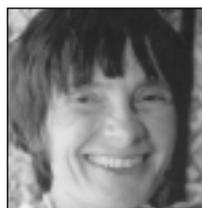


# Does the future belong to the scientist practitioner?

**C**LINICAL psychology, like other branches of psychology, has seen many changes over the past 50 years. Most obviously there have been substantial increases in numbers, but there have also been major developments in the content of training: for example in the range and type of interventions and the variety of applications and client groups. The context of training has also altered; we have seen a changing demography, most specifically an ageing population in the developed world, and the increase in the proportion of chronic rather than acute conditions in health care; and there have been significant medical advances, changes in family structure, political and social changes, and a growing emphasis on consumer perspectives.

Possibly most significantly, the underlying model of the 'scientist practitioner', which pursues a research-based practice agenda, has been questioned



**PAUL KENNEDY and SUSAN LLEWELLYN** investigate views on the integration of research and practice in clinical psychology.

by some practitioners (e.g. Pilgrim & Treacher, 1992; Smail, 1996). This article considers the continuing appropriateness of this model currently underpinning clinical psychology, and what today's psychologists think the future may hold for training in clinical psychology.

## Historical background

A brief review of the early history of the profession demonstrates how the models and priorities of the profession have evolved in response to social and professional developments (see box below). Throughout this history, the term

'scientist practitioner' has meant different things in different contexts. Clinical practice was originally derived from medical practice and involved assessment, while the activities of a scientist practitioner were often interpreted to mean testing and statistical analysis (Hall, 1993). In the UK in the 1970s, however, clinicians increasingly began to deliver therapy, in contexts very different from the academic origins of the discipline.

Throughout the 1980s and 1990s, clinical psychology continued to develop as an independent and autonomous discipline within psychology, although with continued support for the scientist-practitioner training model. Touyz (1995) raised concerns about clinical psychology losing the scientist-practitioner approach and proposed that a clinical psychologist devoid of a scientific background would become a counsellor indistinguishable from that of a social worker, psychotherapist or nurse consultant. Garfield (1991) argued that if clinical psychology did not continue as a unique research-oriented profession it would remain focused on guild issues and might be superseded by some existing or new profession and discarded by the universities.

In commenting on challenges for a new millennium, Halgin (1999) recommended a reaffirmation of the commitment to scientific training, and research on treatment effectiveness, but concluded that the lessons of real-world clinical practice have yet to fully penetrate the realm of professional training. Drabick and Goldfried (2000) claim that the current environment of healthcare practice necessitates a commitment to this model, while Nathan

## A CHRONOLOGY OF EARLY CLINICAL PSYCHOLOGY

- 1896** Witmer established the first psychological clinic in the USA, coining the term 'clinical psychologist' (Strickland, 1988).
- 1924** The American Psychological Association recommended the scientist-practitioner model of training, in which the balance of research and clinical training was maintained (Edelstein & Brasted, 1991).
- 1937** Woodworth predicted the future of clinical psychology: that numbers would 'be very great'; that it would 'not split into several disconnected specialities', but would 'retain a close association with the general body of psychologists'; and that 'in its advance throw into the discard much guesswork and half knowledge that now finds baleful application in the treatment of children, adolescents and adults' (Woodworth, 1937, p.4). He also predicted that competence would be defined in that 'the gap between the service rendered by the bogus and genuine psychologists is bound to widen in advance of our subject' (p.5).
- 1947** The Shakow Report emphasised both the scientific and professional aspects of clinical psychology training.
- 1949** The influential Boulder Conference (see Raimy, 1950) further endorsed the scientist-practitioner model and recommended professional monitoring and accreditation processes.
- 1957** Whitley Council approval was given to three training courses (the Maudsley, Tavistock and Crichton Royal).  
After the Second World War, returning veterans in North America created a major impetus for the expansion of the profession in the US to move away from the previous focus on children and families, to deliver a full range of psychological services to all age groups (Edelstein & Brasted, 1991). This was eventually paralleled in the UK.

(2000) claims that if it is not to be subsumed by psychiatry, clinical psychology must endorse and apply its science base.

Debate concerning the scientific background of the discipline has continued. For example, Pilgrim (1997) suggested that it is increasingly hard for clinical psychologists 'to sustain a credible unified persona of the "applied scientist"' (p.3), and that in practice 'trainees may don the discourse cynically or partially, or they may shed it after training' (p.5). Jones (1998) suggests that psychological training is not required to meet the majority of clients' needs, implying that the scientific identity is fraudulent. In reply Marzillier (1998) stated that we need more understanding, and hence theories, to progress, as well as the ability to think critically and use psychological knowledge. This debate has been paralleled by epistemological dispute in both academic and clinical psychology centring on the quantitative versus qualitative methodology debate (e.g. Reicher, 2000), and on disagreements over the scientific nature (or otherwise) of the whole discipline of psychology.

It is with this background, of a rapid growth in numbers in the late 20th century and the apparent variability in acceptance of the principles set out in the Boulder Conference in 1949, that we felt it was timely to review the current approach to training in the UK. Other significant developments influencing this included the debates concerning the emphasis on research demanded by the doctoral-level qualification, and professional practice issues such as health reforms and emphasis on shared care. Lastly, we were aware of the continuing debate between the applied and academic poles of the discipline of psychology itself, essentially concerning whether the applied discipline could really call itself 'scientific'.

### Predicting future trends

Professional training courses have an obligation to prepare trainees for their future tasks and responsibilities. This obviously entails providing input on current models and techniques of professional practice in the light of current priorities and evidence, but also a more difficult task: designing their input to assist trainees in meeting likely future demands. Malpas (cited in Parsloe and Wilcock, 1999) suggests that a prerequisite for development is vision: 'the ability to be sensitive to small clues and synthesise them in order to plan for as much of the future as can be predicted'. This is the task facing trainers.

ALLIED ARTISTS (COURTESY KOBAL)

### 50 years ago the US in-patient state mental hospital population was greater than 500,000

There are obviously considerable difficulties in trying to predict the future. Predicting even from present trends is hazardous because it fails to take into account significant innovations or policy changes that occur in the meantime. For example, Eisenberg (1999) pointed out that 50 years ago the US in-patient state mental hospital population was greater than 500,000; despite an increase in the US population of 70 per cent, the US in-patient state mental hospital population is now less than 100,000; predictions based on data from the 1940s would now be way out of line, because of innovations in treatment methods and changes in social policy. The impact of computing and information technology is another example: relatively limited 25 years ago and now pervasive.

Central to being able to predict the future is the question of the profession's epistemological base – whether the demands of the work situation encourage us to bypass empirical research. Recently this has been the focus of international debate, including within the American Psychological Association (Benjamin & Baker, 2000) and the Australian Psychological Society (John, 1998). To contribute to this debate in Britain, we conducted a series of studies that aimed to obtain predictions made by three samples: those responsible for training UK clinical psychologists; a comparison study of the predictions made by samples of current trainees; and professional colleagues not directly involved in training.

The method we used was the Delphi

technique (see e.g. Jones & Hunter, 1995; Linstone & Turoff, 1975), which has been used to obtain opinions on scientific information, to set goals and priorities, to clarify positions and to obtain information on planning evaluation. Within health care and education, it has been used to examine, for example, the future of schizophrenia care (Fiander & Burns, 1998), psychotherapy (Prochaska & Norcross, 1983), radiography (Card & Fielding, 1986), GP training (Boath *et al.*, 1997), and nursing (Beretta, 1996). Most recently it has been used to look at current expectations of psychology within The British Psychological Society itself (Haste *et al.*, 2001).

The Delphi methodology involves systematic collection and collation of informed judgements from a group of experts on specific issues, and consists of a series of iterations of questionnaires or group discussions.

We were interested in several main questions. What are the likely future components of training courses (academic, clinical, research)? What professional, strategic and organisational developments

## WEBLINKS

Classics in the History of Psychology:

[psychclassics.asu.edu/](http://psychclassics.asu.edu/)

BPS Division of Clinical Psychology:

[www.bps.org.uk/sub-syst/dcp/index.cfm](http://www.bps.org.uk/sub-syst/dcp/index.cfm)

American Psychological Association, Clinical Division:

[www.apa.org/divisions/div12/homepage.shtml](http://www.apa.org/divisions/div12/homepage.shtml)

**TABLE 1** Main elements and influences in training courses 2000–2010 as judged by tutors on training courses

**Highly likely**

Emphasis on evidence based approaches to treatment  
 Research methods and skills  
 Treatment evaluation, evidence based treatments, outcomes  
 Evidence-based practice  
 Professional competence/qualities  
 Critical analytic thinking skills, academic ability/rigour  
 Evidence-based choice of treatment and monitoring outcomes  
 Continue to train larger numbers of high-quality people who are seen as an asset in an increasing range of areas, teaching, research and intervention, etc.

**Possible**

Research on cultural factors, e.g. access to services, contextual issues  
 Restructuring of applied psychology along health/social care lines  
 Wider social perspective on clinical issues  
 Recognition of common cause with other professions  
 Research on causal mechanisms in psychological disorders  
 Research on identification of risk factors, social group interface issues

**Unlikely**

Basic psychology to make up for variability in first degree

are likely to have an impact on training? What model will underpin training? There were three phases to the process of gathering answers to these questions.

In Phase 1, open-ended questionnaires designed to generate topics were sent to all 26 clinical psychology courses in the UK. Participants were asked to indicate what they thought would be the most likely elements of training in the first decade of the 21st century. We obtained 29 responses, with at least 20 courses participating (i.e. some courses did not respond and some courses sent more than one response). A total of 959 predictions were made covering research, clinical, academic, organisational, professional, funding and strategic issues.

In Phase 2, a closed questionnaire, based on the Phase 1 results, was designed to assess topic importance, including 151 predictions. Participants were asked to rate their views of the likelihood of each prediction occurring during the first decade of the 21st century, on a 3-point scale: highly likely, possible or unlikely. Respondents were asked to remain

anonymous but to identify their clinical speciality, years of experience since training, and involvement in training (if trained) or year of training (if a trainee). Questionnaires were mailed to our three samples: all 168 trainers in the UK identified in the 1998 clearing house handbook for clinical psychology courses; all 60 trainees from two courses in the UK; and a random sample of 133 professional clinical psychologists not employed as trainers.

In Phase 3, collective assessment of the results of Phases 1 and 2 and a wider consideration of the issues, by two national meetings involving representative groups of approximately 100 trainers.

**What do the different groups think?**

**Trainers** Seventy-five trainers responded to Phase 2 (a 45 per cent response rate). Of the 151 predictions, 54 were judged to be highly likely (a median score of 3) by trainers. Of these components, a strong consensus (a semi-interquartile range of < 0.2) was indicated for the items in Table 1. Other components were rated with similar agreement as possible (median score of 2) or unlikely (median score of 1).

These results suggest that there is strong agreement among trainers that the evidence-based scientist-practitioner model, with critical analytic skills and research competence, will continue as a main focus of clinical training. Courses are expecting to continue to train larger numbers of professionally competent people with a portfolio of skills that includes clinical evidence-based practice, teaching and research. Responses were not influenced by period since qualification, clinical speciality, and length of time in a training capacity, or by the course at which individuals taught.

In order to assess differences between the three samples, repeated Mann–Whitney *U* tests were conducted on the data. Trainers had significantly higher rankings than regional clinical psychologists for research methodology (perhaps not surprising given the recent adoption of doctoral degree requirements).

**Trainees** Twenty-nine trainees responded (a 48 per cent response rate). Trainers and trainees gave significantly different responses for only 15 of the 151 components of the Delphi. This general agreement included an endorsement of the evidence-based scientist-practitioner components. However, trainees additionally

indicate a strong consensus that generic clinical competencies, therapeutic knowledge and communication skills will be main elements.

**Regional clinical psychologists**

Forty-two regional clinical psychologists responded (a 32 per cent response rate). Again there was a broad endorsement of the evidence-based scientist-practitioner model, and agreement, as with trainees, on the importance of therapeutic skills. Regional psychologists also strongly agreed that working in teams, creativity, cost-effectiveness and government directives (including more NHS agenda-setting themes) will be major influences. Trainees and regional clinical psychologists gave significantly different responses for only 12 of the components, reinforcing this trend. However, trainers and regional psychologists gave significantly different responses for 34 of the 151 components. Regional psychologists were significantly more likely than trainers to emphasise sociocultural, social care and diversity issues.

**Discussing the future**

During the national meetings, a number of predictions were added to the results of Phase 2. These were that in the future courses will also place emphasis on trainees' personal awareness and personal qualities, and on the core competencies: consultancy skills; qualitative research methods and the need to carry out service-related research in 'real time'; the social and cultural context of health; and multidisciplinary work.

Additional issues predicted to have an impact included developments in information technology, and university requirements (e.g. the Research Assessment Exercise). It was also predicted that responsiveness to government policy initiatives and local priorities will increase, health psychology and forensic psychology will grow, while adult mental health will decrease. Consultancy and dissemination will increase, as will consumer influence and teamwork.

On the negative side, it was predicted that existing gender and ethnic imbalances in recruitment would remain, as will financial and other pressures particularly from universities. Litigation might increase. A tendency to ignore wider social and public health issues might also remain. It was predicted that the influence of manuals, protocols and guidelines within the profession would also have an impact.

So we can see that by using a combination of methodologies and a range of respondents, there were a number of areas of agreement concerning likely future directions. The evidence-based scientist-practitioner model was widely endorsed. Personal competence in trainees was also stressed, together with communications and research skills. Integrating Phases 1, 2 and 3, a picture is obtained of a professional training that will prepare trainees to work as applied scientists who are responsive to government initiatives as well as to cultural perspectives.

There were clearly some limitations in our approach, which restrict the conclusions that can be drawn. The Delphi methodology relies on participants being able to make informed judgements in an area where there are no right answers, and where past experience – the only guide – is notoriously unhelpful in an era of rapid change. The sample used was inevitably selective; and though response rates were reasonable for postal questionnaires, the views of non-respondents cannot be taken into account. Arguably non-respondents may have had more controversial views, for example regarding the value of empirical research. Discussion with some participants revealed that some found it difficult to distinguish between what they thought would happen and what they wanted to happen. This does have implications for the results, if this was indeed a widespread confusion, in that what results show is a combination of

prediction and aspiration. Nevertheless, evidence from attribution theory suggests that expectations and predictions are influenced by a number of variables including the self-serving bias, anxiety and aspirations. This has to be acknowledged as a problem facing all research of this type.

Nonetheless, the findings are remarkably consistent, and also in tune with international developments, where there is an increasing emphasis both on the control of healthcare spending and on its evidence base. In this UK study the importance of the science base was stressed, contextualised within developments such as clinical governance, accountability and wider NHS policy directives. This may reflect awareness that the profession of clinical psychology, like other state-funded enterprises, is not entirely in control of its own future. External demands such as multi-disciplinary working, evidence-based practice and shared learning mean that the profession simultaneously has to work hard to define its unique identity, and to develop in accord with nationally (and politically) set priorities.

### The scientist-practitioner model

Our research confirms the centrality of the evidence-based scientist-practitioner model to clinical psychology in the UK, but also suggests the need to include a high degree of responsiveness to the cultural and institutional context of practice. The practice of clinical psychology in the UK

is almost synonymous with the NHS, and the almost universal trend for trainees to seek employment in the public sector after qualifying is reflected in the concern that trainees are able to meet the needs of their future employers. Arguably, trainers as a whole are somewhat less affected by this contextual demand than the other two groups, although there is no greater emphasis by them on preparing trainees for a future as therapists, for example, which might be more appropriate for a career in private practice. What this suggests is that clinical psychology in the UK will remain as a state-provided evidence-based service, heavily influenced by NHS priorities.

Despite these results, it also appears that in reality, the evidence-based scientist-practitioner model primarily reflects an attitude to practice rather than a commitment to participation in the academic community requiring submission of research papers to refereed journals. A number of writers have suggested that the majority of practitioners do not publish their work (Martin, 1989; Pilgrim & Treacher, 1992). In the UK, as elsewhere, this could suggest the possibility of the separation of practitioners and academic psychologists. This does not, however, appear to reflect a change in the underlying values placed on evidence- or science-based practice, which has received a clear endorsement in this study.

Perhaps there may be many different ways of being a scientist-practitioner; perhaps clinicians are committed to putting into practice, with modifications, the work

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published primarily by their academic colleagues. This may represent what Cotton (1998) refers to as the legitimisation of practical knowledge, and the adoption of a critical pragmatic approach to the integration of research findings into practice. It could also suggest the widespread and self-preserving acceptance by the profession, in a competitive marketplace, of the rhetoric of 'science', which has the function of promoting and protecting professional identity (cf. Nathan, 2000). Or it could reflect the need to reformulate the scientist-practitioner model, to incorporate more complex understandings of the practice of science than mere positivism (Corrie & Callahan, 2000), with perhaps more emphasis on practice-based research.

The profession's aspiration to the evidence-based scientist-practitioner model faces two fundamental difficulties given its location primarily within health care. First, it is located within medicine, which has both a different epistemological base, and more power. Second, it seeks to contribute to a service that (compared with industry) devotes only a fraction of its resources to research and development. To be scientist

practitioners, however defined, psychologists need time and resources to carry out, apply, evaluate and update the science they practise. It is not clear that the NHS has the capacity to fully support its staff in doing this, despite a rhetoric of evidence-based practice. There is also the question of the research base: divisions between the applied and practical fields within psychology may lead to the potential and regrettable inadequacy of the research base of many of our applications. This will be crucial for our future development.

### **Conclusions**

Our examination of the status of the scientist-practitioner model in clinical psychology has led us to two main conclusions.

First, most trainers, supervisors and trainees endorse the model, which advocates the integration and mutual recognition of a range of diverse approaches to scientific inquiry; although it may be that the term 'scientist' should be understood broadly along the lines suggested by Corrie and Callahan (2000), by taking into account the critical realist perspective on science.

Second, we question how in practice

the model can be delivered without more support and resources being provided for applicable research, as well as a clearer link being established between the practical and academic branches of our discipline. Most clinical psychologists probably recognise the need for this clearer link and would welcome it.

What is needed now is more effective professional, theoretical and scientific effort to develop and apply the model into the next century. To achieve this, clinicians, managers, academics and trainers will need to work together, and will also need to obtain sufficient funding and support to enable the professional and scientific advancement that clinical psychology needs.

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