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METHOD PAPER

Practice-oriented research: What it takes to do collaborative research in private practice

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Abstract
The goal of this paper is to describe the authors' experience conducting research in and for private practice. Based on two distinct research programs (one guided by a scientist practitioner leading various groups of clinicians and another from a network of practitioners and researchers), a number of practice-oriented studies are presented. Lessons learned from these collaborative projects are discussed in terms of challenges and strategies to deal with them, as well as benefits that can be earned from conducting empirical studies within clinical routine. General recommendations are then offered to foster the engagement of clinicians in their own working environment and to facilitate partnerships between researchers and practitioners in developing and implementing valid, feasible, and informative clinical studies.

Keywords: mental health services research; outcome research; process research; philosophical/theoretical issues in therapy research; technology in psychotherapy research and training

Practice-oriented research can be a powerful means for improving clients' clinical outcomes in psychotherapy. We use the terms "practice-oriented research" or "practice-based research" to mean not only conducting research in a routine practice setting but also "conducting research *with* a group rather than conducting research *on* a group, and *with* a community rather than simply *in* a community or *for* a community" (Westfall et al., 2009). While a specific project's needs may dictate the exact roles practitioners and professional scientists play, the spirit of practice-oriented research is one of active collaboration and shared decision-making through all phases of research (e.g., selecting the clinical problem, formulating the research question, choosing methods, and so on). At its best, this collaboration:

> aims to foster a sense of equality, shared ownership, and mutual respect between researchers and clinicians, and promoting diversity of scholarship (i.e., different ways of understanding and investigating complex phenomena). It also capitalizes on the complementary expertise, knowledge, and experiences of each stakeholder to provide unique opportunities for two-way learning in order to conduct studies that are both clinically relevant and scientifically rigorous. (Castonguay, Barkham, Lutz, & McAleavey, 2013)

Both authors of this paper have led multiple practice-oriented research projects within day-to-day outpatient practice settings, Koerner as a scientist-practitioner based in a private institute that helps therapists learn, use, and evaluate evidence-based practices, and Castonguay from the perspective of academic-community partnerships developed not only in private practice but also in clinic training and university counseling centers.

First, we each describe our work, sharing our goals and example projects that convey the types of research that we have attempted in private practice. Then, we discuss the challenges we have encountered in conducting such practice-oriented research and the strategies we have adopted to overcome these challenges. After describing some of the benefits that practice-oriented research offers, we close this paper

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with general recommendations to foster the growth of research in clinical practice.

Goals and Examples from Our Practice-oriented Research Programs

Practice-oriented Research at the Evidence-based Practice Institute

At the Evidence-based Practice Institute (EBPI, Koerner), we are in the early stages of building a participatory research community of practitioners, clinical leaders, trainers, and researchers who together learn, use, and evaluate how evidence-based practices impact clients' outcomes. The first author began her career straddling the science-practice gap, part-time in an academic setting, training and supervising therapists to deliver high fidelity research protocols to develop and evaluate treatment, and part-time training the same treatments with colleagues who worked in diverse private and public mental health practice settings. The research-practice gap took on extremely practical dimensions. For example, clinical leaders and practitioners faced enormous setting constraints that impeded high fidelity implementation of evidence-based practices. Shared questions arose: What modifications to accommodate setting constraints were acceptable and which diluted the protocol to the point that clinical outcomes would be compromised? How should you proceed when your staff therapists have to be generalists in their practice and treat whoever walks through the clinic door, but have never learned cognitive-behavioral basics that underpin several evidence-based protocols for eating disorders, anxiety and mood disorders, or substance abuse? How can you tell if your therapists are doing well enough to get good outcomes?

Working daily on these and other complex issues that contribute to the research-practice gap began to shape solutions that concretely foster a rapprochement between science and clinical work. Specifically, building informal social networks began to create knowledge transfer in both directions. This led to our current efforts to support and systematize a community (called PracticeGround learning community) in which research and practice are woven as whole cloth with rigorous research procedures integrated into practitioners' routine workflow. By adopting a "citizen" science model (also known as crowd sourced science), practitioner-volunteers have begun to carry out various aspects of research in collaboration with professional scientists.

We faced three immediate methodological problems as we designed our first collaborative projects. Therapists in routine practice settings needed practical ways (i) to learn evidence-based interventions, (ii) to assess fidelity to the intervention, and (iii) to collect outcome data about clients' response to the intervention.

First, to tackle the problem of training therapists in a standardized intervention, we chose interventions that match therapists' needs to serve a wide variety of patients and designed training formats to maximize ease and convenience. We also had to have a training method that could be financially self-sustaining without grant funding. Therefore, across our five studies to date, therapist training was structured as an online professional continuing education course. Participants paid a small fee and earned continuing education credits, allowing us to underwrite the costs of the trainers' time and partially pay for undergraduate and postdoc research assistants. To maximize convenience and therapists' limited learning time, we used a "flipped classroom" format (www.practiceground.org), in which an online learning community provided didactic information asynchronously to trainees via self-paced e-learning modules, interspersed with synchronous online instructor-led training focused on active learning and the deliberate practice with feedback required to develop expertise (Ericsson, 2008). Training sessions were spaced over several weeks, thereby allowing additional practice and use of the skills between sessions and combining training with ongoing case consultation. This format allowed therapists to learn new interventions with minimal impact on their productivity (online training can be completed on-the-job without having to take time away from work), while integrating training elements and ongoing case consultation shown to be most needed for skills development (Rakovshik & McManus, 2010).

In one project, we trained participants in the Functional Analytic Psychotherapy (FAP) training model, a principle-based behavioral approach to improving therapeutic relationship skills such as genuineness, empathy, positive regard, and attunement to the nuances of the therapy alliance (Kanter, Tsai, Holman, & Koerner, 2013). This 8-week training was intended to strengthen not only practitioners' alliance skills but also teach how to directly promote change through differential reinforcement of client behavior (Tsai, Kohlenberg, & Kanter, 2010). The training protocol combined a series of exercises designed to evoke and reinforce trainee target behaviors in the training session and then homework assignments aimed at promoting generalization to their clinical work.

Participants were recruited from the PracticeGround learning community as well as from emails to professional lists. The first 16 eligible therapists-trainees (7 females, 9 males) were consented online

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and then randomized into either an immediate or a waitlist training group. We found a significant effect for training between the immediate training group and the waitlist group, which was demonstrated on both a self-report measure of FAP competencies and a blind, reliable observer-based assessment of skill with key FAP techniques. This was then replicated when the waitlist group completed training.

In a second project that used similar recruitment and training methods, we taught four core behavioral activation skills as modular competencies: providing rationale, assessment, activity scheduling, and targeting avoidance (Puspitasari, Kanter, Murphy, Crowe, & Koerner, 2013). Eight participants completed four 90-min online training session supplemented with reading and self-paced multi-media e-learning. Participants reported increased use of behavioral activation techniques and high satisfaction with the training format. However, because of the known limitations of therapists' self-report of their own behavior, in this project, we began to explore the feasibility of asking therapists to enroll one client from their practice into the study in order to measure the impact of training on clients. We provided detailed scripts and an online consent process to make this recruitment as easy as possible. Five of the therapists were able to recruit patients to join them in the research study, whereas logistical constraints such as lack of sufficient patient flow within the timeframe of the study or clients declining to participate interfered for the other therapists. While the learning outcomes of this project were promising as with our first FAP project, the hassle for participants in recruiting patients during such a brief four-session training protocol seemed too much. We needed to find more feasible methods for assessing therapists' behavior and fidelity and client outcomes. This, as mentioned above, represented the second methodological problem that we faced in conducting practice-based research.

To tackle this problem, we continued the line of behavioral activation training research, but also designed a standardized patient role-play assessment as a way to measure the outcomes of training. Using role-play assessment as a proxy-measure of therapist competence offered many advantages (Fairburn & Cooper, 2011), chief of which are not requiring the logistical burden of requiring therapists to provide tapes of therapy sessions for expert trained raters to review and more efficiently assuring that the therapist can be prompted by the standardized patient to use specific skills during the role-play rather than the hit-or-miss nature of real therapy where the therapist must address the problem du jour.

In our third project, we again used similar recruitment and training methods, but this time each trainee interacted with a hypothetical depressed client as role-played by a trained research assistant. These standardized role-play assessments were used to assess skill use and competence before, immediately after training, and again 6 weeks after the end of training. While scheduling the role-play assessments was a challenge for busy therapists, the face valid way that this method mapped to their own learning goals made it a natural component of training, providing a useful, self-organizing challenge that focused learning so that the therapists could benchmark what they know. Findings from this study showed again high satisfaction with training, self-reported use of behavioral activation strategies in sessions, and importantly increased competence with the behavioral activation techniques as rated by blind, reliable coders of the role-plays.

While all of these previous efforts allowed us to tackle the first two methodological problems we faced in conducting our research in naturalistic settings, we were still confronted with a third one: collecting outcome data related to clients' response to the intervention. In order to successfully address this crucial issue, we realized we needed an online infrastructure. We thus sought and were awarded a grant to develop online progress tracking software that integrates collecting data directly into clinicians' usual workflow for clinical decision-making and research purposes (National Institute of Mental Health, NIMH 1R43MH093993-01). In this study, we trained therapists in how to monitor psychotherapy progress using standardized self-report measures and an early prototype of online progress tracking software (Persons et al., 2014). The scores from patient-reported questionnaires helped therapists detect lack of progress and intervene to improve client outcomes. We taught participants how to introduce patients to the use of measures, handle non-compliance, discuss lack of progress, and use the data to inform decisions about the next possible therapeutic actions (e.g., stay the course, further assess, or change the treatment plan). Therapists, therefore, learned how to monitor client progress as a method of assessing how their implementation of interventions impacts client outcomes. Such performance monitoring and feedback methods have been shown to be crucial to performance improvement across several fields (Bickman, 2008). Many have recommended wider use of these methods as a way to improve behavioral health training and practice (Castonguay, Boswell, Constantino, Goldfried, & Hill, 2010; Kazdin & Blasé, 2011; Newnham & Page, 2010), because progress tracking systems that frequently measure patients' treatment progress with standardized measures improve clinical decision-making and treatment effectiveness in

mental health care (Knaup, Koesters, Schoefer, Becker, & Puschner 2009; Reese, Norsworthy, & Rowlands, 2009).

As further examples of studies we have conducted, we began to explore how single-case experimental design might work for practice-oriented research. Single-case experimental designs offer powerful methods for studying causal relationships between therapy interventions and clients' process and outcome (Barlow, Nock, & Hersen, 2008) and increase the feasibility of research because of how easily these designs integrate within practice. For example, in collaboration with Jason Luoma, Leslie Greenberg, and Ben Shahar, we used the online modular competency training approach described above to train therapists in two-chair work for self-critical splits, a set of procedures drawn from emotion-focused therapy (Greenberg & Dompierre, 1981; Greenberg & Higgins, 1980; Shahar et al., 2012). In the same way that common procedures cut across packaged treatment protocols, common problematic processes such as shame and self-criticism broadly contribute to difficulties across a wide range of psychological disorders and therefore align well with therapists' needs. In this two-part study, we first studied what methods are needed for therapists with a primarily cognitive-behavioral background to learn the complex experiential response modes essential to emotion-focused therapy. Then in the second phase, once practitioners had reached sufficient adherence to the model, they join a distributed network of research therapists who carefully follow an agreed upon research protocol in their work settings to conduct a multiple-baseline design. The research design allowed therapists to recruit any patients they viewed as appropriate into the study. To strengthen the experimental design, therapists randomized patients to varying lengths of baseline in order to detect whether expected improvements coincide with the time of intervention.

In a second single-case design project, in collaboration with the Science Practice-Research Special Interest Group of the Association for Contextual Behavior, we trained a group of practitioners in how to design single-case experimental research. Using an online practicum format, an international group of practitioners worked for 6 months to identify meaningful research questions within their practice setting and design appropriate single-case experiments to test hypotheses. Through multiple rounds of peer and expert critique, experiments were designed to test hypotheses across a wide range of clinical interventions (e.g., testing exposure therapy with anxious youth, evaluating acceptance and commitment therapy in routine adult outpatient settings, integrating exercise within a skills training approach to help those with borderline personality disorder). This line of research begins to build a network of therapists and a library of open enrollment research designs and protocols that make it feasible to scale single case designs to make meaningful contributions to the scientific literature.

Across these studies, with more and less success, our goal was to integrate research procedures into practitioners' routine workflow with as little disruption as possible so that rigorous research methods were harnessed as a tool to improve client outcomes by meeting therapists' learning needs. Our practice-oriented research projects have focused on helping therapists (i) learn, use, and evaluate for themselves how evidence-based practices impact their clients' outcomes, with (ii) practical methods that enable a geographically dispersed network of therapists to carry out rigorous research protocols.

Goals and Examples of the Pennsylvania Psychological Association Practice Research Network

The Pennsylvanian Psychological Association Practice Research Network (PPA-PRN) was born out of a challenge that two individuals set up to resolve long-lasting arguments that they have had for years. One of them, Tom Borkovec, had been fervently holding the position that highly rigorous research, to which he had devoted most of his professional career, can and should provide guidance to clinical practice. With the same level of conviction, the other, Steve Ragusea, had been arguing that empirical knowledge, at least of the sort pursuit by academics, has little if any meaningful relevance to the work that he, and other full-time clinicians, conduct in their day-to-day practice. They agreed that the best way to settle the score, so to speak, would be to put their respective assumption to an empirical test. Specifically, they committed to work together to determine whether or not it is possible to bring clinicians and researchers to collaboratively design and conduct research—studies that would be both clinically relevant and scientifically rigorous. With the help of the Pennsylvania Psychological Association, they sent an invitation to all licensed psychologists in the state to meet in the local community near the Pennsylvania State University. This broad invitation was motivated by a desire to get as much input as possible, as well as to create the conditions for recruiting a large sample size of both therapists and clients. The meeting led to the creation of three committees (core assessment, study protocol, and ethics), as well as a general consensus about the type of empirical investigations that could and should be conducted. To be feasible, yet at least

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minimally meaningful at both clinical and scientific levels, such research would first have to take place within natural practice but without interfering with clinical work. It would also have to be based on psychometrically solid instruments that could (i) be easily implemented in a standardized way, and (ii) collect clinically useful information.

Psychotherapy outcome in routine practice. In the first study conducted within the PPA-PRN, more than 50 psychologists committed to implement the same outcome measure as part of their respective clinical routine (Borkovec, Echmendia, Ragusea, & Ruiz, 2001). Also included in the study protocol were a number of demographic questions, as well as a measure of interpersonal problems that could be associated with positive or negative outcome. This study provided clear support to a key aspect of the challenge that Borkovec and Ragusea set for themselves: feasibility. It demonstrated that it is possible for clinicians and researchers to fully collaborate in the delineation of mutually agreed upon research questions, as well as to share expertise and resources toward the development and implementation of a study protocol that can minimally meet the criteria mentioned above. The study has also provided interesting information, not only revealing significant pre- and post-treatment change but also uncovering interesting correlations between different aspects of therapy and its participants, such as a negative correlation between number of clients on therapist caseloads and outcome.

Ultimately, however, this first study did not settle the Borkovec and Ragusea argument, as it failed to provide a satisfactory answer to the question of whether research can truly be clinically informative, as well as scientifically rigorous. In the eyes of several members of the PPA-PRN, including the second author of this paper, a study would optimally reach this lofty goal by investigating specific questions of immediate clinical interest and concern (as they emerge in the interaction with each and all clients), uncover phenomena or test hypothesis that are unknown or not fully settled in the field of practice, lead to actionable findings, and be designed and conducted in ways that reach high levels of both external and internal validity. Clinically, such an optimal study would have to do more than confirm what clinicians know (e.g., that therapy works). Empirically, this study would not only have to be to seamlessly integrated in clinical routine of many clinicians (as a way to maximize external validity), but it would also address the ultimate scientific pursuit: the investigation of cause and effect relationships. To optimally contribute to such pursuit, again in the opinion of the second author and some of his PRN partners, a study should go beyond measuring whether or not change took place (from pre- to post-treatment) and identifying predictors of change (what correlates with improvement), and instead should be aimed at determining what causes change (by manipulating one variable and controlling, with the highest possible internal validity, other factors that could be responsible of change observed). As argued by Borkovec and Castonguay (1998), one of the ways that a PRN or any other practice-oriented studies could achieve this goal is by using experimental methods that maximize internal validity and yet remain feasible, such as the use of additive, dismantling, or parametric designs (as mentioned above, another strategy aimed at the same goal is the use of single case experimental designs).

One of the conclusions that core members of our PRN derived from the limitations of this first study was that a complex protocol investigating more precise and useful questions would be best designed in an environment that could allow frequent and regular contact between all practitioners and researchers involved, as well as high level of control over the implementation and monitoring of the research procedures. Guided by this conclusion, it was decided that the context for the second phase of our PRN would shift from a large milieu (the state of Pennsylvania), to a much smaller community: State College, where both Borkovec and Ragusea have been working and arguing for years.

Helpful and hindering events in psychotherapy. The first meeting of the second phase of the PPA-PRN focused on one specific and straightforward question: What do we want to study together? The group of therapists and researchers became quickly enthused about the interest voiced by one member: "What I really would like to know is what my clients found helpful, or not helpful, during a session we just conducted." Consistent with several of the characteristics of an optimal study mentioned above, all members felt that this type of feedback would provide them with information not always easy or possible to get from the client otherwise, might reveal issues that they were not aware of and/or a perspective on the therapy that was different from theirs, and might provide them with opportunities to appropriately address the need of their client. In other words, getting such feedback from their client might help them better understand the process change with each of their clients, as it immediately and progressively happens or fails to happen. In turn, this might help them to improve the impact of their therapeutic interventions.

Having decided what to study, our group then met regularly for 12 months to decide how to study it in

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ways that would maximize both the external and internal validity of our search. As described in Castonguay, Boswell et al. (2010b), we first decided to adopt, as part of our clinical routine, the Treatment Outcome Package (TOP; Kraus, Jordan, Seligman, 2005) to measure, at pre- and post-treatment, several dimensions of symptoms and functioning (such as depression, panic, suicide, substance abuse, quality of life, work functioning; for a detailed description of the TOP, see Boswell, Kraus, Miller, & Lambert, 2014). We also decided to address our main question by using the Helpful Aspects of Therapy (HAT; Llewelyn, 1988). This instrument not only directly assesses what we wanted to know but had been used in a previous study conducted in naturalistic setting (Llewelyn, 1988). This meant that our study, while designed with clinicians, was in part aiming at addressing one of the most important goals of science: replication. Our study was also aimed at extending the previous investigation by directly pursuing the ultimate scientific goal mentioned above: examining cause–effect relationship. In order to do so, we decided to use an additive design where all new clients (children, adolescents, adults) of each participating therapist would be asked if they want to participate in an experimental study, where they would be randomly assigned to one of the two conditions. In the experimental condition, both client and therapist would fill out the HAT at the end of every session. In the control condition, only the therapist would fill out the HAT after each session. The therapist filling out the HAT in the experimental condition would allow us to determine whether the client and therapist had the same perspective on the significant events. This would not only be important scientifically but also clinically: giving therapists opportunities to discuss with their clients, if they judge it appropriate or useful, the similarity or discrepancies between their perspectives on helpful and/or hindering events. The therapist completion of the HAT in the control condition permitted us to control for the potential beneficial impact of having the therapists giving more thought to sessions than they typically do. Thus, the use of this additive design not only allowed for relevant and actionable information to be collected during therapy but it also led to the control of variables that may interfere with internal validity. Since the two conditions were the same with the exception of one specific procedure, if a difference was to be obtained between them it could safely be inferred that the improvement was caused by the therapist receiving feedback from client during treatment. It should be mentioned that no rules, techniques, or guidelines were prescribed about what to do with the feedback. Therapists were only asked to consider the feedback before the next session (in terms of how it might help them to be most attuned to the client's need). This meant that while pertinent and actionable, the information collected during the therapy did not have to impose drastic change to clinicians work—clinicians did not have to learn new approaches, receive specialized training, or follow treatment manuals assigning specific tasks to specific helpful or hindering events. They, on their own, decided if, when, and how to modify the focus or process of treatment to better fit the needs of clients based on the clients' HAT feedback.

Clients (N = 46) agreed to participate and provided informed consent at the end of the first session of therapy (clients were not invited to participate in study if therapists judged that it would be counter-indicated for clinical reasons). Within a period of 18 months of data collection, we obtained more than 1600 helpful or hindering events, which were then coded by three students with respect to the types of events identified and their content or focus (what these events were about). Results of these process analyses (for the combined groups of adolescent and adult clients) indicated that both clients and therapists identified as particularly helpful events that reflected an increase of awareness (such as the exploration of painful events and the experience of negative feelings). Events reflecting the strengthening of the therapeutic relationship were also viewed by therapists as particularly helpful. The coding also revealed that for both therapists and clients, issues related to the therapeutic relationship were among the most frequent content referred to in the helpful events (such as the formation of a close bond). Interestingly, the therapeutic relationship was also among the most frequent content coded in the hindering events (such as the client feeling under attack and needing to withdraw). This suggests that the therapeutic relationship, in the eyes of both participants, is a powerful ingredient of therapy that can either facilitate or interfere with the process of change. We were, however, unable to answer the question of whether the provision of feedback by clients about helpful and hindering events could improve the outcome of therapy in clinical practice. Since only 31% of terminating client completed the TOP at the end of therapy, we were not able to determine whether the experimental and control groups differed in terms of therapeutic improvement.

Techniques and impact of therapy. The PPA-PRN partnership has conducted a third study. Because we are in the process of analyzing the collected data, only the goal and protocol of this investigation are briefly summarized here. Again conducted with therapists working in State College and surrounding communities, this study focused on

techniques used by therapists and their potential impact on the session and therapy. As in the second study, therapists adopted the TOP as part of their clinical routine. For up to 24 months, they assigned the TOP (before the first session and at the end of therapy) to all new individual therapy clients (18-years old or older) of their private practice. To reduce the burden of this new study, however, a maximum of four clients were recruited by each therapist at any time in the study. Also based on an additive design, clients were randomly assigned to either an experimental or a control group. In the experimental group, both client and therapist were asked to fill out, at the end of each session, a measure assessing techniques used during the session (the Multitheoretical List of Therapeutic Interventions, MULTI; McCarthy & Barber, 2009), two questions aimed at identifying techniques particularly helpful or hindering, as well as a brief questionnaire on the impact of the session (the Session Progress Scale; Kolden, 1991). None of these were filled out in the control group. The clients in both groups, however, were asked to fill out the TOP after session 7. Like in the second PPA-PRN study, clients in the experimental condition were informed that therapist would read the completed questionnaires before the next session, as a way to help them provide the best possible treatment for them. As it was also the case in the previous study, we decided not to assign any instruction about how to respond to the clients' answers on the questionnaires.

Our goal with this study is to investigate what techniques are frequently used in clinical practice, which of these are viewed as particularly helpful or unhelpful, and whether getting feedback about techniques used and the quality of the session could help improve therapy outcome in clinical practice. In designing this study, we attempt to learn from our experience by keeping the positive aspects and addressing the difficulties that we observed from our previous investigation. We investigate a specific aspect of the process of change (receiving feedback) in a way that makes the data collection immediately actionable (and thus intertwining clinical and research tasks). As an effort to address the ultimate quest of science (cause–effect relationship), we also manipulated, via an experimental design that maximizes internal validity, the process variables investigated. Furthermore, the study was designed and implemented as a full and active collaboration between clinicians and researchers. We did, however, attempt to avoid previous difficulties by making the study protocol more manageable (by limiting the recruitment of client for each clinician) and by exporting strategies from controlled research to help us improve our data collection (by having graduate students continually monitoring the expected flow of data and by providing financial incentives to clients for filling out the TOP at post-treatment). As noted in the next section, however, our attempt to learn from our previous experiences did not remove all obstacles and challenges that we faced in pursuing practice-oriented research.

The Challenges of Practice-oriented Research

Practice-oriented research poses numerous challenges from designing studies to carrying out research procedures that work within routine practice settings.

The most significant challenges to practice-oriented research arise from incompatibilities between research procedures and practitioners' workflow. High demands for clinical productivity mean that therapists face tremendous practical barriers to participating in research. Practitioners must fill each workday with as many sessions as possible. Practitioners' typical schedule leaves short windows of time between sessions to take care of professional tasks that cannot be accomplished during sessions. Any research task, such as responding to an emailed invitation to participate in research, meetings to organize research activities, or completing a research measure, competes with income-earning and patient-care activities such as returning calls, creating clinical notes, planning for the next session, and so on. Protecting time is crucial for practitioners. Unless research pays therapists for the time it takes to do research activities, participating in practice-oriented research costs therapists money. Time is also important for maintaining well-being. Some of the clinicians we have worked with reported that they at times had to choose between completing questionnaires or going to the bathroom between two consecutive sessions. Research activities that require many procedures to plan and to remember can be particularly interfering with clinical routine, especially when therapists do not have easy access to information (and/or communication with researchers) to recall details of a study protocol or to help them to deal with circumstances unforeseen by such protocol. The non-stop workflow means that therapists might literally have 5 min to give to research before being submerged for several weeks by clinical demands before resurfacing with another 5 min to devote to research. The workflow is even tighter and more unpredictable for practitioners who work with clients whose mental health problems lead to frequent crises (e.g., borderline personality disorder or substance abuse disorder).

Another example of conflicts between research procedures and clinical work is the fact that research

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tasks can sometime interfere with client needs. As noted in Castonguay, Nelson et al. (2010), some therapists in the PPA-PRN reported that explaining a study and seeking clients' consent in the first session of a treatment did, on occasion, take time away to evaluate the client difficulties and establish therapeutic rapport. Having to keep in mind details of a research protocol can also compete with the attention that therapists need to give their clients' concerns. Some therapists report being uncomfortable asking a client to fill out questionnaires at the end of a very intense session, as they fear that the client might not have been willing, or at a good emotional place, to fill them out. Some therapists in the PPA-PRN have also reported difficulties recruiting clients to participate in a study (e.g., due to concerns about confidentiality). Other clients appeared to experience completing research questionnaires as an inconvenience.

Aspects of a research protocol can also be experienced by therapists as "not being worth the trouble." For example, despite having been fully involved in the decision of using the MULTI after each session (in the experimental condition), several therapists participating in the third study of the PPA-PRN were critical of specific aspects of the instrument (e.g., too long, items not appropriately reflecting therapist ways of conducting specific type of therapy) and/or did not feel that it provided them with information that could help them adjust their interventions to better address their clients' needs. Incompatible with the ultimate goal of practice-oriented research, this instrument failed to be perceived by many therapists in this study as being immediately relevant and actionable.

In addition, research requires standardization of assessment and treatment in order to best draw conclusions from the experimental manipulation. But such standardization may at times be incompatible with what the practitioner views as clinically indicated for a specific patient. Any incompatibilities between standardization needed for research and flexibility needed for clinical care and routine workflow can take on added weight in practice-based research where the therapist's income and reputation depend on client satisfaction. Designing research with the right balance between standardization and flexibility can be quite difficult. For example, in one of the practice-oriented research studies conducted at EBPI, we carefully sought to minimize the burden and maximize clinical utility of assessment by selecting a single symptom measure, the Depression Anxiety and Stress Scales (DASS; Lovibond & Lovibond, 1996) for the study. The DASS is brief, free, and extremely useful in that it provides three clinically relevant and scales (depression, anxiety, and stress) in a single measure. However, what we found was that a significant subset of therapists in our study needed a measure of activation and improved quality of life; symptom change per se was not the primary focus of their treatment. For this group of practitioners, the DASS failed to measure what was most clinically relevant. While many of them continued to use the DASS with their patients out of obligation to their research commitments, it had become a piece of burdensome paperwork rather than a useful clinical tool. Similarly, the TOP (which measures both symptomatic and non-symptomatic [including quality of life] dimensions of functioning) was not perceived as a useful assessment tool by some therapists who recruited child and adolescent clients as part of the second PPA-PRN study. Interestingly, however, one of these therapists became the most vocal supporter of the TOP during the third study, which involved only adult clients.

A final set of incompatibilities between practice-oriented research and the usual workflow in routine settings has to do with recruitment and retention of participants. First, to initiate clinical research requires that all research procedures be reviewed to ensure they are ethical and protect the rights of the research participants. Researchers based in academic settings have access to internal review boards but for researchers without an academic affiliation, obtaining review of human subjects' protocols may require allying with a professional scientist willing to submit the research protocol to his or her university's institutional review board (IRB) or paying an independent review board to review the research protocol. In fact, this barrier to practice-oriented research proved to be so onerous to one of us (Koerner) that the best solution turned out to be joining a group of like-minded colleagues to form our own non-profit IRB to review practice-oriented research (Osborne, 2011). Further, therapists in practice-oriented research face obstacles to patient recruitment. Unlike a research study in an academic setting, practitioners in practice-oriented research cannot typically rapidly ramp up a caseload solely of research patients but instead must set aside patient slots from within already full practices. Patient flow in a study, therefore, may be slow because therapists have limited space in their practices for new patients. In some cases, it may be easier to recruit research participants from current patients. But this, then, introduces variability and constrains the research questions to those that can be asked in the context of already ongoing courses of therapy. Further, there is an ethical dilemma of whether or not therapists should charge patients their usual fee for treatment when that treatment is an experimental treatment or a treatment in the context of a research evaluation.

Care must be taken to help or train practitioners about how to recruit patients so that there is no chance of coercion to participate.

In summary, the obstacles to practice-oriented research are significant, and consequently, those who self-select by surmounting the barriers to participation may be different from the general population of practitioners in important ways. These potential selection biases, consequently, must be considered when designing the research to ensure that the study's results can meaningfully generalize beyond the specific sample. The best strategy we have found in our practice-oriented research designs is to accept the constraints faced by practitioners and design research procedures that map as directly onto clinical care already provided as possible.

Professional scientists face several additional barriers to conducting practice-oriented research. Sometimes, academic researchers can be perceived with suspicion as exploitative—the researcher determines all aspects of the study, agrees with the clinical director to take advantage of the practice setting's volume of patients, and then the therapist and client participants are roped into additional work that may not align with their goals. This can be viewed as a manifestation of what has been described elsewhere as "empirical imperialism" (Castonguay, 2011), when researchers, who see very few clients, impose their views on full-time clinicians about what to study and how to study it in order to improve psychotherapy. A more useful strategy to optimize practice-oriented research is to develop a collaborative partnership that is based on the acknowledgment of and reliance on practitioners' expertise, needs, and resources. Fostering a sense of equality and mutual respect, however, requires the academic researcher to make time for conversations and coordination with practitioners who have very limited availability, which extends all aspects of the research timeline. It may be difficult for academic researchers, who are time-pressured themselves, to "walk the talk" of sharing decision-making, building consensus, and being as truly collaborative as may be optimal for successful practice-oriented research. Professional scientists may need several years to build a trusting mutually beneficial relationship with a research site or group of practitioners. Unfortunately, the slow, collaborative pace of practice-oriented research is incompatible with the pressures on academic researchers to produce rapid publishable studies. Such incompatibility has real and important implications for the successful career pathway of academicians—the first among them might be to seriously consider the risk of initiating and developing practice-oriented partnership before getting tenure. As described later in this paper, however, such partnership can lead to meaningful benefits, both professionally and personally.

Strategies for Success in Conducting Practice-oriented Research

Over the years, both authors have gained through trial and error a number of lessons about what works and does not work in practice-oriented research. Below, we offer three themes of advice for others interested in conducting practice-oriented research.

Make Everything Easy and Clinically Relevant

As previously discussed, practitioners in routine settings have minimal time to devote to research tasks. Our most successful strategy in practice-oriented research, therefore, has been to make everything about doing research as easy as possible and to prune research protocols to only the most clinically relevant elements.

Ideally, practice-oriented research would be designed such that practitioners can do any research task with no need to break away from their workflow in order to make sense of the procedure. This idea has implications with respect to the design of the study, as well as the implementation of the research protocol. At a design level, the fusion of empirical tasks with the practitioner workflow reflects the previously mentioned concepts of "whole cloth of research and practice" and "clinically syntonic" research. As stated elsewhere, the most important recommendations for future PRNs that emerged from one of the PPA-PRN study was "to conduct studies that intrinsically confound research with practice—studies for which it is impossible to fully distinguish whether the nature of the questions investigated, tasks implemented, or the data collected are empirical or clinical" (Castonguay, Nelson et al., 2010, p. 352).

At the implementation level, our experience suggests that the likelihood of successful practice-oriented research will increase when research questions are smaller in scope, that the protocol requires minimum time for the clinicians, the measures are useful and not too complex, and when strategies are in place to help the clinicians learn, remember, and recall the procedures. The implementation of a research protocol can also be facilitated by the availability of pragmatic support, including help from administrative assistants and students, group meetings and opportunities for consultations (among clinicians and with researchers), as well as the availability of funds. Incentives such as obtaining continued education credits for

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participation in research meeting can also increase clinicians' motivation.

Concrete and helpful strategies to make implementation of practice-oriented research easy and clinically relevant can be found in user centered design. For example, Krug's (2006) "Don't Make Me Think" provides principles for designing information for people, like therapists, who have limited time and need to rapidly make sense of information to perform a task. Using very simple processes such as "hassle mapping" (http://www.fastcompany.com/1781300/hassle-maps-genesis-demand), the research team can walk potential study participants through all elements of the proposed research design and methods to identify each point at which following the research procedures will be a hassle or become less clinically relevant and then brainstorm together how to smooth out the procedures to better respect people's time and better conform to participants' work flow. For example, when we have used this process, in EBPI studies, therapists have spotted problems with inclusion and exclusion criteria, suggested more relevant and clinically useful measures, and suggested work around and routines that were incorporated into the research design. The hassle map allows the team to build a consensus on all aspects of the study's procedures, solving many problems before they arise.

This basic idea of making things easy and clinically relevant ("don't make me think") can be applied to improve any aspect of practice-oriented research procedures. For example, when sending an emailed invitation to participate in research, remember that the practitioner is likely viewing your email within a very tight window. The potential participant wants only the succinct information needed to decide if the study meets their or their patients' needs. An easy 1-2-3 list of bullet points will make it easier for the practitioner to decide if it works to join the study. Key to deciding to join a study is being able to rapidly assess whether participation will be a wise investment of time and in part the therapist seeks reassurance that the research team has credible and trustworthy track record. A personal invitation from the most well respected member of the research team can be helpful.

Another way we make things easy is to provide scripts and easy to follow "how to" instructions wherever we can for research tasks. At EBPI, for example, we provide scripts that have been reviewed and approved by our IRB to help therapists confidently and ethically invite patients to participate in research. We prepare IRB applications for participants whose own local IRB must approve study procedures prior to their participation in one of our studies. We provide brief modeling videos and demonstrations that can be referenced as reminders about any key research procedure. Scripts have also used in the PPA-PRN to help clinicians remember and recall research protocols. At the end of the second study, practitioners made two decisions regarding the scripts for the next one: (i) three versions should be created, varying in terms of the detailed description of each of the step involved in the study, and (ii) the instructions contained in all of the three version should be "idiot-proof" (another way of saying "don't make me think").

A number of other pragmatic lessons that emerged from the second study of the PPA-PRN also guided the preparation and implementation of the third one. For examples, substantial time was spent by clinicians and researchers to mutually organize every procedural aspects of the study that could be anticipated and planned; regular meetings were held (especially frequent in the early phase of the implementation of the study), not only to solidify the sense of community and collaboration among the team but also to identify and share strategies to deal with obstacles encountered with the research protocol.

Despite applying these helpful lessons from our previous work, the primary measure that we used in our third study failed, as we mentioned above, to be perceived as helpful by several participants. This was particularly surprising since the same instrument (the MULTI) was successfully implemented in two studies conducted in another PRN (see Castonguay et al., 2014). What we derived from this experience is that, optimally, all the participant therapists should be asked to use extensively the planned measures (process or outcome) in his/her practice before the beginning of the study. Some participants (researchers and therapists) might be too optimistic about the value and applicability of an instrument and others might be overly skeptic about the use of the same measure (or any instrument). In any case, it is probably safe to assume that no degree of anticipation and preparation will likely replace a direct exposure to the problems and benefits that might results from the use of any scale in day-to-day practice.

Other pragmatic lessons that we successfully implemented in our third study had to do with external support. Whenever possible, tasks were handled by administrative assistants in private practice to help integrated aspects of the research within clinical routine. A team of research assistants (graduate and undergraduate students) was also built and supervised to systematically and continuously collect, enter, and monitor data from all therapists participants, as well as to regularly contact therapists regarding expected, missing, and problematic data

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(or procedural problems) for each of their recruited clients. Efforts were also made to have advanced graduate students and as well the primary researcher to be easily reachable (via phone and email) to quickly provide information or problem-solving recommendations to participating therapists.

Extra support for busy practitioners must be planned when the research procedures deviate from usual workflow. For example, in one of the EBPI studies that required therapists to keep a self-monitoring diary, we provided multiple formats for data entry, from an online electronic format, to using an excel spreadsheet, to calling and leaving a dictated phone message of the data that one of the research staff could then transfer to the appropriate form. Reminders when therapists were late in sending in their self-monitoring forms were always friendly and completely understanding of how difficult it can be to squeeze the research task into a busy day. In studies that have required therapists to record their therapy sessions, the research team provided the audio recorder, and detailed instructions and technical help as therapists learned to record and upload mpg files to a secure file-sharing site. For practice-oriented research to work requires careful design of research procedures to make them as seamlessly part of routine care as possible or provision of the extra support to reduce the hassle involved with research tasks.

While efforts can be made to help therapists implement a research protocol, our experience also suggest that therapists themselves can and will developed a number of strategies during the study to meet its challenges. In the PPA-PRN, for example, therapists reported the useful role of practice, procedures to remember protocol details, as well as the adoption the mindset of "research champion." As noted in Castonguay, Nelson et al. (2010):

> Some psychotherapists spoke about overcoming obstacles through their attitudes toward the project, such as trusting their own judgment to handle unforeseen situations when they felt unsure … keeping the goal of the project in mind to stay motivated even when they felt frustrated … and thinking of obstacles as challenges and as providing intellectual stimulation (p. 351)

Build Infrastructure

To sustain practice-oriented research, one needs to establish an infrastructure. By infrastructure we mean everything needed to support a research study from the personnel, facilities, and equipment or tools, including an ongoing funding stream to underwrite research costs. Much of the practice-oriented research we have done, in both EBPI and PPA-PRN contexts, has relied on volunteer effort. Practitioners have donated hours as research therapists. Students have also devoted tremendous amount of their time, whether as part of commitment to their graduate training lab (in the case of Penn State students), or in exchange for research experience and a letter of recommendation (in case of students from local universities close to EBPI).

In addition to volunteer efforts, external funding can make a big difference. In the third study of the PPA-PRN, for example, we were able to secure funding from the Pennsylvania Psychological Association and the Committee for the Advancement of Professional Practice of the American Psychological Association to better address one of the major problems we encountered in conducting our second investigation: the low rate of completion of the post-treatment outcome measure. By providing financial incentives to clients ($50 if they return the TOP within 1 week after the end of their treatment; $30 after that), the rate of completion approximately doubled. However, securing external funding is extremely difficult. At EBIP, investigators have donated money earned from non-research activities (e.g., income earned from providing training, consultation, or clinical work) to underwrite the cost of research. Notably, self-funding of research costs has also happened in other clinical settings (see Fernández-Álvarez, Gómez, & García, 2014).

Working outside an academic setting means that practice-oriented researchers incur many additional infrastructure costs such as purchasing licenses for statistical analysis software and manuscript citation management, to the costs of obtaining an IRB review. The costs to any single practice-oriented researcher are high as that individual invests the time and money to accumulate the infrastructure needed to conduct researcher. For that reason, one of us with the help of funding from the NIMH (1 R43 MH093993-01A1) is building a technology platform, PracticeGround (www.practiceground.org), that makes it easy for practitioners to collect data on their interventions and patients' responses to interventions within their routine workflow. PracticeGround's tools are intended to be used to streamline and automate practice-oriented research study management, from initial recruitment and consent of participants to online collection of measures.

Because the PPA-PRN is based on a collaborative relationship with an academic setting, few of its infrastructural costs are a burden on the clinicians in PPA-PRN. Resources and equipment link to the lab of Penn State researchers have been used to covered several needs of the research. In addition, the members of the PPA-PRN have benefited from a

collaboration that was established with David Kraus, the president of the company processing the TOP (Outcome Referrals). Outcome Referrals has donated and processed the TOP for free for the last two studies, including for all the clients seen by the participating clinicians during the entire period of data collection (24 months) of the third study. The technological platform of Outcome Referrals allows for a quick and user-friendly collection (via paper/fax-based systems, online systems and handheld devises), processing, and reporting of the TOP, both at the local (for each therapist) as well as the PRN levels. In addition to providing a crucial component of our research initiative, the TOP has offered several clinical benefits for our practitioners, such as the quick (via web or fax) delivery of benchmarked outcome feedback, user-friendly depiction of current and all past assessment on the 12 TOP dimensions, and the link to empirically based guidelines for treatment of each of the measured dimensions (see Youn, Kraus, & Castonguay [2012] for description of research and clinical quality of the TOP). As described in the next section, the next step foreseen for the PPA-PRN involves the collaboration with Outcome Referrals (and the use of the TOP) in the establishment of a large clinicians-researchers infrastructure across the USA.

Move toward Community Participatory Research

Our final piece of advice for those interested in conducting practice-oriented research is to move toward a community participatory research model (Minkler & Wallerstein, 2010); Wells, Miranda, Bruce, Alegria, & Wallerstein, 2004). By establishing long-term, mutually beneficial relationships with colleagues, relationships that are based on shared goals and values regarding the best care for clients, it becomes possible to mount meaningful small and large projects whose findings contribute to both the participants in the research as well as the field at large.

At EBPI, natural communities of practice—groups of individuals or organizations who already are invested in evaluating a specific approach or whose interests align closely with the researchers' question—are brought together in an online format that allows project participants to be geographically dispersed. This is very similar to the concept of "network of networks," which is expected to guide the next developmental step of the PPA-PRN. As described elsewhere (Castonguay, 2011), clinicians (even when they collaborate with researchers) who work within one single group are confronted with limitations in terms of perspectives, expertise, and resources. Perhaps the most constraining of such restrictions has to do with the limited sample size, in terms of clients and therapists, which can be obtained within one group of collaborators. Small samples not only restrict the generalization of findings but may also preclude the conduct of analyses that are central to a project. An unfortunate example of this problem has happened with the third Phase of the PPA-PRN. With the goal of reducing the workload of clinicians (which, as described above, was a lesson learned from our second study), we decided that rather than inviting all new clients to participate, therapist would never enroll more than four of their clients in the research protocol. Even though 10 therapists were engaged for up to 24 months of data collection (and even though we substantially increased our rate of post-treatment TOP collection via financial incentives), we were not able to recruit a sufficiently large number of clients to provide a statistically fair comparison of the two groups in terms of outcome—and thus not able to answer our question of whether receiving feedback from clients in terms of technique used and session impact could improve therapy effectiveness.

From this unfortunate situation, we then concluded that a strategy for the growth of PRN and practice-oriented research in general might be to "work locally and collaborate globally" (Castonguay et al., 2013). The participatory research communities that EBPI and the PPA-PRN are developing foster the connections among individuals and groups within a large infrastructure. Research ideas and protocols developed by one group can be offered to participants within the entire infrastructure to join in the design and/or implementation of their research ideas. Practitioners self-select based on their own interests how to invest time and energy by developing a research protocol or by participating in studies developed by other groups in the infrastructure.

This strategy combines advantages of working in both small and large groups. For example, with the first study of the PPA-PRN, working with a large group of therapists allowed the recruitment of a large sample of participants (clinicians and clients). However, in the following two studies, working within a small group of therapists in the same community permitted more frequent meetings, and thus better conditions to design internally and externally valid study, develop a research protocol covering a multitude of procedural details, as well as to get and give much needed support and advice about the implementation of the protocol. Similarly, at EBPI, the details of a research protocol are vetted first with small groups of geographically dispersed therapists in pilot projects, and then offered for open enrollment to the wider network once the kinks are smoothed

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out. Small groups can more agilely develop rigorous, feasible protocols while large groups enable the research to reach sufficiently large sample size.

By combining infrastructure and a participatory community research orientation, we believe that large-scale clinically meaningful research can become part of the practitioners' routine. The next step planned for the PPA-PRN is to simultaneously design a study and create (with the collaboration of David Kraus and Outcome Referrals) an infrastructure of private practice practitioners using the TOP as part of their clinical routine. Once the protocol for our study will be complete, clinicians, irrespective of their geographical location, will be invited to consider joining the research study. Hopefully, therapists working within other sites (or local PRN) will also generate ideas and/or develop research protocols and then invite therapists (including, of course, those who are part of the PPA-PRN) to join their efforts. At EBPI, practitioners, trainers, and researchers co-design pilot protocols that are rigorous and feasible, and then the project becomes available for open enrollment to others' in the network. The Practice-Ground online progress tracking tools allow practitioners to monitor clients' response to treatment in ways that are clinically meaningful yet standardized for research purposes.

Interestingly, similar types of infrastructure have begun to emerge in other naturalistic settings, such as in University counseling centers (see McAleavey, Lochart, Castonguay, Hayes, & Locke, 2014) and psychology training clinics (see Castonguay, Pincus, & McAleavey, 2014). With the same goal of fostering the engagement of a large group of clinicians in conducting and participating in research (as well as to inform and learn from research), George Taska has also created a Canadian-wide inter-disciplinary partnership called the Psychotherapy Practice Research Network (www.pprnet.ca).

Benefits of Practice-oriented Research

While conducting research in private practice comes with challenges, it also brings a number of benefits. Such benefits can, and one might say should, be harvested by the various stakeholders of clinical practice research—clinicians, therapists, students, and, of course, clients.

At a general level, practice-oriented research can be very meaningful for both researchers and clinicians (be they professionals or students), as it provides them with opportunities to work toward the integration of science and practice and, in doing so, be involved in the generation of clinically useful knowledge. Clinicians who have been actively involved in the design of a study have valued the learning (e.g., in terms of research methodology), as well as the sense of professional validation they received by being engaged in a collaborative investigation of things they do in therapy. In the PPA-PRN, some therapists appear to have gained credibility in the eyes of clients by informing them of their participation in research. Further, such meaningful experience has been shared by some clients who have reported being proud of contributing to projects that might lead to a better understanding and effectiveness of psychotherapy (Castonguay, Nelson et al., 2010).

At a more concrete level, the actual implementation of a research protocol can be beneficial to practitioners if it has the potential of leading to immediately useful information. An example of such clinically actionable information is the feedback about helpful and hindering events that therapist obtained from clients at the end of each session during the second PPA-PRN study. Without imposing any drastic change in the therapist practice (e.g., retraining in a new theoretical orientation), this type of feedback may have offered opportunities for therapists to be more attuned to their clients' needs, thus seamlessly confounding research tasks and clinical goals. Similarly, at EBPI training studies support practitioners as they learn to use evidence-based treatment procedures and because clients' process and session-by-session outcomes are tracked, practitioners can see immediately the clinical impact of the new interventions.

The implementation of research in clinical routine can also be clinically beneficial to clients. Asked to identify helpful and hindering events, for example, appeared to have given clients a chance to take a distance from, and process what took place during session. For some clients, writing down significant events seemed to make it easier for them to provide honest feedback to their therapist, as compared to verbally expressing their experience during the session. Within the context of the same study, the use of the TOP was also beneficial—as it allows for some clients (and therapists) to become more aware of their improvement, and thus more appreciative of their work. At EBPI, we have found that the training research on evidence-based practices has the effect of increasing clients' access to effective treatment because many practitioners have never had an opportunity to learn or the support needed to acquire the skills of newer evidence-based therapies.

A number of other tangible benefits can be gained by clinicians out of conducting research as part of their practice. Some of these benefits may not be crucial for their professional survival but can nevertheless be highly validating and gratifying. In the

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PPA-PRN, for example, all participating therapists gained authorship on two papers that resulted from the second study. In addition, a number of these therapists were invited to present at conferences and/or publish their own paper (e.g., Hemmelstein, 2012) based on their experience as a clinician/researcher. Some therapists of the PPA-PRN have also been asked to serve on a university committee aimed at evaluating the clinical relevance and feasibility of research project conducted in another PRN initiative (see Castonguay et al., 2014). If they decide to do so, clinicians involved in research may also use their own outcome data for quality control, as well as for marketing or improved reimbursement of their services (see Adelman, Castonguay, Kraus, & Zack, 2014; Koons, O'Rourke, Carter, & Erhardt, 2013).

Above and beyond the individual benefits that can be earned from engagement in clinically relevant research, practice-oriented studies (conducted with researchers or only among clinicians) can provide clinicians with rich and gratifying experiences that are frequently associated with working groups. The participation in a common project and the communication that takes place during and between meetings (with known and new colleagues) can bring support, validation, and reinforcements, as well as intellectual and professional stimulation generated by exchanges of ideas and experiences. As described by one of the full-time practitioners in the PPA-PRN (Hemmelstein, 2012), such interpersonal dividends are well worth pay-offs for the costs (in terms of time, attention, efforts, and anxiety) incurred by the participation in practice-oriented research. Referring to his own experience, he highlighted the pleasure and validation he derived from "thinking out loud" with a researcher, his students and other clinicians, as well as from witnessing the progress that was taking place as the group was building an ambitious study. Most of all, however, he emphasized the self-reinforcement of the actual PRN meetings—the laughter, learning, and affection that emerged from them. As he evocatively puts it:

> I was glad to be there not for what it would get me in the future (more knowledge regarding Practice Research, the process of therapy, my own process). I was there because it was good being there. The icing on the cake was all that knowledge I received from the study. The "cake" was in the doing. (p. 7)

The same beneficial group processes can be experienced by researchers when they are collaborating with clinicians. For both authors of this paper, it has been an absolute privilege to have the opportunity to work with smart, devoted, competent individuals interested in the same phenomena, but approaching with different perspectives and sets of expertise. For Castonguay, in addition to making him a better psychotherapy researcher (more appreciative, among other things, of the crucial emphasis that should be put on relevance and feasibility in clinical research), such opportunity also provided him with a humbling corrective experience. For many years, he had the impression that many clinicians were resistant toward research. This impression derived from signs of reluctance that he observed when he asked practitioners to complete questionnaires for his research program. Such "resistance," however, appeared to be absent when he began working collaboratively with other clinicians in designing joint research projects. Rather than trying to convince his colleagues to use questionnaires as part of their practice, he mostly had to restrain their desire to increase the number of tasks they were willing to do as part of the research protocol. As noted elsewhere, this contrasting experience led him to conclude that:

> building a strong alliance between researchers and therapists, fostering a sense of shared ownership in the project, and being sensitive to the therapists' needs are likely to ameliorate therapists' assumed resistance to research, as well as provide antidotes to any attitude of empirical imperialism. (Castonguay, Nelson et al., 2010, p. 354)

For Koerner, the inspiration and camaraderie of shared projects that make it easier for practitioners to measure process and outcome as part of routine clinical care, has transformed what could be a dreaded research process into a lively communal activity of making "warm data"—information that is digestible, trustworthy, and actionable. When practitioners, trainers, and researchers reside in the same participatory network, there is no research-practice gap.

Conclusion and Recommendations for Future Studies in Partnership with Clinicians

The goal of this paper was to share our experience in conducting research in private practice, with the hope of providing helpful guidelines for others who might be interested pursuing this type of integration of science and practice. Part of our mutual interest in writing this paper together is that we, the first and second author, have followed different roads in conducting such research, either by serving as the lead clinician in getting different groups of practitioners engaged in a large number of practice-based studies, or as an academician joining a network of researchers and clinicians designing and implementing together a smaller number of empirical projects. We initially assumed that having followed different

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pathways of partnerships with clinicians we would have learned different lessons, thus broadening what we could learn from each other and share in this paper. Interestingly, despite our distinctive approaches and the fairly different types of investigations we have engaged in (e.g., studies aimed at learning, using, and monitoring evidence-based treatments, single case experimental studies, process-outcome outcome studies), what we mostly discovered is how convergent and complementary our experience has been in terms of the obstacles (and ways to deal with them) and benefits that come with conducting research within clinical practice. Perhaps this is not surprising considering that our respective research efforts share some of the most important characteristics of practice-oriented research (Castonguay et al., 2013), such as allowing clinicians to actively participate in research within their own clinical routine (rather than following predetermined procedures derived from and applied in controlled settings); providing clinicians with actionable information (e.g., in terms of learning treatment manuals or using specific type of feedback); examining questions directly related to clinicians interests and concerns (rather than investigating hypotheses tied to the research program of an academicians); and permitting practitioners to contribute to, and shape the empirical base of knowledge about mental health practice (by publishing and presenting at conferences studies that they have designed and/or participated in; which, hopefully, will in turn be recognized in by academicians and policy-makers).

As a way to complement the specific lessons that we mentioned above, we would like to end this paper by offering more general recommendations that may foster research in clinical practice. First and perhaps more importantly, clinicians should not feel that they have to wait for researchers to approach them before conducting scientifically rigorous and clinically relevant research in their own work environment. This is a conclusion that one can safely derive from the work of the first author of this paper, as well as from the research that been described in other papers of this series (Adelman et al., 2014; Fernández-Álvarez et al., 2014). As previously described, while working with researchers has advantages (in terms of increasing complementary expertise, perspectives, and resources), it also comes with costs and challenges (see also Adelman et al., 2014). Practitioners interested in conducting research with academicians must therefore be careful in choosing who to collaborate with and the agreement that is reached in terms of how (task and process wise) to work together.

In order to maximize the opportunity for clinicians to take part in research, we would also recommend that different types of engagement be offered. While the first author of this paper, as well as the clinicians involved in the PPA-PRN have been contributing to all aspects of the studies they joined in (design, implementation, analyses, and dissemination), other clinicians might decide, based on their own interest and available time, to participate only in data collection. From our standpoint, if this data collection can be integrated in their clinical routine, address some concerns of interest, and provide knowledge that can improve therapy, such participation is a great way to contribute to the advance of knowledge and the actualization of the scientific-practitioner model.

Although research in clinical practice (as any type of practice-oriented research) can and should contribute to building a robust empirical knowledge about psychotherapy, it should also be recognized that they are limitations facing this type (like any type) of research (Castonguay et al., 2013). For example, observer based and blind assessment of psychopathology (before, during, and after therapy) is not fitting, ethically and pragmatically, with the conduct of therapy within private practice. Moreover, fidelity assessments of therapist's ability to carry out a particular type of treatment or a specific set of therapeutic procedures does not always map well to therapists' workflow. While therapist (and client) reports of interventions have been used in one of the studies in the PPA-PRN mentioned above (as well as in other practice-oriented settings, see Castonguay et al., 2014), observer coding of psychotherapy sessions would be a more optimal way to verify, for instance, that a particular form of therapy was delivered as intended (Castonguay et al., 2013). Such fidelity coding is an expensive and time-consuming step within well-funded clinical trials research. Translating this research procedure to low-budget practice-oriented research involves all manner of extra hassle from creating procedures in one's practice to routinely consenting clients to recording, to figuring out how to use a video recorder and how to upload video, to overcoming one's own reticence to have work reviewed. Even highly motivated therapists may take weeks to solve the technical glitches of recording sessions given their brief windows of availability for research tasks. At EBPI, we have begun incorporating some elements of fidelity assessment into training studies so that therapists can self-assess and solicit peer assessments, but it remains to be seen how such efforts can be made most feasible and when the effort is worth the costs.

One way of considering these limitations is to recognize that the benefits of external validity in practice-oriented research can come with costs of internal validity. On the other hand, as illustrated in

some of the studies described above, some features of internal validity that one might assume to be found only in controlled settings can be implemented in clinical practice. For example, procedures associated with rigorous research such as randomization of clients to treatment condition and the completion of multiple research measures at multiple time points, were adopted in studies conducted in both EBPI and PPA-PRN. Furthermore, Ann Garland and her colleagues have shown that with the necessary funding, adequate support, and an active collaboration between researchers and clinicians, videotaping and observer rating of sessions conducted in community centers is possible (see Garland & Brookman-Frazee, 2014).

To foster the growth, in terms of quantity and quality, of research in clinical practice, we would thus recommend that we, clinicians and researchers, avoid the trap of false dichotomies. It could be argued that one of the strengths of practice-oriented studies is that they tend to be high on a continuum of external validity, and that a forte of studies conducted in controlled settings is that they are built with the aim of reaching high level on a continuum of internal validity. However, it is not the case that a specific type of research, such as a randomized trial, can be done only in one particular environment, and that only one kind of research environment can provide safeguards for a specific type of validity (for flaws of internal validity of comparative outcome trials, see Borkovec & Castonguay, 1998; Castonguay, 2013). Notwithstanding the limitations of practice-oriented research, a more nuanced (and empowering) alternative to such dichotomies is that clinicians should be given the choice of how much emphasis they want to give to making their study as internally valid as possible (Castonguay in Lampropoulos et al., 2002). While increasing the internal validity of a research protocol might improve the likelihood of publishing in a high-level peer-reviewed journal, it may also add contingencies to deal with, as well as effort, time, and resources needed to implement it. Ideally, the decision of each practitioner should be a matter of cost–benefit analysis: Should I design and/or participate in a study that address all threats of validity that I can conceive, or should I sacrifice some level of scientific rigor for a more feasible and still informative project?

It may well be, however, that in conducting research in clinical practice the process is at least as important as the outcome. As noted elsewhere (Castonguay, 2013), researchers collaborating with clinicians need to remember that these colleagues do not live in the "publish or perish" world and are likely to be motivated by other incentives than the realization and publication of the best possible study. Writing on behalf of his clinical colleagues in the PPA-PRN, Hemmelstein (2012) captured one such sources of motivation: "The returns derived from the work we have done so far pertain more to learning about HOW to do this type of research than answering the questions asked in the particular study" (p. 6). Consistent with some of the therapists' view of research obstacles as a source of intellectual stimulation, this adaptive attitude should guide those willing to partner in future naturalistic investigations. Thus, as our last recommendation, we suggest practice-oriented research, perhaps more than any other type of research, should parallel therapy not only in terms of content but also in terms of process: We should always strive to improve what we do, but as clinicians and researchers (as well as for our clients), we should never lose sight of the importance of learning.

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