Feature Article:

The Quest for a Science of Clinical Psychology: A Progress Report*

Richard M. McFall
Indiana University - Bloomington

The Society for a Science of Clinical Psychology (SSCP) was founded for the express purpose of promoting clinical psychology as an experimental behavioral science. It seems appropriate, therefore, to take this occasion to examine how this important quest is faring. In general, the news is both good and bad. The bad news is that, considering the field as a whole, the scientific foundations of clinical psychology seem to be eroding. The good news is that, within a select segment of the field, the scientific foundations seem to be stronger than ever. Thus, the field seems to be going in two different directions at once. It is fractionating and morphing, with the eventual outcome still uncertain. Nevertheless, in my view, there is reason to be optimistic about the long-term prospects for the success of the quest to build a science of clinical psychology. Here is my assessment:

First, the Bad News

Clinical psychology no longer makes any pretense of being a unified field. Today there are three distinct training models, each recognized as legitimate by the Committee on Accreditation (CoA); each with its own vision, philosophy, and set of goals; and each laying claim to the label "clinical psychology." The boulder model, which has been around since the 1940s and is the model adopted by most doctoral training programs, is aimed at training Ph.D. *scientist-practitioners* for careers in both research and practice (Baker & Benjamin, 2000). Thus, all graduates from boulder model programs presumably have been trained as scientists, although most actually pursue careers as practitioners and do little if any research beyond their dissertations. In sharp contrast is the model associated with the Psy.D. degree. This model, which emerged in the late 1960s, makes no claim of training research scientists; rather, it is focused explicitly on training *practitioner-scholars* exclusively for careers as practitioners (Peterson, Peterson, Abrams, & Stricker, 1997). Finally, there is the clinical science model, which actually has been around as a variant of the boulder model since the inception of the field, but became a distinct training model only in the mid-1990s. It has much in common with the boulder model, but is focused more narrowly on training Ph.D. *clinical scientists* for careers devoted primarily to translational research aimed at advancing both basic knowledge and applied methods relating to the etiology, assessment, prevention, and treatment of mental and behavioral health problems (McFall, in press).

The fact that all three models claim to represent clinical psychology, yet offer differing visions of the field, has created a climate of confusion and tension. Essentially, the proponents of these three models are vying for control over the identity and future of the field. The differences between Ph.D. and Psy.D. training, in particular, are more than mere differences in emphasis; they involve fundamental issues, include critical epistemological differences on such matters as the rules of evidence, or how to decide whether something is valid or true. Furthermore, clinical psychologists from these different perspectives no longer can agree about what constitutes good science. Advocates of the Psy.D. perspective believe that traditional empirical approaches to science, as taught in most Ph.D. programs, are flawed and have been discredited. These advocates distrust nomothetic generalizations and espouse instead a more idiographic, "local clinical scientist" approach to knowing that relies heavily on clinical judgment and experience.

To help put this internal struggle among clinical psychologists into perspective, it is useful to look at recent data on the workforce in clinical psychology (APA Research Office, 2005). Of the roughly 100,000 individuals with doctorates across all areas of psychology, 75% are employed full time, the majority (40%) either being self-employed or working in for-profit settings. Surprisingly, over 40% of the employed psychologists are working in positions not directly related to psychology.

At the dawn of clinical psychology as we know it, following World War II, there were only about 4000 Ph.D. psychologists of all types in the United States. Doctoral training in psychology soon experienced a remarkable period of growth, with the number of doctorates awarded annually nearly doubling between1970 and 2000, for instance. But

the production of Ph.D.s stabilized in the1980s, with approximately 4000 Ph.D.s awarded annually between1988 and 2001, nearly half in clinical. Significantly, however, over that same period the production of Psy.D.s was increasing by 169%! In terms of sheer numbers, science-based training, as provided by boulder model and clinical science model Ph.D. programs, began losing ground to practitioner-only Psy.D. training, with its non-research focus and non-traditional epistemology.

Meanwhile, workforce analyses (Robiner, 1991; Robiner & Crew, 2000; APA Task Force on Workforce Analysis, 2004) began to warn about a growing overproduction of doctoral level practitioners in clinical psychology, relative to the demand for such practitioners. This widening supply-demand gap, was being exacerbated by a national trend for social workers to displace doctoral level psychologists as the primary providers of mental health services. In 1991, for instance, masters level social workers were providing only 5% of all mental health services; by 1997, they were providing 56% of such services (Clay, 1998). Despite clear evidence of a growing supply-demand mismatch, and a consequent shrinkage in the job market for doctoral level clinical psychologists as service providers, Psy.D. doctoral programs have continued to train practitioners at an accelerating rate.

In general, the growth in practitioner training over the past thirty years is due to the increased number of doctoral training programs in clinical psychology, but in particular it is due to the growth in Psy.D. (non-research) training programs. According to the APA Office of Program Consultation and Accreditation (2005), of 227 doctoral program in clinical psychology accredited by the CoA, 112 were accredited for the first time since 1980—that is, *after* the demand for such training had started to decline. Psy.D. programs currently represent about 25% of the accredited clinical programs, yet they account for roughly 42% of the health-service doctorates in psychology. Thus, they are producing a disproportionate share of the doctorates. Moreover, despite the declining demand for doctoral level clinical practitioners in psychology, the number of accredited Psy.D. clinical programs has been growing at an accelerating rate. There were only four accredited Psy.D. programs in the 1970s; 14 new programs were accredited in the 1980s; another 22 were accredited in the 1990s; and 17 more were accredited between 2000 and 2005. This expansion of Psy.D. training has taken place primarily outside the traditional university setting, in "free-standing" for-profit programs. As long as there is a pool of applicants willing to pay the tuition and fees, these programs may have little incentive to limit their production of Psy.D. psychologists, even though few good job opportunities may await their graduates.

Studies comparing practitioner-oriented Psy.D. programs to research-oriented Ph.D. programs have led one of the architects of the Psy.D. model to raise serious concerns about quality control in some Psy.D. training programs (Peterson, 2003). Here are some of the worrisome data, as distilled from several sources (APA Research Office, 2005; Cherry, 2000; Maher, 1999; Norcross, Castle, Sayette, & Mayne, 2004; Peterson, 2003; Yu, Rinaldi, Templer, Colbert, Siscoe, & Van Patten, 1997): Psy.D. programs, as a group, are less selective in their admissions than Ph.D. programs, accepting a mean of 50% of their applicants, compared to an acceptance rate of 11% in Ph.D. programs. On average, the Psy.D. students have lower mean GREs and GPAs than the Ph.D. students. Psy.D. programs have larger class sizes than Ph.D. programs (means of 48 and 9, respectively). Psy.D. programs also have fewer full-time faculty than Ph.D. programs, yielding a student-faculty ratio nearly twice that of Ph.D. programs. There is a negative correlation between the quality of the faculties in Psy.D. programs and the number of doctorates they produce. Psy.D. programs provide lower levels of financial support and have higher costs than Ph.D. programs, resulting in Psy.D. students carrying much higher average debt loads than Ph.D. students. Although Psy.D. training programs are supposed to free students from the demands of research training so they can devote more time to practice activities, Cherry et al. (2000) found that scholar-practitioner students in Psy.D. programs actually gain less practical experience than Ph.D. students in either boulder model or clinical science programs. Finally, Yu et al. (1997) found that graduates from Psy.D. programs earn lower mean scores on state licensing exams than graduates from Ph.D. programs. While it is impossible to disentangle cause from effect in such data, the overall picture certainly is not flattering to Psy.D. training programs.

The growth in Psy.D. training and the associated concerns over quality control seem to have exerted a subtle, but detrimental influence on the CoA's accreditation guidelines, procedures, and decisions. This effect is understandable, given the CoA's difficult task of ensuring that all accredited training programs—especially the new, non-conventional Psy.D. programs—are providing their students with "broad and general" training in psychology. The CoA must perform this task in a way that will withstand judicial review if there are any future lawsuits. Such pressures seem to have pushed the CoA away from making crucial qualitative judgments; instead they increasingly are relying on more easily quantifiable accreditation criteria, such as standardized checklists of required courses, content areas, and hours devoted to applied training experiences. These criteria may be easier to apply and defend, but they also tend to be less relevant indices of how well individual programs are able to provide high quality doctoral training, particularly science training, that will prepare them for meaningful careers that contribute to advancing the field and improving the human condition. Paradoxically, this push toward standardized checklist criteria has been taking

place at the same time as—and perhaps in response to—clinical psychology's growing fractionation along the fault lines that separate the three training models.

The faculties at many research-oriented Ph.D. clinical programs complain that they must sacrifice good science training in order to satisfy the CoA's less meaningful, more standardized requirements. This sacrifice not only undermines high quality research training, but erodes the scientific foundations of the field. Indeed, growing discontent with the current accreditation system and with its likely impact on the field was a significant factor leading to the convening of a 2005 summit meeting on accreditation held at Snowbird, Utah, and attended by representatives from all interested groups. The Snowbird Summit produced a draft proposal for a number of major changes in the accreditation system (Schilling & Packard, 2005). However, some of the proposed changes have been criticized by many research-oriented psychologists as moving in the wrong direction and failing to promote and protect science training. Such discontent has prompted a group of research-oriented clinical training programs to develop an independent accreditation system for programs committed to training clinical psychologists as scientists. While the outcome of this new accreditation movement is uncertain, it is another reflection of the underlying tensions within the field.

Perhaps the most discouraging news is that advances in scientific knowledge and in empirically grounded methods relating to the etiology, assessment, prevention, and treatment of mental and behavioral health problems have had so little impact on the quality and availability of optimal care in the mental health system. Many of the treatments that have been shown in controlled research to be efficacious for specific disorders still are not available to most of the individuals seeking help from clinical practitioners. This fact exposes the disturbing disconnect between research and practice—a disconnect that clearly is detrimental to the public's health and well-being, but that seems resistant to remedy, despite the efforts of the National Institutes of Health and other agencies that have been funding mental health research for so many years.

Now, the Good News

From the analysis thus far, one might be tempted to conclude that the quest to build a science of clinical psychology is failing. But the news is not all bad. Despite serious problems within the broader field of clinical psychology, a subset of clinical researchers has been making solid scientific progress on a number of fronts. They have been illuminating the etiology of clinical disorders, improving the validity and utility of clinical measures and methods, developing an array of effective clinical interventions, translating basic psychological knowledge into promising solutions for applied clinical problems, building bridges to other areas of psychology and other scientific disciplines, working toward a conceptual integration across levels of analysis, and incorporating all of these advances into the training programs for the next generation of clinical scientists. To document each of these generalizations would be impossible, given the present space limitations, but examples can be found by perusing the latest research reported in any of the leading clinical research journals, such as Journal of Abnormal Psychology, Journal of Consulting and Clinical Psychology, or Psychological Science in the Public Interest.

Along with SSCP, the Academy of Psychological Clinical Science (APCS), founded in 1995, has played an important role in furthering the quest for a science of clinical psychology. Whereas SSCP's membership is comprised of individual clinical scientists, APCS's membership is comprised of university-based Ph.D. training programs in clinical and health psychology (45 currently) and research-oriented clinical internship training programs (9 currently) . APCS's mission is to advance psychological clinical science through training; research and theory; expanding resources and opportunities; application; and dissemination (see http://psychclinicalscience.org for APCS's history, mission, and membership). Among other things, APCS has taken the lead in the effort to develop an independent accreditation system for research-oriented doctoral training programs.

Unquestionably the most powerful force behind improving the scientific foundations of clinical psychology has been the advent of managed care in public health. Mental health represents less than 10% of the total health care budget in the U.S., but it is being swept along with the rest of the health care system in the managed care revolution. The changes in health care are being driven largely by marketplace economics, with its emphasis on the core concepts of market competition, accountability, and cost effectiveness. Admittedly, these underlying concepts sometimes have not been applied in the most appropriate and sensitive ways, but in principle they should be congruent with the ideals behind the quest for a science of clinical psychology. Managed care may prove to be psychological science's most powerful ally.

In a managed care system, for example, cost-effectiveness reigns. If masters level social workers show that they can provide essentially the same services as doctoral level psychologists, but at a lower cost and with comparable results, then they will prevail in this new competitive marketplace. With increased accountability, mental health practitioners will be reimbursed for services only if they can justify their treatment decisions and track their treatment outcomes. The ideal managed care system, like science, is driven by evidence. The impact of this new reality is reflected in the APA's recent adoption of a presidential task calling for psychologists to use "empirically supported

treatments"; instead, it redefines "evidence" so broadly—including a heavy emphasis on clinical judgment, which research repeatedly has shown to be of questionable validity (Garb, 2005)—that it does little to constrain the current activities of most clinical practitioners. But the fact that professional psychologists are talking about "evidence" is evidence that the contingencies of managed care are starting to influence their language, if not yet their professional practices.

Research-oriented psychologists have tended to look the other way, or to wink, when their colleagues have engaged in questionable professional activities for which there was little or no empirical support. Fortunately, under the strictures of the managed care environment, it is becoming more acceptable to challenge colleagues' activities. Bickman (1999) did this in an article titled, "Practice makes perfect and other myths about mental health services," in which he identified six commonly held beliefs among clinical psychologists that research evidence has exposed as myths. He said it is a myth to believe that effective mental health services are assured by (a) clinical experience, (b) degree program training, (c) continuing education, (d) licensing, (e) accreditation, or (f) clinical supervision. Research evidence challenging many common clinical practices and beliefs has been available for years—e.g., Meehl's (1954) classic book on clinical vs. actuarial prediction—but psychologists increasingly seem to act on their ethical obligation to let the scientific evidence guide their professional behavior. This is an encouraging, if long overdue trend, which is helping to reinforce the scientific foundations of the field.

In this spirit of critically examining cherished professional beliefs and activities, and being willing to go wherever the evidence takes us, clinical psychologists need to reevaluate the designs of both the mental health care system and doctoral training programs. Specifically, the current mental health system is *credential based*, meaning that, by law, only individuals with specific credentials—i.e., a degree, experience, a license—may provide mental health services. Once individuals have acquired these credentials, however, they are free to practice as they choose, with almost no accountability. But if a provider's degree, experience, and license do not predict treatment outcome, as Bickman's (1999) review indicates, then does it make scientific sense for the mental health system to be credential based? If the most critical determinant of treatment outcome is the choice and administration of an appropriate procedure to deal effectively with a given clinical problem, then this suggests that the mental health system probably should be *procedure based*, rather than credential based, as is the trend in medicine. After all, isn't it our primary professional obligation to ensure that clients receive the most effective procedures available for their problems, and to ensure that these procedures are delivered with the highest fidelity and at the lowest cost, even if this means that doctoral level psychologists do not deliver those procedures? Shouldn't we design the system based on the evidence, rather than designing it to serve personal or guild interests? In such a mental health care system, perhaps the most important role for doctoral level clinical psychologists would be one that exploits their unique training and skills as scientists, rather as providers of routine primary care. Such a shift in roles, in turn, would have far-reaching implications for the design of doctoral training programs. It would put the primary emphasis on ensuring that every student receives the highest possible level of science training, with all obstacles to such training being eliminated. Just imagine how these changes would contribute to making progress in the quest to build a science of clinical psychology.

In conclusion, the good news is that despite all of the current tensions in the field, some of which I've described, other powerful forces are moving the field in a positive direction. The quest remains a struggle and the eventual outcome remains uncertain, but I am happy to report that the quest is alive and well.

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