On the Process and Outcome of Graduate Training in Clinical Psychology: Where Do We Want to Go, How Will We Get There, and Who Will Join Us?

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The study by Ilardi et al. (this issue) follows a tradition of evaluating clinical Ph.D. programs by the number of graduates engaged in clinical versus research activities. The separation of outcomes into these two categories reflects difficulty in the field defining meaningful integrations of science and practice. We suggest that this difficulty arises regularly in the experiences of clinical graduate students, and that the process of graduate education is ripe for systematic study. An analogy is drawn between psychotherapy research and graduate training leading to a focus on links between individual student and program differences, educational processes, and varieties of educational outcomes.

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Delegates to the Boulder and Gainesville conferences stated that the model is defined by its integrated approach to science and practice, not by job title or role of its graduates. . . . Currently more than half of all individuals with Ph.D.s enter the workforce in nonacademic positions; training solely for academic positions is outdated in nearly all sciences. (Belar, 2000, p. 249)

In reviewing studies evaluating the outcomes of graduate training in clinical psychology, we are reminded of the story of Nasrudin, who searched for his lost keys under a lamppost, not because that was where he lost them, but rather because the light shone brightly there. Nasrudin was variously regarded as simple-minded and extremely wise, and for good reason (Shah, 1972). It often makes sense, as a first step, to measure what we can when wrestling with ambiguous constructs. But a quick perusal of the literature reveals that most studies comparing outcomes of doctoral training select criteria that are convenient to measure, have a reasonable degree of face validity, and are extremely narrow in focus compared to the diversity of interests and goals possessed by graduate students, and doctoral programs in clinical psychology (Gaddy, Charlot-Swilely, Nelson, & Reich, 1995; Golden, Kuperman, & Olsen, 1980; Schippmann, Vinchur, Smalley, & Prien, 1988). For example, Ilardi et al. (this issue) provide empirical survey data on the number of current academic clinical psychologists trained by different clinical doctoral programs. The number of academics produced is then interpreted as an index of program quality. Other studies have assessed job placements of graduates (e.g., Follette & Klesges, 1988; Walfish, Moritz, & Stenmark, 1991), number of publications generated (e.g., Golden, et al., 1980), and professional development (Ducheny, Crandell, Altenhauser, Schneider, 1997).

Such measures are not without some degree of face validity. One of the goals of doctoral training in clinical psychology certainly is to produce psychologists who go on to generate and consume empirical knowledge products. The number of graduates publishing research or securing tenure are reasonable proxy variables for assessing the scientist side of the scientist-practitioner, although they don’t speak to the possibility of scientifically oriented practice (e.g., Peterson, 1995; Stricker & Terweiler, 1995). But what about the fact that the majority of graduates from clinical Ph.D. programs do not end up in academia, do not publish research articles, and do not conduct research (Follette & Klesges, 1988; Parker & Dettman, 1988; Pfeiffer, Burd, & Wright, 1992)? How should such outcomes be valued? Are there other indicators of program quality missed by an exclusive focus on number of academics produced?

It would be fairly straightforward to generate a list of outcome criteria excluded by Ilardi et al. (this issue) and others (Gaddy et al., 1995; Golden et al., 1980; Parker & Dettman, 1988). What is perhaps a more difficult task is developing a program of research that evaluates the success of graduate training with a reasonable degree of construct validity. There are two obstacles here. The first is that the goals of graduate training in clinical psychology have always been a source of debate. At the risk of greatly oversimplifying over 50 years of scholarly discourse, we simply can’t agree on what it means to be a Boulder Model clinical psychologist (Addis, 2000; Belar, 2000; McFall, 2000).
This is one of the reasons why it is easier to look for our keys under the street lamp rather than where we lost them. Academics conduct research and we value our own behavior. Why not define successful graduate training as the production of academic psychologists? The second obstacle is that we have yet to develop coherent theoretical models of graduate education that link input variables (e.g., individual student differences), process variables (e.g., educational experiences) and multiple outcomes. Such models would not only allow us to conduct comparative evaluations of different programs. They would also allow us to develop and test educational “interventions” designed to foster particular outcomes. If the rationale for studying individual differences, educational processes, and multiple outcomes sounds familiar there are good reasons why.

**THE ANALOGY BETWEEN GRADUATE TRAINING AND PSYCHOTHERAPY**

There is a natural analogy between graduate training and psychotherapy. Both are developmental processes involving specific interventions aimed at particular outcomes. Both involve intermediate goals that are often linked to ultimate outcomes. Both are affected by individual differences before and during the process. Both can be approached from a variety of different theoretical perspectives or models that link process to outcome. Finally, both can be aimed at achieving a variety of different outcomes. There are also differences between psychotherapy and graduate training. Psychotherapy tends to focus on remediation of problems while graduate training is aimed at achieving a particular set of skills. Psychotherapy tends, on average, to be much shorter in duration than graduate training, though there are exceptions! Psychotherapy also involves typically a single therapist while students in graduate training are exposed to a variety of professionals and mentors, often with different educational techniques and goals in mind. Despite these differences, the analogy can be useful in delineating the sorts of meaningful research questions one might ask about graduate training.

**Pretraining Individual Differences and Expectations**

It is a truism that not all students entering doctoral training in clinical psychology are the same. Students vary in their intellectual interests, their preferences for time spent in clinical versus research training, their expectations for the process of graduate school, their relevant knowledge of clinical psychology, and goals for their education. Just as with psychotherapy, we can expect that some individual difference variables will affect the process and outcome of graduate training. A student’s relative interest in research and clinical activities may be a good place to start. Parker and Detterman (1988) found that 71% of graduate students in clinical programs were primarily interested in clinical activities. The majority, if not all of the programs ranked by Ilardi et al. are predominantly research oriented. This is not to say that they don’t provide excellent clinical training. But we would be willing to bet that students primarily interested in becoming psychotherapists upon entering graduate school are unlikely candidates for acceptance. Most students know this and creatively “adapt” their interests in personal statements and interviews so they may appear as enthusiastic as possible about research endeavors. At the same time, we suspect that many of these students remain interested primarily in clinical work and what follows is several years of “faking” a commitment to research (Addis, 2000). The majority of such students no doubt didn’t make it into Ilardi et al.’s data set, but what happens to them? What do they learn in graduate school and how is it related to their postdoctoral activities? Are students less interested in research prior to graduate school also less interested after receiving their degree? What sorts of training experiences foster an interest in research or an interest in clinical practice? This last question begins to link individual differences to process variables in graduate training.

**GRADUATE TRAINING PROCESS RESEARCH**

Psychotherapy process researchers study change mechanisms and link developmental processes (e.g., change over time) to particular outcomes. The advantages of such an approach for studying graduate education are apparent. Quite a bit happens between the time a student enters a doctoral program in clinical psychology and, five to seven years later, receives a Ph.D. To begin with, although some students come to graduate training with previous adult life experiences in family or work environments, the majority of clinical students enter graduate school in their early to mid twenties. It should go without saying that a good deal of personal development occurs over the course of graduate training. Personal development is often considered in the context of clinical supervision, but probably less so with respect to learning to integrate research and practice. How does a budding psychologist learn to wrestle effec-
tively with the natural tension between research and clinical practice? What sorts of mentoring and formal educational experiences help students tolerate the inevitable uncertainty of trying to apply empirical science to clinical practice (Addis, 2000). According to Ducheny et al. (1997), graduate students in psychology report a need for more guidance in mentoring. Most broadly, what sorts of experiences foster the development of a Boulder model psychologist?

THE OUTCOME PROBLEM
Psychotherapy researchers have long struggled with the question of what constitute successful outcomes in psychotherapy. Is outcome a matter of symptom reduction, subjective well-being, role functioning, or all of the above? Are there qualitative or quantitative differences between different categories of outcomes? The list of questions goes on and many of the same ones can be asked about graduate training in clinical psychology. For over 50 years we have been struggling with defining the goals of clinical psychology training. To some degree the difficulty has been on the construct side; what exactly does it mean to be a Boulder model psychologist? Should one conduct both research and psychotherapy, clinically oriented research, or research-based clinical work? Or, does the integration require a more general scientific approach to all one’s psychological practices? In other ways, the problem has been on the measurement side: what counts as a valid indicator of Boulder model behavior? Does obtaining a tenure track job at a university count as a successful Boulder outcome?

With few exceptions, the outcomes we’ve measured have been clearly divided between research and clinical activities. Either this is because such behaviors are fairly easy to assess (a measurement problem of looking under the light), or it’s because we have a difficult time as a field conceptualizing what an integration of science and practice looks like (a construct definition problem). For example, Belar (2000) asserts that a true scientist-practitioner is not one who engages in science and practice separately, but rather one who integrates the two activities. Yet with few exceptions (e.g., Hayes, Barlow, & Nelson-Gray, 1998) the field has had considerable difficulty getting concrete about what it means to integrate science and practice. In the absence of clarity, available measures begin to shape our conceptualization of the construct. Before we know it, program quality equals the number of academics produced and articles published, minus the number of graduates entering clinical practice. What happened to the integration of science and practice?

CONCLUSION
We have always been self-reflective as a field and struggled to find adaptive ways to marry science and practice. If we have difficulty determining what an integration looks like, is it any surprise that the majority of our students end up choosing one side or the other? The fact is that integrating science and practice is no easy task. The difficulties suggest that we take a close look at the experiences and outcomes of our graduate trainees. Analogizing from psychotherapy research to graduate training supports research linking individual differences, educational processes, and varieties of outcomes. Although the analogy suggests categories of variables to consider, it does not by itself provide a theoretical framework for understanding the evolution of a Boulder model clinical psychologist. Such a framework, grounded in basic theories of learning and change, could go a long way in helping us understand the trajectories of future clinical psychologists.

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REFERENCES


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