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ORIGINAL PAPER

The Pragmatic Case Study in Psychotherapy: A Mixed Methods Approach Informed by Psychology's Striving for Methodological Quality

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Abstract At least as far back as Plato and Aristotle, psychology began as a stepchild of philosophy. The establishment by Wilhelm Wundt in 1879 of the first formal psychological laboratory focused on studying psychophysiological phenomena was psychology's declaration of independence as a discipline. By positioning itself as the application of natural-science-based, empirical methods involving quantitative, group-based approaches to psychological topics, the discipline consolidated its independence and its societal status and clout. This paper first summarizes these developments, to highlight the causes of psychology's historical resistance to qualitative case studies, and to qualitative research generally. I then briefly review three movements that have stimulated psychology to slowly but surely embrace qualitative case study research, with the addition of complementary, quantitative data: the rise of postmodern philosophy, the related "cognitive revolution" in psychology, and the "mixed methods" model of research in the social sciences that synergistically combines qualitative and quantitative methods. The result of this embrace, in the context of psychology's established science-oriented identity, has been for psychology to add quality-of-knowledge guidelines for elevating the yield of case study knowledge. This result is illustrated by three examples: Kazdin's (J Consult Clin Psychol 49:183–192, 1981) strategies for reducing threats to the validity of conclusions from case studies; Elliott, Fischer, and Rennie's (Br J Clin Psychol 38:215–229, 1999) development of methodological standards for both quantitative and qualitative research; and my own work in developing the Pragmatic Case Study (PCS), which particularly reflects three of the recent trends in psychology: pluralism, pragmatism, and the mixed methods approach. Comparisons between organized social work's and organized psychology's approach to psychotherapy training and research is noted, with the two fields starting off in opposite directions and recently coming together.

Keywords History of psychology · Mixed methods · Pragmatism · Pluralism · Pragmatic case study · Case studies

The History of Psychology's Reluctance to Embrace Case Studies

The qualitative case study and the quantitative group study are methods for generating contrasting types of research knowledge. The qualitative case study uses words to holistically describe individuals from many points of view, including their internal subjective life, their personalities, their overtly observable behaviors, and the historical and contemporary contexts of their lives. On the other hand, quantitative group research uses numbers and statistics to describe groups of individuals on a few, selected, operationally defined variables drawn from their lives. In short, one approach involves the qualitative study of an individual person, and the other involves the quantitative study of groups of individuals on discrete variables.

Within academic psychology and mainstream psychological research, until quite recently quantitative group research was dominant in the field, and qualitative case study research was viewed as peripheral and second class,

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at best. This is in contrast, for example, to anthropology, in which the qualitative case study of an individual culture—sometimes called an ethnographic case study—has been at the heart of the discipline; and to educational research, in which qualitative research has been an "equal partner" with quantitative research for some time (Cooley 2013).[1] To understand psychology's past of marginalizing the qualitative case study, it is important to look at the history of how psychology was formed as a discipline.

Psychology as a field of study goes back at least to the Greek philosophers, like Plato and Aristotle, who included this as a topic to be systematically considered in their philosophies and helped to set the agenda as to what subsequent philosophers considered. For example, Plato proposed a "faculty" psychology, in which the soul is divided into three parts: reason, spirit, and appetite (Goldenson 1984, p. 564). And Aristotle expanded these ideas by writing the first known systematic treatise in psychology, covering such areas as.

> sensation, perception, learning, memory, emotion, imagination, and reasoning, as well as a "common sense" that integrates material from the individual senses to form such concepts as unity, time, and motion (Goldenson 1984, p. 60).

Declaration of Independence from Philosophy: Wundt's Psychological Laboratory (1879)

Most historians view the establishment by Wilhelm Wundt of the first formal psychological laboratory in Leizig in 1879 as the moment when psychology broke away from philosophy and became a separate, independent discipline (Benjamin 2007). What made the Wundt's Laboratory distinctive was not *what* it addressed, like sensation and perception, which Aristotle had written about, but *how* these topics were studied, that is, by using methods that associated "psychology" with the objective, empirical laboratory experiments of the natural sciences rather than with the subjective, "armchair speculations" of philosophy. Specifically, Wundt's laboratory focused on psychophysiology, that is, the measurement of the relationship between the physical and the psychological worlds, such as optical illusions; reaction time to different, objectively measured physical stimuli under different physical conditions; and the "two-point threshold" for touch sensitivity in a particular area of the skin, i.e., the distance between two compass points applied to the skin at which the subject felt two different points (Benjamin 2007). Filled with brass instruments that precisely controlled the administration of physical stimuli and carefully measured sensory reactions, Wundt's Laboratory was thus strongly associated with physics. In the words of Leahey (1991), Wundt's Laboratory marks the beginning of psychology as a separate discipline

> because he wedded physiology to philosophy and made the resulting offspring independent. He brought the empirical methods of physiology to the questions of philosophy and also created a new identifiable role—that of psychologist, separate from the roles of philosopher, physiologist, or physician (p. 182).

Formalizing the Experimental Method: Edward Titchner's Introspectionist Psychological Laboratory (1895)

One of the next big events in the development of psychology was the establishment of Edward Titchener's laboratory at Cornell in 1895. Titchener was interested in finding the structure of the underlying elements of consciousness that he saw—much like the British empiricist philosopher David Hume over 225 years before him—as the sensations of light, sound, touch, smell, and taste. The difference between Hume and Tichener is that Titchener set up a laboratory for systematically and experimentally instructing subjects to introspectively report their conscious experiences rather than Hume's approach, which was to intellectually reflect on such experience. Titchener identified not with the tradition of philosophy, as did Hume, but with the physical sciences, specifically by seeking to create for psychology a "periodic table" like the one in chemistry (Benjamin 2007, p. 80).

In line with the discipline of psychology's goal of aligning itself with the natural sciences, Titchener became known for his formalization of experimental method, publishing four volumes titled *Experimental Psychology: A Manual of Laboratory Practice.* These described elaborately controlled procedures for how his experimental subjects were to introspect and "objectively" describe their mental contents.

U.S. Psychology Not Impressed with the "Unscientific" Work of Sigmund Freud (1909)

When Sigmund Freud was invited by the psychologist G. Stanley Hall to speak in the United States in 1909, Freud's talks were accompanied with much fanfare and

[1] Psychology's low participation in qualitative research is reflected in the second edition of one of the "bibles" of qualitative research, Denzin and Lincoln's (2000) *Handbook of Qualitative Research*. In this edited volume, only 12 % of the authors are psychologists, compared with 42 % in anthropology and sociology, and 27 % in applied social science disciplines like education and communication (Fishman 2003a, p. 415).

the attendance of many prominent psychologists, including Titchener. However, the dominance of experimentalism and the growing interest in leaning theory and behaviorism in the conditioning work of researchers like Thorndike (1905) and Pavlov (1927) led to a general rejection of Freud's theories and his case study method as unscientific.

> Here was a theory of mind which postulated that the important processes in mental functioning were wholly unobservable and could only be discovered via methods that probed the unconscious, such as the interpretation of latent dream content. So psychology was not about the study of consciousness but about unconsciousness! (Benjamin 2007, pp. 125–126).

J.B. Watson's Behavioral Manifesto (1913)

In spite of Titchener's advocacy of the scientific experimental method, many in the field saw the results of his experiments as too mired in the subjectivity of the consciousness that Titchener was studying. To make psychology even more rigorously objective and scientific like the physical sciences, J.B. Watson rejected the content of Titchener's work and created his famous Behaviorist Manifesto, contained in his 1913 publication, "Psychology as the Behaviorist Views It." The first paragraph concisely described Watson's behaviorist position:

> Psychology as the behaviorist views it is a purely objective experimental branch of natural science. Its theoretical goal is the prediction and control of behavior. Introspection forms no essential part of its methods, nor is the scientific value of its data dependent upon the readiness with which they lend themselves to interpretation in terms of consciousness. The behaviorist, in his efforts to get a unitary scheme of animal response, recognizes no dividing line between man and brute. The behavior of man, with all of its refinement and complexity, forms only a part of the behaviorist's total scheme of investigation (1913, p. 158).

Watson and the behavioral-learning-theory psychologists who followed him were thus intent on making psychology like the "hard" sciences of physics, chemistry, and biology by wiping out the study of conscious phenomena completely. The discipline of psychology in this view would only look at the "behavior of organisms" (Skinner 1938), that is, at directly observable behaviors which are positioned in space and time. To make sure that their work was not "contaminated" by the possibility of conscious phenomena impacting their results, these behaviorists focused on studying underlying principles of behavior in animals like mice and pigeons, which they contended were the same as the principles underlying human behavior.

Although not a monopoly in the field, behaviorism and its focus on learning theory became dominant after Watson's Behavioral Manifesto and reached a high point during the 1950s. As two historians of the period point out:

> In mid-century American psychology, it would have cost a career to publish on mind, consciousness, volition, or even imagery (Kimble 1985, p. 317).
> Behaviorists [those advocating an exclusive focus on externally observable behavior] taught two generations of American methodologists to lower their voices when speaking of "purpose," "experience," "knowledge," "thinking," or "imagination." These words were taboo, along with the rest of the commonsense vocabulary that applies to human beings (Baars 1986, p. 17).

In fields where experimentation was not possible, such as the assessment of psychopathology and intelligence, psychologists applied their commitment to natural-science-inspired methods and emphasized rigorous quantification, measurement, and statistical analysis across large groups of individuals, called "psychometrics," again proceeding on a variable by variable basis.

The Vienna Circle (1924) and the Role of Logical Positivism

The values derived from experimentation—including a focus on behavior that can be directly and objectively observed and the search for general laws (as opposed to contextually situated, case-based knowledge like history)—were supported during the first half of the twentieth century by the predominance in Anglo-American philosophy of the view known as "logical positivism." This view was associated with a group of philosophers gathering around Moritz Schlick and Rudoph Carnap starting in 1924, who were known by the place they met, the "Vienna Circle."

These thinkers argued that all the old philosophical questions, such as the nature of reality ("metaphysics"), truth ("epistemology"), and morality were answered by the assumptions and methods of modern natural science. Stated simply, the logical positivists proposed that there are only two kinds of knowledge: the truths of logic and the "positive," value-neutral facts of sense experience (empiricism), which are determined by good experimental science in the tradition of the physical sciences. They believed that such science could discover truth that was objective and thus independent of human subjectivity, and that such truth could be expressed in general, quantifiable laws, like Newton's $f=ma$, or Einstein's $e=mc^2$. It was just such a formula that the learning theorist Clark Hull proposed

as a general law governing the behavior of all animals, sEr = sHr × D × V × K, which has been explained in commonsense terms as follows:

> The expression states that the likelihood of an animal doing something ["sEr"] depends on ["="] how habitual the act is ["sHr"]; how hungry or thirsty [or otherwise motivated] the animal is ["D"]; how intense the stimulus signaling the reward [such as food or water] is ["V"]; and how much reward may come as a consequence of the response ["K"]. Hull maintains that if the product sEr is larger than some reaction threshold "sLr", then the response will be made (Baars 1986, p. 60).

Challenges to the Dominance of Quantitative Group Research in Psychology (Late 1950s, 1960s)

It should be noted that even before the late 1950s, there were exceptions to psychology's narrow focus on behaviorism, quantification, and experimentalism. In the 1930s and 40s, Henry Murray (2008/1938) co-developed the projective Thematic Apperception Test and pioneered the intensive studies of individuals; Gordon Allport (1942) called for systematic idiographic studies; John Flanagan created a qualitative, contextually sensitive Critical Incident Technique that yielded impressive results in differentiating individuals who would become successful and unsuccessful in learning to be airplane pilots (see Wertz 2014); and Carl Rogers' (1954) famous psychotherapy case studies, like that of "Mrs. Oak," were crucial in the development of his influential theory of client-centered therapy. However, these developments had relatively little influence on the mainstream of the field, and institution-wide challenges to the ascendancy of behavioristic theorizing and quantitative group research methods in psychology only came with the emergence of three crucial movements in academia in the late 1950s and early 1960s: postmodern philosophy in the larger society, the "cognitive revolution" in psychology, and the "mixed methods" approach to research in the social sciences.

The Rise of Postmodern, Social Constructionist Philosophy

Initially fueled by the countercultural revolution of the 1960s during which traditional ideas were turned upside down (Fishman 1999), postmodern philosophy contends that reality is to a highly important degree socially constructed by communities, not independently discovered by scientists (Gergen 1973; Kuhn 1962; Winch 1958/1946); and thus that the nature of reality can change over different cultures and different historical time periods. This idea directly contradicts the logical positivist view of the world.

More specifically, in line with my brief comments above, the logical positivist view of reality is guided by the assumption that there is a single, objectively knowable psychosocial world, which is organized by quantitative, "context-free," and "value-free" laws. Moreover, this world is being progressively discovered by dispassionate social scientists through rigorous application of the experimental or quasi-experimental method, leading to an ever-growing foundation of universally valid knowledge. Postmodern epistemology embodies an opposite view in every way: psychosocial knowledge must be constructed through naturalistic observation, not experimentally discovered, and it is intrinsically subjective, perspectival, context bound, valuative, non-foundational, and reflective of multiple realities.

Postmodernism's challenge to logical positivism is not to say that reality is actually different from the logical positivist view, but rather that the logical positivist view is only one of many reasonable perspectives on the world. Thus postmodernism challenges the logical positivist belief that there is single view of the natural and social world that can be objectively discovered. Even in the area of one of the "hard" sciences, classical physics, the postmodern philosopher Richard Rorty (1982) wrote:

> Galileo and his followers discovered, and subsequent centuries have amply confirmed, that you get much better predictions by thinking of things as masses of particles blindly bumping against each other than by thinking of them as Aristotle thought of them—animistically, teleologically, and anthropomorphically. They also discovered that you get a better handle on the universe by thinking of it as infinite and cold and comfortless than by thinking of it as finite, homey, planned, and relevant to human concerns…. These [types of] discoveries are the basis of modern technological civilization. But they do not… tell us anything about… the language which nature itself uses,… [about] the Book of Nature. (p. 191).

This quote captures two of the epistemological principles embedded in postmodern philosophy that have slowly but steadily been incorporated in mainstream psychology's view of knowledge since the 1960s: (a) pluralism, which asserts that there are reasonable, "valid" alternative perspectives on the same phenomena; and (b) pragmatism, which asserts that the alternative one chooses depends on the relevance of the knowledge for a particular human purpose, not on its purported "objective" correspondence with reality.

The growth of postmodern themes in psychology is reflected in the Google Ngram Viewer graphs (https://

Fig. 1 Comparison of the frequency of the phrases "Positivism in Psychology" and "Pluralism in Psychology," between 1880 and 2008. (Source: Google Ngram Viewer [https://books.google.com/ngrams], January, 2016)

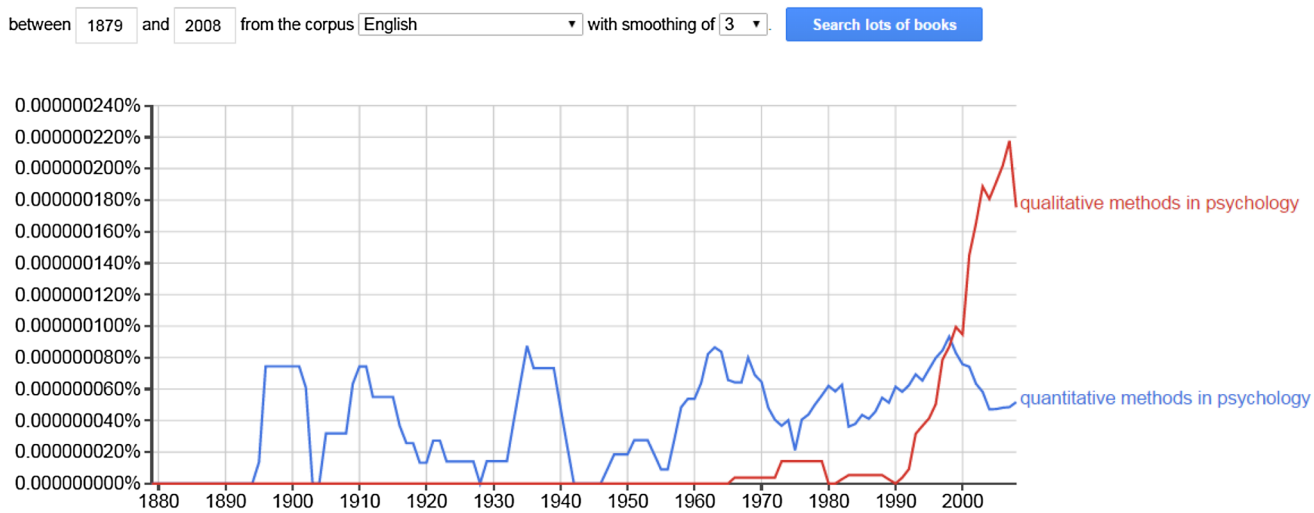

Fig. 2 Comparison of the frequency of the phrases "Quantitative Methods in Psychology" and "Qualitative Methods in Psychology," between 1880 and 2008. (Source: Google Ngram Viewer [https://books.google.com/ngrams], January, 2016)

books.google.com/ngrams) in Figs. 1 and 2, which show the sheer frequency of particular terms or phrases in published books in English between 1879 (at the founding of Wund'ts laboratory) and 2008. Figure 1 shows that over this time, there has been a growth in the frequency of the phrase "pluralism in psychology" relative to the phrase "positivism in psychology." Figure 2 shows how the phrase "quantitative methods in psychology" dominated the field until the 1990s, at which time the phrase "qualitative methods in psychology" became more and more relatively prominant, with a pluralistic mixture as of 2008.

The Cognitive Revolution

The other, related movement, partly informed by postmodern thinking, was the "cognitive revolution" that took place within psychology itself. An important event that raised questions about the dominance of behavioristic learning theory was the failure in the early 1950s of Hull's grand theory, as encapsulated in his famous above-mentioned formula ($sEr = sHr \times D \times V \times K$), to generate experimental confirmatory evidence. In the late 1950s Sigmund Koch, a well known leader in the field, conducted a wide ranging evaluation of the results of learning theory research and concluded:

> consider the hundreds of theoretical formulations, rational equations, and mathematical models of the learning process that we have accrued; the thousands of research studies. And now consider that there is still no wide agreement, even at the crassest descriptive level, on the empirical conditions under which learning takes place (Koch 1959, p. 731).

Within this atmosphere of great disappointment and discouragement in learning theory came a number of significant developments in the year of 1956, which many trace as the beginning of a cognitive revolution. This year saw ground-breaking publications in cognitive psychology by George Miller (1956) and Jerome Bruner and colleagues (Bruner et al. 1956), and two associated major conferences (at MIT and Dartmouth College) on the emerging connections within cognitive psychology research: "information theory" from engineering, and the "artificial intelligence" of computers (Baars 1986). Miller's famous paper, "The Magical Number Seven, Plus or Minus Two: Some Limits on our Capacity for Processing Information," presented a good deal of evidence on the limitations of an individual's ability to make absolute distinctions among stimuli like numbers or phonemes, focusing on central nervous system limitations *within* the person, as opposed to the pervasive behavioristic focus of looking at human action from the *outside*. In a related vein, Bruner et al. performed a cognitive, concept-formation experiment, but instead of the behavioristic approach of simply recording the subject's structured answers, Bruner and colleagues asked the subjects to introspect and qualitatively describe their thought processes and strategies in developing concept categories.

All in all, these developments in 1956 started the legitimation for the field to study cognitive and mental phenomena, including consciousness and the associated areas of subjectivity, language, and narrative structures in creating human meaning. This ongoing process of legitimation was facilitated by the larger changes in the 1960s and beyond as the above-mentioned paradigm of postmodern thought brought with it acceptance of a more pluralistic model of psychology.

It should be noted that in spite of these institutional challenges, mainstream psychology was slow in responding to the full implications of the cognitive revolution and postmodern philosophy movements, with their encouragement of methodological pluralism and qualitative research generally. For example, while the American Psychological Association (APA) was established in 1892, it took 120 years, until 2012, before the establishment of a section for qualitative research within APA (Gergen et al. 2015). (This is the "Society for Qualitative Inquiry," part of APA's Division 5, which was previously called "Evaluation, Measurement, and Statistics" and is now called "Quantitative and Qualitative Methods.") And as noted in footnote 1, psychology has lagged behind many of the other social sciences in getting "on board" with the qualitative research movement.

Hitting the Sweet Spot: Combining Quantitative and Qualitative Approaches by Adopting the Mixed Methods Model (1980s)

Viewed through the lens of the history briefly outlined above, it is clear that a commitment to group-experiment-based and quantitative methods has been a crucial way for mainstream academic psychology to identify with the "scientific" label which is so highly valued in American society. With this label, American psychology has been able to positively differentiate itself from many other competing disciplines that study human behavior and experience, but in a qualitative way, like cultural anthropology, history, investigative journalism, and literary fiction. However, as described above, the postmodern pressures towards pragmatism and pluralism and the cognitive revolution have put strains on this commitment to natural-science-based methods.

Psychology has continued to resist the move in the social sciences towards purely qualitative methods, particularly including methods that are strongly influenced by critical theory or the arts [e.g., as documented in Denzin and Lincoln (2000); see also Fishman (2003a)]. However, a growing group in psychology have sought a "sweet spot" that could capitalize on combining the discipline's rich background in quantitative methods and experimentation with the growing qualitative research movement. These psychologists have found this "sweet spot" in the "mixed methods" movement, which seeks to systematically and rigorously integrate quantitative and qualitative methods to increase the quality and validity of knowledge about a given area of human experience and behavior by "triangulating" these two perspectives in studying the area. Starting in the 1980s (e.g., Greene and McClintock 1985), the mixed methods movement is now represented by a journal (Tashakkori and Creswell 2007), a foundations book (Teddlie and Tashakkori 2009), and a handbook (Tashakkori and Teddlie 2010), along with many other books and articles.

The mixed-methods sweet spot is driven by a *both and* versus an *either or* approach to research methods. Specifically, the mixed methods model provides an epistemological rationale for combining research methods that generate what are in effect different kinds of knowledge, and offers guidelines for integrating the two kinds of methods within a single research study. As mentioned, by combining both quantitative and qualitative types of data researchers gain a more differentiated and trustworthy overall picture of the

phenomenon being studied (e.g., see Teddlie and Tashakkori 2009).

As viewed by the mixed methods researcher, the advantages of quantification is that it provides (a) stable meanings across time; (b) the ability to achieve quality control via established psychometric procedures that seek to achieve reliability among different observers; (c) the capacity to efficiently reduce large amounts of complex differences across the multiple individual cases included in group research designs; (d) the ability to obtain an objective, normative context for comparing individual clients; and (e) the capacity to create top-down deductive laws (Stiles 2009). However, these strengths are offset by significant disadvantages because in the process of condensing information, much of what can be valuable is discarded. In a complementary way, qualitative knowledge compensates for the disadvantages by (a) creating "thick" descriptions that include the detail, complexity, context, subjectivity, and the multifaceted nature of human knowledge; (b) capturing the narrative, storytelling structures of human knowledge; and (c) having the capacity to ground generalizations in particular instances, so that the generalizations are derived from the bottom up (Fishman 1999; Stiles 2009). Combining the two types of knowledge has the potential for building on the complementary strengths of each.

Examples of Psychology's Broader Contributions Within a Mixed Methods Paradigm

Mixed methods has offered the opportunity for psychology to contribute to social science knowledge by extending its traditional focus on and expertise in methodological rigor when working with quantitative data to a parallel focus on methodological rigor when working with qualitative data. In this way, psychology has reinforced one of the epistemological foundations of its historical identity, a focus on method in knowledge creation. Below are two examples of psychologists' "value added" contribution to improving the rigor of qualitative research designs.

Kazdin's Guidelines for Reducing "Threats to Validity" in Case Study Research

Assume the case study of a therapy episode with a pre-measure and a post-measure of mental health status involving a clinical rating by the therapist. The measures show an improvement over the course of therapy, leading the therapist to conclude that the therapy was successful. Kazdin (1981) points to a number of threats to the validity of this conclusion. The first two threats are history and maturation, that is, the client might have improved based on idiosyncratic external events in the client's life or within the client, respectively. The third threat comes from the repetition of testing, that is, the repetition of the mental health rating could have been distorted by the first rating. The fourth threat is instrumentation, for example, the therapist might have changed his or her rating criteria over time. The fifth threat is statistical regression, the possibility that the therapist's first rating was idiosyncratically high (e.g., the client was unusually low in mental health status during the first measurement and reverted back to a more typical level at the second measurement). The sixth threat involves demand characteristics, the tendency for the client to behave in a way that meets the therapist's expectations.

Kazdin describes how a case study design can reduce these and other threats in many ways. For example: (a) the use of prior research to show stability of a problem over time if no interventions were initiated; (b) the use of ongoing measurement to show that the change that occurs correlates with the therapy both temporally and functionally; (c) demonstration of relatively immediate and large effects, to argue against maturation per se; (d) the use of standardized, objective measures to reduce error in measurement; (e) the use of multiple sources of data, like ratings by significant others and behavioral indicators of change both inside and outside of therapy, also reducing error in measurement; and (f) the analysis of similar cases in a multiple series to see if a particular pattern occurs more than once.

Elliott, Fischer, and Rennie's Guidelines in Publishing Qualitative Research

As another example of bringing a methodologically oriented, critically informed perspective to evaluating the validity of mixed methods research, Elliott et al. (1999) systematically reviewed a variety of different sets of quality-control guidelines for the publication of qualitative research in psychology. From these, they developed a set of 14 that were specifically designed for a mixed methods setting. The first seven refer to publishability guidelines shared by both qualitative and quantitative approaches. These include addressing the relationship of the study to relevant literature, the clarity of the research questions, methodological appropriateness, informed consent and ethical research conduct, specification of methods, tentative discussion of implications of research data and understandings, clarity of writing, and contribution to knowledge.

The second seven guidelines are either specific to qualitative research, or specify how more general scientific principles apply to qualitative research. These are:

- "Owning one's perspective," because qualitative researchers acknowledge that their own subjective perspectives cannot be fully separated out in terms of their

relationship to their subjects and to the context of their work;
- "Situating the sample," because of the role of context in defining any sample, as mentioned above;
- "Grounding in examples," e.g., case study examples, since qualitative examples in qualitative research are parallel to the numbers in a quantitative study, and analysis of these examples is parallel to the statistical analysis of numerical data in a quantitative study.
- "Providing reliability checks" on the qualitative data, such as checking with the original informants, using an outside "auditor," or using multiple readers of the qualitative data.
- "Coherence," that is, interpreting the data in a manner that achieves coherence and integration while preserving nuance and degree of complexity. The interpretation should constitute a data-based, narrative map of the underlying structure of the phenomenon being studied.
- "Accomplishing general vs. specific tasks," that is, differentiating between the goal of a general understanding of a phenomenon and basing it on an appropriate range of instances (informants or situations), and the goal of understanding a specific instance or case. In either task, the limitations of extending findings to other situations should be set forth.
- "Resonating with readers/reviewers," meaning that the material is presented in such a way that readers/reviewers (frequently including the subjects of the research themselves), taking all other guidelines into account, judge it to have represented accurately the phenomenon studied or to have clarified or expanded their appreciation and understanding of it.

Putting it all Together: The Pragmatic Case Study (PCS) in Psychotherapy

My own scholarly and research work is particularly embedded in the recent movements in psychology described above—pluralism, pragmatism, and the mixed methods model of research—and as such, illustrates possible directions these movements can take. Specifically, my work has focused on applying these intellectual frameworks in using systematic cases studies—what I call "Pragmatic Case Studies" (PCSs)—to identify and improve best practice in the conduct of applied psychology (Fishman 1999). In line with mainstream psychology's historical focus on method and as described below, a PCS is designed in a systematic and rigorous manner so that it constitutes formal research.

I have illustrated the PCS by pilot-testing it in the area of educational psychology (Fishman 1999, Chapter 9), forensic psychology (Fishman 2003b), and in the area of community and organizational psychology (Fishman and Neigher 2003). I have also pursued this idea in more depth in the area of psychotherapy research, through the development of the journal, *Pragmatic Case Studies in Psychotherapy* (http://pcsp.libraries.rutgers.edu). It is this latter area on which I will concentrate below.

The Structure of the PCS in Psychotherapy

My work begins with the research of the philosopher and urban planner Donald Schon (1983), who empirically studied how expert practitioners in a variety of professions (such as architecture, engineering, town planning, and psychotherapy) actually function, in line with "case-based" as opposed to "rule-based" methods. In Schon's view, best professional practice does not involve the traditional model of "technical rationality" (1983, p. 21), which views professional activity as instrumental problem solving made rigorous by the strict, unwavering application of general scientific principles and rules to the problem at hand. Rather, the most effective practitioners are highly involved in responding to the contexts in which the problems they address are embedded, a process that, in Schon's words, involves the professional having a "reflective conversation with the situation" (1983, p. 76), and which Schon calls "reflection-in-action" (1983, p. 49).

The Danish urban geographer Bent Flyvbjerg (2006) has developed a concept of "context-dependent knowledge," which is complementary to Schon's idea of reflection-in-practice. In elaborating on his concept, Flyvbjerg emphasizes the role of case studies in the process:

> Common to all experts, however, is that they operate on the basis of intimate knowledge of several thousand concrete cases in their areas of expertise. Context-dependent knowledge and experience are at the very heart of expert activity. Such knowledge and expertise also lie at the center of the case study as a research and teaching method or to put it more generally still, as a method of learning (p. 222).

The clinical psychologist Donald Peterson (1991) extended Schon's model of professional best practice to a specific model—which Peterson calls "Disciplined Inquiry" (DI)—of how applied psychology should be conducted. I have adapted the DI model to psychotherapy best practice, specifically. The DI model of psychotherapy is outlined in Fig. 3. As shown, the therapist begins by focusing on the Client and his or her presenting problems (component A). The therapist next selects a general, theoretically based Guiding Conception (component B) with accompanying previous clinical Experience and empirical Research support (component C). The therapist then conducts a comprehensive Assessment of the client (component D), including history, personality factors, living situation, symptoms

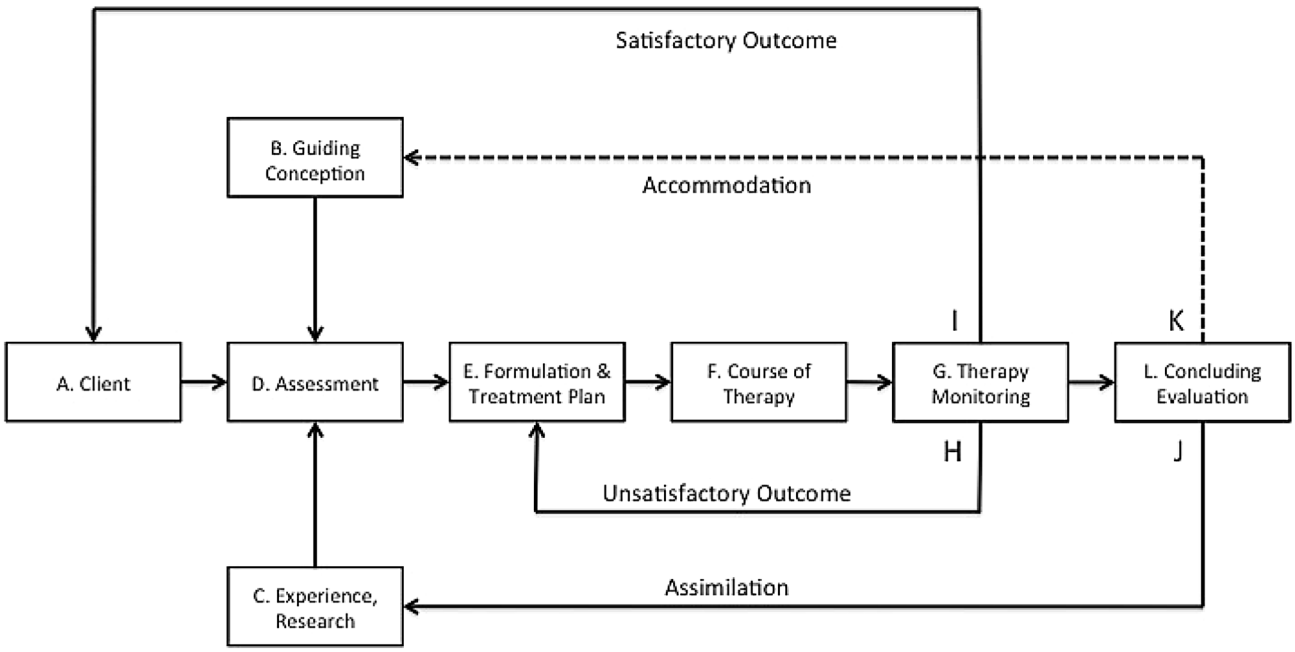

Fig. 3 Peterson's (1991) Disciplined Inquiry (DI) Model of Psychotherapy Best Practice

and other problems, diagnosis, and strengths. Applying the Guiding Conception to the Assessment data then yields an individualized Formulation and Treatment Plan (component E). This formulation and treatment plan is thus a mini-version of the Guiding Conception personalized to the specific client. The treatment plan is implemented during the Course of Therapy (component F), which is consistently subjected to Therapy Monitoring (component G), generating feedback loops. If the therapy is not proceeding well, possible changes in the formulation and treatment plan might be required (see component H); and if the case is going well and is meeting the needs of the client, arrangements for termination in consultation with the client are considered (component I). If the Therapy Monitoring results in further showing that the client has been successful and/or the therapist and client agree that further therapy will not be productive, therapy is terminated and a Concluding Evaluation (component L) is conducted. This can yield feedback for either confirming—via assimilation—the original Guiding Conception (component J), or revising that theory through accommodation (component K).

It is important to note that Peterson's DI model contains the different components identified as essential in the American Psychological Association's (2006) model of best psychotherapy practice, called Evidence-Based Practice in Psychology (EBPP). The EBPP is described as a three-legged stool consisting of the best research evidence that precedes the case (e.g., previous randomized clinical trials and systematic case studies); the client's values and preferences coming into the case; and the clinical expertise of the therapist as exhibited during the case. These domains are represented in the DI model in Fig. 3, with the Client and the Assessment sections—components A and D—reflecting the client's perspective; the Guiding Conception with previous clinical Experience and empirical Research—components B and C—reflecting the best research evidence; and the Formulation and Treatment Plan, Course of Therapy, Therapy Monitoring, Concluding Evaluation, and feedback loops—components E–K—representing the therapist's clinical expertise.

Table 1 expands upon the meaning of the components in Fig. 3 by presenting practical guidelines for conducting and writing up a pragmatic case study (from Fishman 2013). In line with the above, the guidelines reflect the goal of creating PCS knowledge that is of high methodological quality. Note that the guidelines are organized in terms of the common headings in a PCS study, as derived from the DI model outlined in Fig. 3.

1. Case Context and Method
2. The Client [A]
3. Guiding Conception [B] with Research and Clinical Experience Support [C]
4. Assessment of the Client's Problems, Goals, Strengths, and History [D]
5. Formulation & Treatment Plan [E]
6. Course of Therapy [F]
7. Therapy Monitoring and Use of Feedback Information [G, H, I]

Table 1 Practical guidelines for conducting and writing up a pragmatic case study (from Fishman 2013, reprinted by permission of the author)

Section of a pragmatic case study (PCS): see list of the 11 sub headings above	Guidelines
1–8. Overall	A. Be *systematic*, properly covering each of Sections 1–8 and their interrelationships, ensuring a common structure with other pragmatic case studies B. Clearly *differentiate* description from theory C. Remember that the *goal* of a PCS is primarily to describe and interpret what happened in this particular case as a basic unit of knowledge in the field—not primarily to illustrate or confirm a theory, strategy, or procedure
4–8. Overall	A. Provide enough clinical description of the case (differentiated from theory) so that the case *could be interpreted from a different theoretical model* than the guiding conception presented B. Ground the case in *examples* from the assessment data and the course of therapy data
1. Case context and method	A. Include your background and the *setting* of the case (research, training, community clinic, private practice, etc.) B. Provide *credibility checks* of your description and interpretation, e.g., supervisors, independent interviewers, standardized tests, third-party observers, and/or third-party coders of transcripts
2. The client	A. Offer a short *introduction* to the case B. Pay careful attention to *full disguise* of the case
3. Guiding conception with research and clinical experience support	A. Write the guiding conception so that it is *free-standing*. Since *PCSP* is a multi-theoretical journal, assume the reader doesn't necessarily know the theory itself or the jargon associated with the theory in the guiding conception B. Be *scholarly* by relating to the published literature, including the case study literature
4. Assessment of the client's problems, goals, strengths, and history	A. Be detailed by using *thick description* B. Use *multiple types of data* to reduce error of measurement
5. Formulation and treatment plan	In the formulation and treatment plan, clearly *bridge* the guiding conception with the assessment data
6. Course of therapy	A. Ground your description in *examples* B. Employ *a matrix structure*: organize your description by 2 dimensions—create phases by chronologically grouping sessions, and organize these phases by theoretical themes in the guiding conception and/or by pragmatic and strategic themes in the therapy process C. Connect actual course of therapy to the *treatment plan*
7. Therapy monitoring and use of feedback information	A. Describe how you *monitored* the therapy as it proceeded B. Describe how monitoring data was used as *feedback* and *impacted* the course of therapy
8. Concluding evaluation of the therapy's process and outcome	A. Employ *multiple types* of data for outcome determination, e.g **Therapist description **Standardized, quantitative questionnaires **Third-party interviewers **Independent informants who relate to the client outside the therapy **Client diaries (Mackrill 2011a, b) **Third-party coders of transcripts B. Ensure *rigor* in how all data are handled C. Discuss the *connections* between (a) the theory-embedded components of the case study, including ***The guiding conception and ***The case formulation &treatment plan, and (b) the descriptive-data-embedded components, including ***The assessment ***The course of therapy ***The monitoring evaluation, and ***The concluding evaluation (outcome)

Table 1 (continued)

Section of a pragmatic case study (PCS): see list of the 11 sub headings above	Guidelines
9. References	Employ the *style manual* of the American Psychological Association (2009)
10. and 11. Tables and figures	Place the tables and figures at the *end of the manuscript*

8. Concluding Evaluation of the Therapy's Process and Outcome [J, K, L]
9. References
10. Tables (optional)
11. Figures (optional)

The "Pragmatic Case Studies in Psychotherapy" Journal

I started the *Pragmatic Case Studies in Psychotherapy* journal 12 years ago (http://pcsp.libraries.rutgers.edu; Fishman 2005). The case studies in the journal are all organized in terms of the DI model, following the related subject headings listed at the bottom of Fig. 3. In light of the discussion above about the trends in contemporary clinical psychology, three aspects of the common DI structure of the case studies are noteworthy.

First, the DI framework is *pluralistic*, in that it applies to therapy based on different theories—such as cognitive-behavior therapy, psychoanalytic therapy, and client-centered therapy—as long as the theory involved is clear and coherent and based on a scholarly and research literature. Moreover, unlike some pluralistic views that have the potential for fragmenting the field, the pluralism that DI embraces helps to connect the different parts of the field to each other by providing a common framework in which the different pluralistic theories can be compared and contrasted.

Second, the DI model accommodates—in its Assessment, Course of Therapy, and Concluding Evaluation components—both the qualitative and quantitative data associated with a *mixed methods* model. Regarding quantitative data, in the PCS model, there is an emphasis on drawing from quantitative measures that are standardized on relevant populations. In this way, an individual case can be placed in normative context, so that the case can be compared with other individuals with similar types of demographics, histories, and presenting problems who receive similar or different types of therapy.

In a related vein, drawing from psychology's psychometric tradition, Jacobson and Truax (1991) developed a statistic, the Reliable Change Index, for analyzing change on a standardized quantitative measure, such as the well known Beck Depression Inventory (BDI; Beck et al. 1996), or the well known measure of overall mental health, the Outcome Questionnaire-45 (OQ-45; Lambert et al. 2011). The RCI has two components: it can assess whether the amount of change of a client on a particular measure, say before and after therapy, is *statistically* significant (i.e., more than the unreliability of the measure would suggest might happen for 95 % of subjects); and it can assess whether a client's change is *clinically* significant, that is, whether the client moved from being above the "cutting point" defining the psychopathological range of the scale to below that cutting point.

Third, the best practice flow of the DI model, as shown in Fig. 3, highlights the ultimate goal of therapy, which is to have a positive impact on the client's initial level of distress and dysfunction by the end of therapy and at follow-up. This outcome focus is reflected in the term *pragmatic* in the "Pragmatic Case Study." Following the social constructionist ideas reviewed earlier, the PCS is premised on the view that there is no single, true theory of psychotherapy, but rather that each particular theory provides a specific set of conceptual tools for helping individual clients address their presenting difficulties.

In this context, the "pragmatic truth" of a particular set of therapeutic conceptual tools for a particular individual client—as illustrated in the Rorty quote above about Galilean physics—is associated with how positive the outcome of the therapy is for that client, as judged by the values and goals of the client and the relevant special community "sponsoring" the therapy. In line with this, as mentioned, the DI framework requires the therapist to lay out the nature of these conceptual tools in the Guiding Conception section, to describe how these tools apply to the individual client in the Formulation & Treatment Plan section, to describe how the interventions based on these tools play out in the Course of Therapy section, and finally to describe the ultimate results of the therapy process in the Concluding Evaluation section.

Employing Multiple Cases to Develop Generalized Knowledge

Note that in the above paragraph, I've implied that the "pragmatic truth" about the degree to which a therapy model can facilitate a positive outcome in an individual case is only exactly true for that particular case, greatly restricting its direct generalizability. This restriction has

historically been a focus of critiques in psychology of case study knowledge. For example, consider successful psychotherapy with a 40-year-old, female panic disorder client who is also experiencing severe marital problems. The success of this client is limited in the number of case situations in the future to which it will particularly apply, because large contextual differences can occur between a target case and any other case that is randomly drawn out of a heterogeneous case pool. However, as cases in the database grow, they begin to sample a wide variety of contextually different situations. As the number of cases in the database rise, then, the probability increases that there are specific cases in the database that are particularly relevant to an ongoing target case. Moreover, as the number of cases rise, clusters of similar types of cases can be identified to derive generalizations about those types of cases.

This dependence on a very large number of cases for effective generalization is why I view the online *Pragmatic Case Studies in Psychotherapy* journal and other online repositories of peer reviewed case studies as databases for the systematic collation and cross-comparison of cases. In my review of the research literature, I have identified about 1200 systematic case studies published in peer-reviewed journals collected in four sources: the journal I edit; the journal *Clinical Case Studies* (Hersen 2002); the St. Michael's College Clinical Case Study List (Miller 2004); and the Single Case Archive (http://singlecasearchive.com).

While the systematic case studies that are presently available do hold great value for cross-case analysis, to attain the full power of the systematic case study for generalization, I propose that a model that we should aspire to are the types of searchable databases in the law, which contain tens of thousands of cases utilized in the legal profession and are available in proprietary databases like Westlaw and Lexis, and in open-access databases like the Legal Information Institute at Cornell Law School (http://www.law.cornell.edu). Such databases will support the use of a variety of case comparison methodologies.

Psychologists have proposed and pilot tested a number of such case comparison methodologies. As a first example, Fishman (1999) describes the situation of a therapist who is planning for and conducting therapy with a target case and who is looking to identify similar completed cases in a case study database for guidance in the target case (Fishman 1999). This is similar to clinical supervision, in which the expertise of the supervisor includes experience with a large number of cases in the subject area of the target case (see the quote above from Flyvbjerg [2006] on the crucial role of multiple case studies in guiding the work of an expert practitioner). The advantage of systematic case studies over the individual supervisor per se is that the case studies are documented in writing and peer reviewed before publication in the database.

A second example of comparing and contrasting multiple cases to create generalized knowledge involves a focus on analyzing commonalities across the cases with regard to a theory or process of change, by a method that has been called "qualitative meta-analysis" (Timulak 2007), "meta-synthesis" (Iwakabe and Gazzola 2009), or the "theory-building case study approach" (Stiles 2003). One example is Timulak's (2007) study of clients' qualitative reports of types of helpful experiences in therapy. Timulak drew from seven published therapy studies that included 94 different clients and 590 relevant experiences. Nine core categories and accompanying qualitative examples were identified, such as these four: "awareness/insight/self-understanding; behavioral change/problem solution; exploring feelings/emotional experiencing; [and] empowerment" (p. 311).

As another example, Stiles (2003) has elaborated a developmental theory of therapeutic change that describes a regular sequence, from 0 to 7, of stages through which a client's experience of problems pass in successful psychotherapy. Examples of such stages are: "0. Warded off/dissociated" [denial of problems]; to "2. Vague awareness/emergence [of problems];" to "4. Understanding/insight [into problems];" to "6. Resourcefulness/problem solution [in which problematic experience is used as a resource for solving problems]" (p. 11). Stiles (2003) has compared relevant psychotherapy transcript sections to the sequence of experiences that his theory predicts, and he has accumulated a good deal of qualitative evidence for his theory (Stiles 2009).

Case Studies Within Randomized Clinical Trials (RCTs): Blending the "Two Cultures" of Clinical Psychology

My most recent work (Fishman et al. in press; for background; also see Dattilio et al. 2010) builds on the case comparison models just reviewed, representing an explicit integration of what Kimball (1984) calls the two "cultures" of clinical psychology. The research involved—based on a model called, for short, "Cases Within Trials"— consists of a series of four randomized clinical trials (RCTs) of psychotherapy by different authors, which sample a variety of types of therapy, clinical disorders, and types of clients. Specifically, they include group-based cognitive-behavioral therapy for youth anxiety; group-based interpersonal therapy for adolescent depression; individual psychoanalytic therapy for adult borderline personality disorder; and individual client-centered therapy for adult depression. In each RCT project, two cases are drawn from the experimental condition, one case with a positive outcome, and one with a negative outcome; and systematic case studies of these using the DI framework in Fig. 3 are then presented, followed

by a concluding section that synthesizes the knowledge emerging from both the RCT and the case studies. (Note that each RCT project is limited to two case studies as an initial effort of "proof of concept." In fact, there are 306 experimental and control cases across the four trials, and each is a potential source for an informative systematic case study.)

I view this project as a very important step in productively integrating the two methodological traditions in clinical psychology. The RCTs connect with the tradition linking back to Wundt's laboratory, by bringing an experimental and group quantitative approach to the research; while the case studies connect to the more recent emergence of qualitative research, as represented by the above-mentioned Society for Qualitative Inquiry in Psychology within the American Psychological Association (Gergen et al. 2015). More specifically, RCT data tells us whether a particular type of therapy with a particular type of mental disorder can *on average* be more successful than some control condition, with thus a focus on *treatments*. But since any psychotherapy treatment being tested in an RCT is far from perfect in achieving results, and a number of cases in the control conditions of RCTs do improve, in a complementary way case studies can also provide evidence about what particular types of clients do and do not respond to the experimental and control conditions, as mediated by the personhood of the therapist (Hansen et al. 2015) and by the therapist's responsiveness to the client (Kramer and Stiles 2015), with thus a complementary focus on *individual persons*. In addition, the case studies can examine the therapy process to obtain relevant evidence about the theoretical mechanisms that cause therapeutic change. Moreover, the systematic case studies in the research themselves have a mixed methods design, with qualitative and quantitative data being integrated within each case.

The Cases Within Trials project I just described illustrates the continuing development of ways in which mixed methods case study research is moving into the mainstream of clinical psychology. This is a predictable extension of events within the broad time frame of 1880–2008, during which, as shown in Figs. 1 and 2, there has been a move towards parity in psychology between positivism and pluralism, and between quantitative methods and qualitative methods (with qualitative methods actually starting to surpass quantitative methods after 2000). In short, in my view it has been a long (and both frustrating and fascinating, and ultimately satisfying) historical journey from Wundt's laboratory to the mixed-methods, pragmatic case study model of research! Overall, it certainly seems that the prospects for systematic case study research within clinical psychology look very promising.

Parallels to the History of Psychotherapy Research in the Discipline of Social work

There seems a consensus that social work's formal beginning in the United States took place in the late 1800s with the endeavors of Jane Addams and Ellen Gates Starr, who together created the United States "Settlement House" movement with the establishment of Chicago's "Hull House" in 1889. This led to the creation of such houses "in poor urban areas for volunteer middle-class social workers to alleviate the poverty of their low-oncome neighbors". (http://www.socialworkdegreeguide.com/faq/what-is-the-history-of-the-social-work-profession/).

American social work thus began with a core identity of embedding itself in the complex lives and the environmental and political challenges of those in economic, social, and psychological need. In contrast, as described earlier, in the late 1800s American psychology was developing a core identify that flowed out of Wilhelm Wundt's laboratory and emphasized experimental research. It is no surprise, then, that in their early development in branching out into psychotherapy, both disciplines took contrasting routes: social work embraced a terminal masters degree in its training, with an experiential curriculum heavy on clinical case studies and on serving others, not on methodological rigor; while applied psychology embraced a doctoral (Ph.D.) terminal degree in its training, with a focus on research and the production of methodologically rigorous knowledge, embracing quantitative, group studies that were as closely tied to an experimental laboratory as possible.

Over time, however, the growth of the above-described evidence-based movement in psychotherapy led social work to embrace psychology's applied experimental research paradigm, leading today to more than 50 empirical-research-oriented Ph.D. programs in social work (http://socialwork.rutgers.edu/node/791).

It seems a reflection of the times discussed earlier in this paper that within the past 4 years, a movement in organized social work has paralleled one in organized psychology, both reflecting a swing of the pendulum back to an interest in the clinical case study, but this time with a focus on case studies that are more scholarly, systematic, and rigorous than in the past. In social work this development is reflected in the creation in 2012 of a new DSW program at the Rutgers University School of Social Work, which specializes in written, in-depth case studies, including case studies of psychotherapy (http://dsw.socialwork.rutgers.edu/about/). As described above, in psychology in the same year the American Psychological Association (APA)—for the first time since its founding in 1892—officially recognized the legitimacy of qualitative case studies and other qualitative research in the formal recognition of a section devoted to these topics within the APA.

Conclusion

In sum, the origins of modern psychology and modern social work in America can be dated back to a very similar time in the nineteenth century, to American students in Wilhelm Wundt's laboratory, which started in 1879, and to Jane Addams and Ellen Gates Starr's founding of Hull House in 1889. At their beginning, each discipline took a contrasting epistemological perspective on understanding human behavior and addressing human problems. Psychologists identified with a modernist, logical positivist view, seeking to discover basic laws of human behavior in the laboratory—frequently claiming to clarify this search by using animal subjects—from which applied interventions could be derived. On the other hand, social workers identified with the pragmatic task of immersing themselves in problematic human situations and trying to help directly and immediately. In terms of epistemology, this meant that early on, psychology eschewed case studies as too subjective, while social work eschewed the laboratory as too distant from the human suffering at hand.

Over time social work was drawn to quantitative, group-based, and experimentally-oriented research, in part because funders of psychotherapy were starting to adopt that model in their reimbursement policies. For a variety of reasons, documented in this paper, in recent years the pendulum has been swinging in the other direction, opening both psychology and social work to rediscovering the advantages of clinical case studies, but in a "new key." Specifically, a new epistemological perspective has been growing, emphasizing a "mixed methods" integration of qualitative and quantitative knowledge and a heightened focus on developing new kinds of rigorous methodological standards to incorporate into qualitative research.

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