one where the ideals of the Boulder model are realized by a closer integration of science and practice.

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