INTEGRATION OF SCIENCE AND PRACTICE: A COLLECTIVE CASE

STUDY OF SCIENTIST-PRACTITIONER PROGRAMS IN COUNSELING

PSYCHOLOGY

by

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DEDICATION

TO MY FATHER AND LATE MOTHER

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ABSTRACT

One of the avowed goals of the scientist-practitioner model is implementing the

goal of integrating science and practice during doctoral training. However, this goal

has proven to be problematic and debates in the academic literature have focused on

conceptual and functional issues related to the training model. This dissertation is a

study of how exemplar accredited doctoral programs in counseling psychology

approach the task of implementing the scientist-practitioner model. A collective

case study of eight selected counseling psychology programs was conducted in

order to examine the conceptual and functional differences in the implementation of

the scientist-practitioner model. Data was gathered from program self-studies, web-

site descriptions, dissertation abstracts, and interviews with program directors. A

comparison was made between the programs' espoused theories and their theories-

in-use. The data showed that these programs espouse methodological diversity for

research training and a scientific approach in psychotherapy for practice training.

However, examination of the programs' theories-in-use showed that the selected

programs emphasize a singular natural science approach rather than a

methodologically diverse approach in research training. They approach

psychotherapy training through the use of a plurality of models rather than a unified

scientific approach. Although the programs in the collective case study espoused

the interdependent relationship between science and practice, they define

integration of science and practice in various ways. The conclusion of the study is

that the programs' goal of integration of science and practice is incomplete and, instead, their training tends to provide parallel and somewhat independent training in research and practice. Interviews with training directors showed that they were aware of this problem of integrating science and practice in programs located in research universities. Additional findings were that the programs did not adequately address concerns voiced in the academic literature about the lack of clinical relevance of positivistic research and the importance of understanding the nature of psychotherapy practice. The study concludes by identifying the challenges programs face while attempting to integrate science and practice within a university context that values and emphasizes a single research approach to knowledge generation.

Chapter 1

INTRODUCTION

Counseling psychology has grown in the last seven decades and is emerging as one of the burgeoning specialties among the three established applied specialties in psychology – clinical, counseling, and school. One indicator of the speciality's growth is that the American Psychological Association's (APA) Council of Representatives approved counseling psychology's petition for continuing recognition as a specialty in 1998 (Goodyear, et al. 2000). Another indicator is the number of accredited counseling psychology training programs that are currently in operation. Until about 1978, there were 102 clinical psychology programs, 21 counseling psychology programs, and seven school psychology programs throughout the country (APA, 1978). In contrast, there are 214 clinical psychology programs, 73 counseling psychology programs, and 56 school psychology programs in the country as of 2002 (APA, 2002). Next to school psychology, counseling psychology programs have increased the most in number in the last 25 years. Thus, the applied specialty of counseling psychology has grown as a discipline, both in terms of gaining recognition and in becoming more visible in the past 25 years.

A majority of programs in counseling psychology adopted the scientist-practitioner or the Boulder Model of training, a model adopted from clinical psychology (Neimeyer & Diamond, 2001). One of the avowed goals of this model

is implementing the goal of integration of science and practice, as part of doctoral level training. However, this goal of implementation continues to be challenging, and alternate models of training (e.g. practitioner model, clinical scientist model, and practitioner-scholar model) have emerged.

Most of these changes began in the 1960s, in the specialty of clinical psychology, and the different kinds of training models that emerged assumed different stances about the need and approach to integrating science and practice (Albee & Loeffler, 1971; Beutler & Fisher, 1994; Peterson, 1985; Stricker, 1975, 1997; Stricker & Trierweiler, 1995).

Counseling psychology has undergone similar changes as well and these changes are evident by the increase in combined professional-scientific programs and in the recent emergence of practitioner training programs (APA, 2002). Combined professional-scientific programs provide combined training in the three applied specialties – clinical, counseling, and school psychology. Combined professional-scientific programs differ in the content of training because they combine the three applied specialties in psychology but these programs espouse the scientist-practitioner training model (Counseling/Clinical/School Psychology Program, CCSP Program Philosophy and Goals, ¶ 7). Nine counseling psychology programs have merged with clinical and/or school psychology to form combined professional-scientific psychology programs as of 2002 (APA, 2002). Although a majority of counseling psychology training programs espouse the scientist-

practitioner model, a few practitioner models have emerged at the University of

Northern Colorado, Our Lady of the Lake University, and the University of San

Francisco (Stoltenberg, et al. 2000). Thus, it appears as though, in relation to

training, the specialty is in a state of flux even as it expands and grows (Neimeyer

& Diamond, 2001).

This flux in training, as seen in the development of alternate training

models, is a result of disagreements among researchers and practitioners about the

conceptual rationales and the training outcome goals of the scientist-practitioner

model. In terms of conceptual rationales, one enduring and fundamental problem of

the scientist-practitioner model has been the difficulty in arriving at an acceptable

definition of psychological science and its relation to psychotherapy practice

(Davis, Alcorn, Brooks, & Meara, 1992; O'Donohue & Halsey, 1997; Page, 1996).

Two consequences of the difficulty in defining the relationship between science and

practice have been problems in conceptualizing integration and difficulties in

generating clinically relevant research. Difficulties in conceptualizing and

implementing the task of integration led to particularly scathing criticisms of the

model. For example, John (1998) stated that "the term *scientist-practitioner* model

does not refer to a clearly articulated and coherent description, or representation, of

the way in which psychology is practiced, should be practiced, or even could be

practiced" [italics in original] (p.24).

The criticism about training outcome goals related to the practicality of training a single individual in both research and practice within the finite span of a doctoral degree program. According to Yalof (1997),

> The training of psychologists at the doctoral level has evolved to a point where there is growing consensus within the profession that the comprehensive nature of training in research and practice can not be accomplished equally within one degree program and that programs can best serve students when defined by one or two different training emphases (p.6).

In addition to the above criticisms, the training model was also criticized for not adequately preparing students to meet the demands created by recent changes in the job market.

In the past two decades, discussions in the academic literature have centered around making the scientist-practitioner model more relevant to current job market changes such as the demands made by managed care and changes in the private practice of psychotherapy (Fouad, et al. 2004; Hayes, Barlow, & Nelson-Gray, 1999, p.27; Heppner, Casas, Carter, & Stone, 2000, p.41). With the advent of managed care, the demand for establishing an empirical base for psychotherapy services has increased and it has also led to a decline in the private practice of psychotherapy. Criticisms of the model related to the lack of adequate training in empirically supported treatments (ESTs) and brief therapy. In response to the criticisms, the Model Training Program, formulated in the late 1990s, recommended

training in ESTs and brief therapy as part of the program objectives (Murdock, Alcorn, Heesacker, & Stoltenberg, 1998).

In spite of concerns about changing job market needs, surveys have repeatedly found support for this model over the past three decades (Gallessich & Olmstead, 1987; O'Sullivan & Quivillon, 1992; Thelen & Ewing, 1970). One possible reason for this model's consistent popularity is its inherent flexibility (Belar, 2000). For instance, Zachar & Leong (2000) concluded that the "Boulder model does a good-enough job of helping the average clinical or counseling student be the kind of psychologist he or she wants to be" (p.579). However, the inherent flexibility of the Boulder model appears to be a mixed blessing. On one hand, it contributes to an inconclusive and ongoing debate about the viability of the model. On the other hand, the model became popular as it produced psychologists who adopted idiosyncratic interpretations of what a scientist-practitioner meant.

This flexibility appears operational in training programs in counseling psychology as they appear to fall along a continuum regarding how much science and/or practice is emphasized. In counseling psychology, doctoral programs appear to occupy the middle ground with a narrow range starting from "scientist-practitioner, practitioner-scientist, and practitioner-scholar models" (Stoltenberg, et al. 2000). The authors of this article also cite Hill who stated that all programs "seemed to integrate science and practice to at least some degree" (p.624).

"checklist" approach of accreditation and a response to the Commission for the Recognition of Specialties in Psychology's (CRSPP) that sought "further clarification of a shared definition of counseling psychology" (Murdock, et al. 1998). However, the Model Training Program did not specify the strategies needed to integrate science and practice although it explicitly espoused integration as a primary goal. Instead, it espoused the notion that "the scientific process is equally applicable to the activities of the practitioner, consultant, academician, and researcher in counseling psychology" (p.663). This approach to integration implicitly defines integration in a unilateral manner wherein science informs practice. The recommendation by the model training program that training in ESTs should be part of doctoral training is an example of the unilateral approach to integration. A bilateral approach would define integration as a process where science informs practice and practice informs science. The latter aspect of integration was not addressed in the Model Training Program.

At the APA level, the accreditation guidelines espoused the inclusion of science and practice in training but stated, "there is no one 'correct' philosophy, model, or method for professional psychology practice; rather there are multiple valid ones" (Committee on Accreditation, 1996, p.4). Going back to the time when the model originated, the Boulder conference did not provide specific recommendations on how integration of science and practice was to be achieved either (Drabick & Goldfried, 2000; Hayes, et al. 1999, p.9). Instead this task of

integration was left at the hands of individual instructors in the training program

(Frank, 1986). Thus, it is possible that various counseling psychology programs that

adopt the scientist-practitioner training model differ in how they approach the task

of integration and how they implement their strategies of integration.

As mentioned above, debates about the scientist-practitioner model have

generated extensive literature on why the task of integration has been problematic

and there is also much written about the possible solutions that would facilitate

integration. Problems have been identified in different areas – problematic

conceptualizations of science and practice (Page, 1996); challenges in generating

clinically relevant research (Hayes, et al. 1999, p.13); and difficulties in

implementation of strategies of integration (Bernstein & Kerr, 1993; Drabick &

Goldfried, 2000; Frank, 1984; Goldfried, 1984; Halgin & Murphy, 1995, p.441;

Hayes, et al. 1999, pp.11-12; Hoshmand, 1991; Sprinthall, 1990). These problems

typically resulted in a science-practice split that was evident in multiple areas –

debates about appropriate research methodologies (Hoshmand & Polkinghorne,

1992; Howard, 1985, 1993; Kanfer, 1990; Klien, 1995; Linden & Wen, 1990; Page,

1996; Polkinghorne, 1984; Rychlak, 1998; Ussher, 1991), differing student and

faculty interests (Frank, 1984), and vagaries of the job market that reinforce the

separation of science and practice (Elliott & Klapow, 1997; Hayes, et al. p.1;

Snyder & Ingram, 2000, p.723). The recommended solutions for facilitating

integration primarily fall into two categories. First, a call for a more inclusive

definition of science and a better understanding of the epistemology of practice was made. Second, various suggestions to facilitate the science-practice link during doctoral training were also made.

However, only a few studies relating to outcomes of doctoral training have been conducted (Cherry, Messenger, & Jacoby, 2000; Gaddy, Charlot-Swilley, Nelson, & Reich, 1995; Norcross, Gallagher, & Prochaska, 1989; Ross, Holzman, Handal, & Gilner, 1991). Norcross, et al. (1989) conducted a survey of Division 12 members and concluded that "training preferences are based on one's own doctoral training experiences and current occupational demands". Cherry, et al. (2000) similarly found that training models distinctly influenced students' training experiences as evidenced by professional group affiliation, employment, and professional activities of clinical psychologists and graduates in clinical psychology programs. Both these studies examined differences in training outcomes by comparing different kinds of training models such as the scientist-practitioner model, practitioner-scholar model, and the clinical scientist model.

Ross, et al. (1991) found significant differences in training outcomes based on specialty, type of degree, administrative housing, and accreditation status in spite of various interactive influences among these variables. In a similar study, Gaddy, et al. (1995) found significant differences in time-to-degree between students in PhD versus PsyD programs although these differences did not hold up significantly between specialties. These two studies examined differences in training outcomes

by comparing programs across different applied specialties such as clinical, counseling, and school psychology. However, none of these studies examined the conceptual rationales of integration and the kind of strategies of integration scientist-practitioner training programs in counseling psychology currently use in doctoral training. Instead, they examined differences in training outcomes by comparing different kinds of training models and different applied specialties in psychology.

One impetus for this investigation is the finding that scientist-practitioner training programs might not be explicit about a science-practice split due to constraints of accreditation (Zachar & Leong, 2000). In fact, there seems to have been a "deliberate blending of Boulder and Vail model characteristics in all programs" (Dana, 1987). Given that the integration of science and practice is an explicit aim of the guiding principles of accreditation of doctoral programs in counseling psychology, the conceptual rationales and the specific strategies training programs use to facilitate integration have not been examined.

The goal of this dissertation was to determine how exemplar accredited doctoral programs in counseling psychology integrate science and practice. I examined how selected programs conceptualize science, practice, and the scientist-practitioner model. In addition, I examined what their strategies of integration are and how the selected programs implement their strategies of integration. Finally, I also examined different factors, internal and external to the selected programs, that

influence the doctoral training endeavor. Such an investigation will provide preliminary insight on how selected programs vary in their interpretation and implementation of the scientist-practitioner training model.

The next chapter reviews the academic literature related to the history and development of the model, including academic literature related to the interpretation and implementation of the scientist-practitioner model.

Chapter 2

REVIEW OF THE LITERATURE

The goal of the review of the literature is to trace the development of the academic literature on doctoral training in counseling psychology with specific focus on the scientist-practitioner model. Examining the literature on training revealed the continuing problems faced by doctoral programs in successfully integrating science and practice during doctoral training. Although various socio-political, financial, and market variables influenced the development of the training model, the main focus in the review is on how these variables influenced the goal of integrating science and practice in training per se. Counseling psychology, as a specialty, has been intimately connected with other applied specialties such as clinical and school psychology, as it evolved and matured. Hence, I utilize academic literature from other established applied specialties as well. The academic literature in clinical psychology features saliently in this context because this particular specialty focused on various aspects of the model to a considerable extent.

Psychology, as a field, became organized in the United States in the 20th century following the end of the second World War and the reorganization of the American Psychological Association (APA) in 1945 (Fowler, 1996, p.xv). This was a period of ferment and growth for all applied specialties as they attempted to

conceive doctoral training goals and programs in order to meet increasing societal demands for mental health services. The review begins with a brief look at the early period in order to lay the historical context that led to the development of the scientist-practitioner model of training. An in depth examination of the scientist-practitioner model of training follows after an examination of the historical context.

Historical Context of Training in Counseling Psychology

The formation of Division 17 in 1946 can be taken as the official beginning of organized counseling psychology. Prior to 1946, counseling psychology was relatively amorphous in its organization and goals and the specialty was mainly operational through the Guidance Movement and the Mental Hygiene Movement that took shape in the first decade of the 20th century. The socioeconomic changes as a result of the rapid industrialization, the economic Depression, and the Second World War led to a more systematic organization of counseling psychology in the 1940s. In addition, the rise of applied psychology, the critical role played by the Veterans' Administration (VA), and the reorganization of APA played important roles in the development of counseling psychology. I discuss these contextual factors in detail now.

The Guidance Movement

The Guidance Movement, a product of the sweeping demands for social reform, focused on the evolving nature of work in the new industrialized society (Blocher, 2000, p.8). An offshoot of the Guidance Movement was the Vocational Education Movement that advocated radical changes in curriculum in order to prepare young people to enter the industrial world and the rapidly changing job market. Unlike the Guidance Movement, the Vocational Education Movement focused less on social reform and more on educational reform.

The launch of National Vocational Guidance Association (NVGA) in 1913 could be considered a hallmark event when vocation, education and guidance came together under one aegis. NVGA was made up of an eclectic group of professionals ranging from civil servants, lawyers, educators, philanthropists, and counselors whose goals were to meet a variety of societal needs (Whiteley, 1984a, pp.1-2). With the formation and growth of NVGA, there was a gradual shift toward professionalization of guidance and counseling (Blocher, 2000, p.22). NVGA evolved over the decades as a result of multiple professional mergers. Since 1992, NVGA is known as the American Counseling Association (ACA) (p.24).

Although there is considerable overlap between APA's Division 17 and ACA, the former has greater affinity to psychology while the latter has a counselor educational orientation (Heppner, et al. 2000, p.23). With recent changes in

credentialing professionals, APA focuses on credentialing counseling psychologists while ACA focuses on credentialing counselors (p.23). The gap between APA and ACA widened as a result of the decision to credential different professionals and the membership base of the two organizations became increasingly divided since the 1980s (p.23). I now discuss the historical relevance of the mental hygiene movement.

The Mental Hygiene Movement

Clifford Beers' book, *A Mind That Found Itself*, published in 1909 described his struggle with mental illness and his experiences in a mental hospital (Whiteley, 1984a, p.2). Beers' book helped launch the mental hygiene movement with the establishment of the National Committee for Mental Hygiene (NCMH) in 1909 (p.2). The publication of Beers' book and the activities of NCMH led to a gradual attitudinal shift in society toward the mentally ill. The idea that the mentally ill need to be helped and treated with compassion gradually took hold. The shift also gave impetus to applied psychology, which was aiming to alleviate psychological illnesses by applying principles of psychology. In the 1940s, gradual demedicalization and decentralization of psychotherapy from the hold of medicine and psychoanalysis began to take place and expanded the scope of the mental hygiene movement. Earlier, only psychiatrists who were trained in psychoanalysis

could conduct therapy (Whiteley, 1984b, p.5). With the advent of Roger's

humanistic theory and client-centered therapy, especially after the publication of

Rogers' *Counseling and Psychotherapy* in 1942, the power equation changed. The

advent of client-centered psychotherapy opened up the possibility for

psychotherapy to be included in counseling, as a professional activity (p.5). This

expansion was not without its share of problems though.

The demedicalization of the psychotherapy profession was successful

because the practice of psychotherapy was no longer the sole domain of the

psychiatrist. But the demedicalization of professional thinking was not as successful

as evidenced in how science and practice have been conceptualized in psychology,

using the medical model (Albee, 2000; Dana, 1987; Perry, 1987; Ramirez, 1994;

Wampold, Ahn, & Coleman, 2001). One of the earliest instances of the medical

model of professional thinking being adopted in psychology was in 1899 when

William Rainey Harper, the first president of the University of Chicago, called for

the scientific study of the college student akin to the physician's study of the patient

(Blocher, 2000, p.28). The recent emergence of empirically supported treatments

(ESTs) provides a similar contemporary example of the continued incorporation of

the medical model in professional thinking (Wampold, Ahn, & Coleman, 2001). An

outcome of adopting the medical model of thinking was the adoption of the natural

science approach of science. Later in the review of the literature, I discuss the

assumptions and implications of adopting the natural science approach in

psychological science in relation to the scientist-practitioner model. During the period when the mental hygiene movement gained momentum, applied psychology grew as a result of an increasing need for assessment services following World War II. I discuss the rise of applied psychology in the following subsection.

The Rise of Applied Psychology

Following World War II, there was a mushrooming of various psychological tests and batteries that were used with war veterans. Most guidance counselors operated in schools. However, it was in colleges and universities where the tests were used as part of vocational guidance that led to the creation of the professional title of "vocational counselor" (Blocher, 2000, p.27). The advent of the vocational counselor can be seen as the marriage between vocational guidance and applied psychology (p.27). The advent of the vocational counselor also provided an impetus to the growth of "personnel bureaus" and university career centers in colleges and universities. Personnel bureaus were forerunners to current day university counseling centers. However, during this period, the predominant focus of personnel bureaus was on vocational counseling through the use of psychological tests (p.28).

Thus, programs of research, test development, and counseling grew in colleges and universities, especially in the Universities of Iowa, Ohio State,

Minnesota, Stanford, and Chicago; and, the linear Newtonian model of psychological science was adopted as the model of professional activity (Blocher, 2000, pp.28-29). The Newtonian model continues to operate in today's linear notions of psychological science as embodied in the natural science approach (Rychlak, 1998). Although the rise of applied psychology had facilitated the professionalization of counseling psychology, it was also true that by the end of World War II, the Vocational Guidance Movement had died down. Consequently, the guidance worker typically functioned as the gatekeeper of the test data with the goal of appraising, grouping individuals, and assigning vocations (Blocher, 2000, p.69). The profession was in crossroads in terms of its viability and a need for a distinct professional identity was felt. In response to the need for a distinct professional identity for counseling psychology, Williamson developed "the clinical method of guidance" (Blocher, 2000, pp.70-71). His six-step model consisted of, "1. Analysis or data collection; 2. Synthesis or collating of data; 3. Diagnosis or description of client characteristics and problems; 4. Prognosis or prediction of probably outcome; 5. Counseling treatment; and 6. Follow-up" (Blocher, 2000, pp.70-71). Williamson's clinical counseling approach, later known as the "Minnesota Point of View", closely mirrored the medical model, especially in its language. It soon became established as one of the defining ideas of counseling psychology. Williamson's model also closely mirrored the medical approach to science because he embraced the natural science approach to psychological science.

Thus, while counseling psychology was taking steps to establish the specialty's professional identity, the Veterans Administration (VA) played a critical role in shaping doctoral training of psychologists.

The Role of Veterans Administration (VA)

While clinical and counseling psychology were in the process of establishing themselves as distinct applied specialties in psychology, the World War II had come to an end. During the war, psychologists were involved in selecting soldiers from the civilian pool. Following the war, psychologists were in demand helping thousands of returning war veterans readjust to civilian life, both emotionally and occupationally (Whiteley, 1984a, p.5). Initially, the VA created the job title of the *Clinical Psychologist* whose job was to help veterans with their emotional problems. Soon, they created another job title of *Counseling Psychologist* whose job was to assist veterans with vocational adjustment and rehabilitation. Whiteley cites Pepinsky who described the VA's role as follows (1984a):

> Toward the end of the War, the USA's Veterans Administration was assigned the mission of assisting millions of veterans to return to civilian life. Lack of sufficient adequately trained personnel for this work within the VA forced it to seek outside help. The VA's Division of Vocational Rehabilitation and Education thus supplemented its internal counseling services by contracting with colleges and universities to provide for the vocational-educational "advisement" of ex-service men and women, so as to guide them into appropriate programs of education or training. As Mitchell

Dreese pointed out in 1949, numerous community and college
counseling centers, recently established, owed their existence to
initial subsidy by the VA (p.6).

Psychologists who had already been playing an active role, especially in job

placement of soldiers using various assessment tools, took on these new emerging

job demands.

Soon thereafter, the VA requested APA to clearly articulate training

programs in clinical psychology so that it could evaluate the competencies of

clinical psychologists (Raimy, 1950, p.8). By creating the link with hospitals and

academic institutions, the VA reinforced the implicit notion that "clinical endeavors

within a psychiatric institution should be associated with scientific inquiry taking

place on the university campus" (Halgin & Murphy, 1995). In response to the VA's

request for clear statement on doctoral training, the Boulder conference held in

1949 delineated an innovative training program for clinical psychologists, which is

now known as the Boulder model or the scientist-practitioner model. A similar

scenario was true for counseling psychologists as well. In 1951, counseling

psychology also adopted the scientist-practitioner model as its primary model

during the Northwestern Conference (APA, 1952a. Also in Whiteley, 1980, p.70;

Bernstein & Kerr, 1993; Neimeyer & Diamond, 2001; Stoltenberg, et al. 2000).

During this period, APA was also instituting major internal organizational

changes in response to professional and political concerns voiced by researchers

and practitioners.

Reorganization of APA

The long-standing conflict between research-oriented and applied psychologists is well documented (Bernstein & Kerr, 1993; Gelso, 1979; Goldfried, 1984; Hayes, Barlow, & Nelson-Gray, 1999, p.10; Heppner, et al. 1992; Howard, 1986; Mittelstaedt & Tasca, 1988; Morrow-Bradley & Elliott, 1986; Petersen, 1985; Stricker, 1975; Stricker & Trierweiler, 1993; Thorne, 1945). This long-standing conflict has been a recurrent theme of most major conferences in applied psychology, including counseling psychology. The academic departments of psychology were typically dominated by academic psychologists who were not particularly concerned with applied aspects of the field (Mitchell, 1977). In contrast, the market demand created by VA and other forces reinforced the application of psychology to solve societal problems. The market demand, in turn, created a cadre of applied psychologists who were distinctly service-oriented. These two brands of psychologists constantly clashed in their professional ideologies, values, and priorities.

Prior to the restructuring of APA in 1945, APA was partial to the academic psychologist and the American Association of Applied Psychology (AAAP) catered to the needs of the applied psychologist (Fowler, 1996, p.xvi). It is clear that even prior to the development of the scientist-practitioner model in 1949 there were underlying tensions between scientists and practitioners. However, the imminent

need to meet the market demand created by the VA necessitated a rapprochement between the two associations. The rapprochement led to the reorganization of APA, including the creation of a divisional structure within the organization, in order to meet the diverse and disparate needs of its members. Klein (1995) describes the rapprochement as "marriages of convenience" where each party hoped to achieve greater political clout through the merger.

However, the merger was fraught with conflict and internal tension. It now appears that the tension has been a recurring feature as it surfaces in different forms when training programs attempt to integrate science and practice (Stricker & Trierweiler, 1995). In the 1980s, the tension became acutely evident when many members of APA felt disenfranchised by the perceived professionalization of APA, at the cost of psychological science. The disenfranchised members proceeded to form the American Psychological Society (APS) that primarily supports psychological science (Heppner, et al. 2000, p.15). To extend Klien's metaphor, the marriage was always and continues to be strained.

Having provided a review of the historical context, I examine the emergence of the scientist-practitioner model of training.

Emergence of the Scientist-Practitioner Model of Training

The scientist-practitioner model of training psychologists was initially conceptualized in clinical psychology during the Boulder Conference in 1949 (Hayes, et al. 1999, p.4). Various elements of the Boulder model were already operational prior to 1949 in terms of quantitative research-driven dissertation requirements and part-time field training, but the Boulder model made similar training requirements an official training policy (Routh, 2000). It should be noted that similar discussions were held during the Michigan conference in 1949 (the same year as the Boulder conference was held) on the training of personnel in the field of Counseling and Guidance. During the Michigan conference, conference participants suggested that counseling psychology adopt "the clinical psychology curriculum, with some additional emphasis upon problems of educational personnel..." (Raimy, 1950, pp.147-148). Finally, counseling psychology adopted the scientist-practitioner model during the Northwestern Conference in 1951 (APA, 1952a. Also in Whiteley, 1980, p.70; Neimeyer & Diamond, 2001).

Boulder Conference (1949)

The Boulder conference was a culmination of the United States Public Health Service and the VA's demand for a better identification of competent

training programs for clinical psychologists, the newly re-organized APA's attempt

to solidify the rapprochement between researchers and clinicians within the

organization, the increasing societal demand for mental health professionals, and

pushed forward by the impetus provided by the Shakow report's recommendations

to develop a training program that emphasized science and practice (Baker &

Benjamin, Jr., 2000; Drabick & Goldfried, 2000; Raimy, 1950, p.75). The dual

emphasis on science and practice, as part of doctoral training in academic

institutions, was a considerable shift because academic clinical psychology had

been formerly interested only in basic science training (Thorne, 1945). According to

Raimy (1950):

> Most professionals base their practices on one or more sciences and
> train their future members in a separate professional school. In
> contrast, clinical psychologists are trained concurrently in both the
> theoretical (scientific) and applied (clinical) aspects of psychology.
> This training occurs not in professional schools but in graduate
> schools of our colleges and universities (p.v).

In fact, the link between professional training and academic departments of

psychology was practically non-existent until the emergence of the Boulder Model

of training (Mitchell, 1977). Although the Boulder conference led to the adoption of

a scientist-practitioner model of training, the conference participants were acutely

aware of the uniqueness of the model, including the possibility that the model might

not emerge as a feasible model of training in the future (Hayes, et al. 1999, p.4).

One concern about feasibility of the model related to the decision to train scientist-practitioners in academic institutions. According to Ellis (1992), the PhD degree granted in academic institutions had been and continues to be a research and academically oriented degree that internalized values of the experimental psychologist. It is, therefore, not surprising that academically oriented professionals were more satisfied with the scientist-practitioner training than clinically oriented professionals (Norcross, Gallagher, & Prochaska, 1989). Thus, at a time when academic psychologists were not attuned to applied issues, they embarked on training applied psychologists in "a bootstrapping fashion" where service delivery and knowledge generation took place simultaneously (John, 1998). As a result, training programs "patched together their own academic and clinical training programs the best way they could" (Routh, 1994, p.128). Unfortunately, the bootstrapping strategy only served to reinforce the rift between researchers and practitioners.

In spite of concerns about feasibility and viability of the model, the decision to proceed with the new training model was based on five major rationales (Hayes, et al. 1999, pp.5-8). First, it was deemed important that students develop an interest and background in both research and practice, irrespective of their eventual focus of professional activity. Second, they acknowledged the need for developing a knowledge base primarily through sound research. Third, the overwhelming popularity of psychology made it possible for training programs to select students

with dual interest in research and practice. Fourth, dual training was seen as a fertile ground for developing clinically relevant research. Fifth, practice founded on sound research could increase financial support for the field. Thus, attendees at the Boulder conference unanimously espoused the scientist-practitioner model of training clinical psychologists, in spite of underlying concerns about its feasibility and viability.

Northwestern Conference (1951)

The Northwestern Conference was held in 1951 where counseling psychology adopted the scientist-practitioner model of training and the conference addressed three critical issues – counselor and practicum training and the need for refining the professional identity of counseling psychology, in order to differentiate counseling psychology from clinical psychology (Whiteley, 1984a, p.32). As a result of the conference, three committees were formed to address counselor and practicum training, as well as a definition of the specialty. I focus on the outcome of the counselor and practicum training committees only.

Committee on Counselor Training

With increasing demand for counseling psychologists, there was a need to establish a clear statement about the training of counseling psychologists (APA, 1952a. Also in Whiteley, 1980, p.70). The goal of the Counselor Training Committee was to issue a formal statement on doctoral-level training of counseling psychologists, which included the role and functions of counseling psychologists, the selection of students, graduate training, and tentative time allotments to areas of training (Whiteley, 1984a, p.34). According to the Counselor Training Committee, the role and function of the counseling psychologist is "to foster the psychological development of the individual" (APA, 1952a. Also in Whiteley, 1980, p.71).

The committee acknowledged that no established criteria for selecting students existed and developing those criteria would be a future goal of the specialty. It stated that familiar approaches such as "academic records of the applicant, tests of intellectual status and attainment, personality tests, interviews, and evaluation of work experience" might be a starting point (APA, 1952a. Also in Whiteley, 1980, p.73). It also recommended that counseling psychologists should acquire "a core of basic concepts, tools, and techniques that should be common to all psychologists" (APA, 1952a. Also in Whiteley, 1980, p.73). There was also an acknowledgment that no doctoral program can train a professional in all facets of

the profession during a doctoral degree. Hence, graduate training was considered a starting point rather than an end point of a student's training.

In addition to the common core areas, the specialized areas for counseling psychologists to focus on were personality organization and development, knowledge of social environment, appraisal of the individual, counseling, professional orientation, practicum, and research. The time allotted for various aspects of training was delimited to a four-year duration in graduate training. Bulk of the training included didactics followed by a considerable amount of time spent in psychotherapy training. Compared to psychotherapy training, relatively less number of academic units was allotted to research training (APA, 1952a. Also in Whitelely, 1980, p.78). Further steps regarding refining the above aspects of graduate training were recommended primarily in the form of intelligent and flexible experimentation of individual programs. Such flexibility probably led to variations in how programs implemented training goals including the implementation of integration of science and practice.

The next subsection discusses the outcome of the Committee on Practicum Training. However, a parallel conference concerning research training was never held (Whiteley, 1984a, p.36). Although most official statements issued by the division stressed the importance of sound research and scientific basis for a profession to thrive, the Committee on Counselor Training set the standards of basic understanding quite low (APA, 1952a. Also in Whiteley, 1980):

> At a minimum, such training should aim to develop the ability to review and to make use of the results of research. Psychological counseling is and should be founded upon basic psychological science and related disciplines. Counseling psychologists can make unique contributions to psychological knowledge because their counseling experience provides an especially fruitful opportunity to formulate hypotheses (p.78).

Recent studies indicate that research productivity by counseling psychologists is comparable to other applied specialties, but there is widespread acknowledgement for the need for more rigorous research training (Gelso, 1993; Gelso & Lent, 2000).

Committee on Practicum Training

The Committee on Practicum Training formed by the APA delineated the goals, methods, and role of practicum training during the doctoral studies (APA, 1952b. Also in Whiteley, 1980, p.82). The main rationale for the practicum was to make training in psychotherapy more practical and less academic, a rationale already indicative of the science-practice split. The other goals of the practicum were to orient the practicum student to the realities of therapy, professional rigors of practice, and interpersonal skills that was demanded of a professional in the counseling setting (APA, 1952b. Also in Whiteley, 1980, p.82). The Committee on Practicum Training spelled out the details of organizing and conducting practicum, internships, and supervision that helped to provide guidelines for the future. The goal of maximizing the practicum training lay on the university training institution

and also on the field agency that provided the practicum training opportunity. The training was meant to take place in different layers – laboratory experiences, fieldwork, and internship with each layer building on the previous one respectively (APA, 1952b. Also in Whiteley, 1980, pp.83-84). The prerequisite training for practicum was didactic training in both the core and specialty areas of counseling psychology. The Practicum Training Committee recommended that the trainee get a depth and breadth of exposure to clientele, client problems, and varying approaches to interventions during practicum training.

It is unclear, however, whether the Practicum Training Committee expected practicum training to be sequential or integrated with coursework, an issue that has ramifications in relation to integration of science and practice. The Practicum Training Committee also failed to address how multiple supervisors influence the psychotherapy training process, especially if individual supervisors differed in their theoretical approach in psychotherapy and supervision.

Neither the Counselor Training Committee nor the Practicum Training Committee articulated the conceptual rationales of psychological science, practice, and integration of the two. I discuss the various problems of integration that have been identified in the academic literature now.

Problems in Integrating Science and Practice

Concerns about integrating science and practice as part of implementing the scientist-practitioner training model are not new. In fact, these concerns were even voiced during the Boulder Conference in 1949 (Hayes, et al. 1999, p.4). A dual training model emphasizing science and practice as part of doctoral training in universities was unique. However, the continuing popularity of the model appears to stem from the notion that, "what was recommended was a well-trained clinician, who would combine clinical practice with an empiricism and a research methodology particularly suited for clinical work" (Hayes, et al. 1999, p.8). As mentioned previously, problems with integration could be categorized into two broad categories – problems in conceptualizing science and practice and, consequently, generating clinically relevant research; and, difficulties in implementing training goals.

Conceptualizing Science and Practice

The definition of "science" in the scientist-practitioner model appears problematic (Hoshmand, 1991). According to Page (1996), "… the term *science* does not describe a single doctrine, domain of knowledge, or methodology. In contrast, it describes something that is at best multifaceted" [italics in original]

(p.103). Debates about the nature of psychological science have concentrated on the validity of natural science versus human science approaches and on criteria and methods to determine the validity of psychological science.

The natural science approach is based on the tenets of positivism. Such an approach conceptualizes the human subject akin to physical objects in the natural world and espouses controlled experiments and statistical data analysis as constituting scientific psychological research. In contrast to the natural science approach, the human science approach uses the tenets of constructivism and conceptualizes the human subject as unique and distinct from physical objects in the natural world. The human science approach views human beings as having the ability to engage in contextual meaning making and having the ability to use sophisticated language systems. Thus, the human science approach uses ordinary language systems and questions the possibility of gaining absolute and accurate access to reality. Qualitative research methods such as hermeneutics, phenomenological descriptions, and interpretive analysis are a few examples of psychological research methodologies based on the tenets of human science. In recent times, methodological diversity in research is becoming popular (Gelso, et al. 1988; Heppner, Casas, Carter, & Stone, 2000). Methodological diversity accords equal legitimacy to diverse research methods, both quantitative and qualitative. However, in spite of debates about the appropriate definition of psychological

science in the academic literature, the hegemony of the natural science approach is well documented resulting in primarily a single notion of psychological science.

As professional psychology was establishing itself outside the academic realm, academic psychology attempted to establish a scientific basis for psychotherapy practice. However, the discipline of psychology was still struggling to establish scientific credibility in the academic environment. In that context, the epistemic authority of positivism was easy to draw on (John, 1998) and the temptation of gaining cognitive certainty, however problematic, was too much to resist (Dana, 1987). One motive for emulation of natural science methodologies might have to do with the discipline of psychology moving away from philosophy. According to Ramirez, such a move led to (Ramirez, 1994):

> valorization of experimental methodology (operationalism); focus on behavior rather than experience; adoption of the paradox of being value-free; and promotion of the view of psychology as an arena for testing beliefs about how to predict and/or control behavior instead of a set of beliefs and values about human nature (p.66).

Thus, the trend to adopt the natural science approach to psychological research has led faculty members to emulate basic research that was not directly relevant to practice (Heppner, et al. 1992). Integration of science and practice, thus, became problematic.

The founding members of the Boulder model were aware of the precariousness of their goals. The model originated during a period of ferment when the hegemony of science was being challenged contributing to basic confusion

about how positivism itself should be understood (John, 1998). As early as 1945, Thorne stated that, "American psychology has been a laboratory rather than a clinical science and there have been relatively few attempts to develop a science of psychological diagnosis and therapy based on intensive study of case material" (Thorne, 1945). However, Thorne went on to define clinical science from a predominantly experimental stance suggesting an "increasing application of the experimental approach to the individual case and to the clinician's own 'experience'" (Hayes, et al. 1999, p.3). This approach has extended to allied fields such as social work as well (Wakefield & Kirk, 1996; MacEachron & Gustavsson, 1997). In spite of simmering discontent about using the natural science approach in psychological research, the scientist-practitioner model espoused the natural science approach in psychological science and research and trained students in quantitative research methods and statistical data analysis.

The next challenge was to define the nature of psychotherapy practice because there appeared to be "little definitive information about how counseling works" (Binder, 1993). Similar concerns were raised in the academic literature about the nature of psychotherapy practice (Borders, Bloss, Cashwell, & Rainey, 1994; Halgin & Murphy, 1995). Arrays of theoretical orientations in psychotherapy are in operation (e.g. psychodynamic, cognitive-behavioral, humanistic, family systems, and so forth). Plurality of practice epistemologies can lead to a lack of consensus on what psychotherapy practice really means. According to Page (1996):

> Knowing that a person adopts a scientist-practitioner model provides no information at all about their theoretical orientation, favoured treatments, or their methods of deciding between alternative theories and treatments. Furthermore, the term *science* is so broad that to require a person or institution to adhere to a scientist-practitioner model is devoid of prescriptive meaning. Individuals and institutions are free to adopt narrow empirical or broad "anything goes" philosophies of science that can justify almost any practice or approach to training [italics in original] (p.106).

One reason for the difficulty in understanding the nature of practice is the multiple manifestations of psychotherapy practice, depending on which theoretical orientation a practitioner adopted. Extending the comparison to training programs, core faculty members, adjunct faculty members, and field supervisors who provide psychotherapy training could vary widely in regard to their theoretical orientations in psychotherapy practice. Such variations could lead to conflicting supervisory experiences for students during psychotherapy training.

I will not review the extensive academic literature on psychotherapy supervision. However, the nature of psychotherapy supervision has evolved over the decades. Different models of supervision are operational in the discipline and supervisors (core and adjunct faculty members and field supervisors) vary with regard to their specific approaches to supervision. Historically, supervision models extrapolated "counseling theory to the supervisory experience" (Holloway, 1987). Examples of such supervision models include psychodynamic supervision, rational-emotive theory supervision, and behavioral supervision (Goodyear, Bradley, & Bartlett, 1983). In the last two decades, developmental models of supervision "that

apply psychosocial development to counselor trainees' clinical learning" have become more popular and more than 18 models of supervision have been identified as of 1987 (Holloway, 1987). Thus, a wide variety of supervisory approaches are currently operational in doctoral training programs and there is no clear consensus regarding the ideal approach to psychotherapy supervision.

The lack of consensus regarding the appropriate definition of psychological science and psychotherapy practice consequently furthered the debate about how science and practice should be related to each other. Raimy (1950) hypothesized that the issue is linked to the different perspectives researchers and practitioners subscribe to:

> Too often, however, clinical psychologists have been trained in rigorous thinking about nonclinical subject matter and clinical problems have been dismissed as lacking in "scientific" respectability. As a result, many clinicians have been unable to bridge the gap between their formal training and scientific thinking on the one hand, and the demands of practice on the other (p.86).

One alternative to overcoming the limitations of the natural science approach relates to defining psychological science using the human science approach and, consequently, expanding the definition of psychological science. Human science approach to psychological science is considered to mirror the activity of psychotherapy practice (Hoshmand, 1991). In the main, the human science approach used ordinary language systems and sought descriptions and understanding of human experience, similar to psychotherapy practice.

Albee (1970) pointed out that the activities of the scientist and practitioners endorse different worldviews. He stated, "One of the most serious problems for the *scientist-practitioner* psychologist (Boulder model) has been the requirement that he play the incompatible game of science, and so subject his techniques, his theories, and his methods to open public, critical, scientific scrutiny" [italics in original] (Albee, 1970). He pointed out that the clinician often must "engage in life-history research rather than experimentation" (Albee, 1970). Howard (1986) further elaborated on this idea by explicating a parallel between ways of understanding human action as conceptually akin to historical analysis rather than a controlled scientific experiment.

In contrast to the natural science approach, a human science approach comes closer to the epistemology of practice. Rennie (1994) used Dilthey and Wundt's attempt to define human science based on the notion that "the study of the person poses challenges that are not encountered when studying the physical and biological world" and conceptualized human science akin to an historical enterprise. For instance, the challenges in the positivistic scientific endeavor are different from those challenges a practitioner encounters in the study of the individual client – the former enables the subject-object dualism implicit in positivistic science while the latter does not (Rennie, 1994). Hoshmand & Polkinghorne (1992) critiqued the hegemony of positivistic science by challenging its fundamental assumptions and notions of science and certainty and its utility in understanding human experience.

The critiques of psychological science based on natural science approaches have become stronger in contemporary psychology discourse (Hoshmand & Polkinghorne, 1992; Howard, 1985, 1993; Kanfer, 1990; Klien, 1995; Linden & Wen, 1990; Page, 1996; Polkinghorne, 1984; Rychlak, 1998; Ussher, 1991).

Thus, the critiques of the natural science approach in psychology led to the development of two possible alternatives. First, a human science approach would mirror the epistemology of psychological practice and, hence, would facilitate integration. Second, an examination of the nature of psychotherapy practice would lead to a better understanding of psychological practice and facilitate practitioner-based inquiry (Hoshmand, 1991). Practitioner-based inquiry would also facilitate the bilateral approach in integration of science and practice, where practice informs science. A critical difference between the positivistic approach to psychotherapy practice and practitioner-based inquiry is the assumptions used to understand psychotherapy practice. The traditional notions of psychotherapy practice relate to helping individuals develop self-understanding by engaging in a dialogue in the therapeutic relationship (Polkinghorne, 1999). Contemporary views of psychotherapy redefines the traditional therapeutic endeavor through a technification of psychotherapy and the goal of psychotherapy is symptom-removal rather than self-understanding (p.2). According to Polkinghorne (1999):

> Psychotherapy makes different assumptions about the constancy of human activity than does traditional research. Aristotle's three-fold distinction of spheres of human activity – theorizing, practicing, and

producing artifacts – is still a useful way to identify the kind of
activity involved in doing psychotherapy. Theorizing is the domain
of rigorous science and is concerned with demonstrations that yield
certain knowledge. Practicing (*praxis*) is the domain of human action
and is concerned with performances and accomplishments....
Performance in each of the three kinds of activity is governed by a
specific kind of thinking. Theorizing uses the thought tools of
epistemic knowing, such formal logic and mathematics (along with
observations). Practicing employs a type of thinking called practical
understanding (*phronesis*) to guide actions toward intended personal
goals [italics in original] (p.2).

By attempting to understand psychotherapy through theorizing, as defined above,

traditional positivistic psychotherapy research has failed to appreciate the aspect of

praxis and *phronesis* involved in the practice of psychotherapy. Practitioner-based

inquiry would not be susceptible to such a failure in understanding psychotherapy

practice.

In comparison to the focus and attention psychological research received,

the academic literature has made only a cursory examination of how practitioners

engage in psychotherapy practice. The brief examination of the nature of

psychological practice reveals that the nature of psychotherapy practice might

preclude a practitioner from successfully adopting positivistic scientific criteria. For

instance, a clinician had to typically incorporate clinical reality with its concomitant

limitations and make decisions based on the limited information that was available,

even if the available information was incomplete (Kanfer, 1990; Kozak, 1996). This

particular kind of cognitive processing was a consequence of clinical demands

where "individual problems always call for knowledge beyond basic psychological

principles" (Lazarus & Davison, 1971, p.203). An examination of the inferential reasoning of clinicians seemed to indicate that practitioners made inferences incorporating missing information (MacDonald, 1996). For instance, practitioners typically used the presenting problem to determine the theoretical explanation and then searched for validation of the match in the individual client (Kanfer, 1990). An examination of skilled practitioners from different theoretical orientations also revealed that they arrived at similar clinical decisions, albeit with varying rationalizations, and they admitted that their formal scientific training had little bearing on their decisions (John, 1998).

It appears that the ideal of integrating science and practice in a balanced manner has seldom been achieved and the hyphen between the terms scientist and practitioner symbolized rift rather than cohesiveness between the two (Bernstein & Kerr, 1993). The gap between the epistemology of science and practice seemed insurmountable. If one were to adopt Ramirez's (1994) correspondence model which stated that truth is dependent on the kinds of instruments used, the tools used by scientists and practitioners to gain knowledge were incongruent. During the 1990 National Conference on Scientist-Practitioner Education and Training for the Professional Practice of Psychology, conference participants suggested replacing the hyphen between the words scientist-practitioner with other symbols in order to communicate the notion of integration in a better fashion (Belar & Perry, 1992). The focus was more on reiterating the elusive goal of integrating science and

practice rather than clarifying the fundamental concepts of science, practice, and integration.

The prevalence of predominantly singular positivistic notions of psychological science combined with multiple notions of psychotherapy practice have made the integration of science and practice a formidable task. As Heppner, et al. (1992) aptly put it, "science and practice cannot continue together without a major attitudinal shift, a broadening perspective of science and practice and how these two activities can be integrated to strengthen each other" (p.121).

Lack of Clinically Relevant Research

One product of the successful integration of science and practice should be the generation of clinically relevant research that will be utilized by practitioners. Since the inception of the model, a recurring complaint has been about the scarcity of clinically relevant research and that appears to stem from the disparate goals of the researcher and clinician. Research methodologies and research goals tend to be irrelevant or not applicable in the clinical scenario and practitioners tend to look for other resources to inform their practice (Barlow, 1981a, 1981b; Drabick & Goldfried, 2000; Kanfer, 1990; Persons, 1991). The disparity relates to the role of research and science for scientists and practitioners. Researchers are expected to produce research while practitioners are expected to consume research and the latter

does not entail personal research productivity (Albee & Loeffler, 1971; APA, 1967). As further evidence it was determined that, "Although a majority still review the literature and write and present papers, less than half do field research or outcome or process research, and only 30% do any experimental work at all. We appear to have come a long way from the scientist-practitioner model" (Fitzgerald & Osipow, 1986). Watkins (1987) described the disparity as the gap between the "rhetoric of counseling psychology" and the "reality demands voiced by students, clients, service agencies, and reimbursement providers".

The complaint about lack of clinically relevant research also raised questions about the role of practitioner and the definition of integration. One interpretation of the concept of integration views the practitioner as applying positivistic scientific knowledge in psychotherapy practice. Another interpretation of integration views the practitioner as applying positivistic scientific knowledge as well as conducting positivistic scientific research. Thus, training programs might vary in the particular interpretation of integration they adopt in doctoral training.

Methodology and Clinical Relevance of Research

Conducting clinically relevant research is intimately linked to notions of science and practice adopted in training. As mentioned earlier, there was a gap between the natural science and human science approach to understanding human

experience in psychotherapy practice. The gap is starkly evident in the issue of methodology (Goldfried & Wolfe, 1996; Hayes, et al. 1999, p.15; Snyder & Ingram, 2000, p.723; Stricker, 1975). The gap was of significant concern because the dissatisfaction with the approach to research training was considered one of the primary reasons for the persistent problem of inapplicability and continued problems with the model's success (Hayes, et al. 1999, p.16).

The academic literature on psychotherapy process and outcome research is extensive and beyond the scope of the review of the literature. However, a significant portion of psychotherapy research is conducted using the natural science approach. The practice of psychotherapy, on the other hand, does not fit the tenets of the natural science approach. As a result, practitioners deem most of the research generated as clinically irrelevant. The tabular comparison (Table 1) of tenets of experimental psychology research and the contextual reality of psychotherapy practice presented below helps in understanding how the positivistic research methods used by psychotherapy researchers are not successful in appreciating clinical realities and addressing concerns psychotherapists are interested in understanding. The differences between the classical model and psychotherapy resemble the differences between theorizing and practicing, the two kinds of activity, I discussed earlier.

Table 1. Differences Between the Ideal Experimental-Laboratory-Research Design Model and the
Realities of Psychotherapy Research

Classical Model	Psychotherapy
1. The independent variable is a discrete stimulus or a bounded set of discrete stimuli.	1. The independent variable is a complex strategy or interaction with constantly changing tactics.
2. The pattern of presentation of the independent variable is standardized.	2. Variation of therapist behavior from moment to moment and patient to patient is the rule.
3. There is a provable causal relation between the independent variable and the dependent variable.	3. There is no provable causal relation between what the therapist does and the behavior of the patient.
4. The dependent variables are discrete responses.	4. The dependent variables are a complex set of responses and attitudes that change over time.
5. There is a small number of important variables that influence the dependent variable.	5. There is a large number of variables that influence therapy outcome; each only exerts a small influence.
6. Each relevant variable can be held constant if desired.	6. Few relevant variables can be held constant, even if desired.
7. The direction of causation is one way from stimulus to response, from independent variable to dependent variable.	7. The direction of influence is two-way, from therapist to patient and from patient to therapist.
8. Stimulus and response tend to be contiguous.	8. There is no point in time at which the therapist's behavior or strategy can be said to have produced a therapeutic response.
9. The system is isolated from all others as much as possible in an effort to produce a closed system.	9. The therapist-patient system constantly interacts with each other systems. Uncontrolled and unmeasured inputs constantly occur.
10. This system is concerned with the regularity and predictability of events.	10. This system is concerned with the meaning and logical structure of events.

Table 1 (continued).

Classical Model	Psychotherapy
11. Experiments are temporally linear; that is, A follows B follows C.	11. The meanings of an event are conditional; that is, the meaning of A is determined by the meanings of B and C.
12. There is an experimenter, who manipulates conditions that affect the subject, who is treated as an object.	12. Manipulation, to the extent that it occurs, works both ways. The patient is not treated as an object.
13. The possible range of responses of the subject are restricted to a few simple responses such as "yes", "no", or "sometimes".	13. The range of responses of the patient is large and encouraged to become larger (as, for example, in free association).
14. The experimenter is unconcerned with the circumstances of the subject's life.	14. The therapist is vitally interested in the circumstances of the patient's life.

Note. From "Problems and Alternatives", by T.B.Karasu, 1982, *Psychotherapy Research: Methodological and Efficacy Issues,* (pp.187-213). Copyright 1982 by the APA Commission on Psychotherapies.

In spite of challenges relating to conducting clinically relevant research, Sargent & Cohen (1983) found that clinicians' utilization of research data tended to depend on a variety of factors including availability of training in the tested treatment and whether concerns about generalizability from the research sample to the clinical case at hand were addressed by the research study. A specific aspect of research is that in spite of numerous studies on psychotherapy efficacy, with the advent of ESTs; there is a dearth of studies on psychotherapy effectiveness (Halgin & Murphy, 1995, p.441). In addition, strict adherence to techniques may not necessarily translate in terms of successful and effective therapy, due to an element of artistic skill involved in the therapeutic activity (Strupp, 1989). Although this

particular discourse has been typically pessimistic, some authors have attempted to acknowledge the advances in methodologies, advancements in statistics, and increased research on therapy effectiveness, as an argument for clinicians to take a fresh look at current research (Barlow, 1996; Watkins, 1997).

Strupp (1989) pointed out some positive links between psychotherapy research and practitioner utilization stating that research has successfully provided empirical evidence to many unsystematic clinical observations about therapeutic alliance. Beutler, et al. (1995) further supported the notion through a survey that found that practitioners held a positive valence toward utilizing research; however, there was a need for more effective communication between the two so that research became more applicable in psychotherapy practice. The challenge in communication would involve determining ways to reconcile the "incommensurable language systems" used by researchers and practitioners (Hoshmand, 1991; Howard, 1986). It is also possible that practitioners utilized research in unanticipated ways wherein the research was used to "(a) confirm experientially derived knowledge, (b) provide credible explanations for observations, and (c) facilitate transmitting knowledge from one to another" (Beutler, et al. 1995). The question then becomes what are the knowledge bases that practitioners use to base their practice on if research was deemed to be of limited clinical relevance.

Practitioners' Knowledge Base

It appears that practitioners preferred to seek other sources for their knowledge base rather than the existing research base relating to psychotherapy process and outcome (Barlow, 1981b; Elliott, 1983; Luborsky, 1972; Morrow-Bradley & Elliott, 1986; Orlinsky & Howard, 1978; Parloff, 1980; Polkinghorne, 1999; Rausch, 1974; Rennie, 1994; Sechrest, 1975; Ward, 1964). Matarazzo, a therapist and researcher, made an alarming comment of historical import that "even after 15 years, few of my research findings affect my practice. Psychological science *per se* doesn't guide me one bit. I still read avidly, but is of little direct, practical help. My clinical experience is the only thing that has helped me in my practice to date" [italics in original] (Bergin & Strupp, 1972, p.340). One possible explanation for the gap in communication relates to the fact that practitioners seemed to define "scientific sources" differently from academicians and did not necessarily seek out peer-reviewed journal articles but a wider range of sources to inform their practice (Beutler, et al. 1995). An implicit understanding in any task of integration is that the individual components will fit together cohesively. Thus, one factor that could explain the nature of this particular problem was the lack of understanding of the term 'utilization' of scientific sources (Stricker & Keisner, 1985):

The debate about the desirability and feasibility of research utilization is further complicated by the failure to define either *research* or *utilization*. This makes it possible for the argument to proceed with each side referring to a different phenomenon although using the same term, so that agreement is precluded. When *research* is used pejoratively by clinicians, they often think of a narrow, static, methodology-bound, laboratory-based effort that has little potential for generalizability. Researchers, on the other hand, see clinicians as seeking a loose, impressionistic, vague set of speculations that cannot contain any internal validity, making the question of external validity moot [italics in original] (p.5).

In addition, the traditional idea that research can be applied in specific practice situations "misdescribes the way practitioners actually work with their clients" and is based on an inadequate understanding of the nature of practitioner inquiry (Polkinghorne, 2000). An alternative to the predicament could be that practitioners distinguish between the descriptive and inferential components of research articles and utilize the former as vicarious experiences that could broaden their repertoire (Polkinghorne, 1999). In the main, practitioners preferred to build their knowledge base on their clinical experience, reading practice-oriented books, discussing clinical issues with colleagues, and attending clinically focused workshops (Barlow, 1981a; Morrow-Bradley & Elliot, 1986; Rennie, 1994).

Two possible recommendations were made for generating clinically relevant research, including adopting the human science approach in psychological research and engaging in practitioner-based inquiry (Hoshmand & Polkinghorne, 1992). I discuss the importance of practitioner-based inquiry later in the subsection on recommendations for facilitating integration. I now review conference proceedings

of major conferences held, since the inception of the scientist-practitioner model, in order to address the various problems in implementing the model.

Conference Proceedings

Numerous conferences in clinical psychology were convened since the inception of the model in order to address the problem of integration and generating clinically relevant research. Miami Beach Conference in 1958, Chicago Conference in 1965, and Vail Conference in 1973 were some of the main clinical psychology conferences that were held in this regard. The Miami Beach Conference provided continuing support for the Boulder model (Roe, Gustad, Moore, Ross, & Skodak, 1959, p.38) and the support continued during the Chicago conference in 1965 (Hoch, Ross, & Winder, 1966, p.75). However, there were partially muted rumblings during both conferences about the limited definitions of psychological science using the natural science approach as well as questions about the role of practitioners as producers of research. In fact, preconference materials of the Chicago conference hinted of a professional model that only was endorsed later in the Vail conference (Cook, Bibace, Garfield, Kelly, & Wexler, 1965).

Finally, the undercurrent of dissatisfaction came to a climax during the Vail conference in 1973 when the conference attendees concluded with a call for more practice-oriented training and made a recommendation to move the training setting

from universities to professional schools (Korman, 1973). Practitioner (PsyD) training models developed as a consequence of this particular conference. The two primary rationales for the practitioner model were the perceived incompatibility of training an individual in both science and practice and dissatisfaction with training being conducted in academic settings that were heavily biased toward research (Fretz, 1974). Yet, it was not clear what kind of training would be necessary to move a novice therapist to a more advanced stage of expertise (Foreman, 1974).

Counseling psychology addressed the issue of integration in its major conferences including Northwestern Conference in 1951 and Greyston Conference in 1964. Following the Northwestern Conference in 1951 when the scientist-practitioner model was officially adopted as the main training model in counseling psychology, the Greyston Conference held in 1964 paralleled the developments in clinical psychology by endorsing the need for a stronger professional focus in doctoral training. However, unlike clinical psychology, counseling psychology did not completely endorse the practitioner model (Sprinthall, 1990; Thompson & Super, 1964. Also in Whiteley, 1980, p.174). In contrast to clinical psychology where the practitioner model had a definite presence, counseling psychology maintained its continued support for the Boulder model in the Georgia Conference in 1987. The conference participants, however, acknowledged that not all counseling psychologists would be active researchers (Meara, et al. 1987). Following the Georgia Conference in 1987, the number of publications relating to

the scientist-practitioner model went down. But, the recent accreditation of a few practitioner-scholar programs renewed the debate about the appropriateness and viability of the scientist-practitioner model during the Houston Conference held in 2001 (Fouad, et al. 2004). Thus, these recent conferences repeatedly endorsed the scientist-practitioner model and acknowledged its limitations but they failed to create feasible solutions. One possible explanation for the failure to create feasible solutions is that none of these conferences adequately addressed the problems related to appropriate research methodologies. The conferences also did not clarify whether practitioners were expected to consume research and/or generate research.

The dynamics created by competing training models propelled applied psychology to reconsider their strategies as evidenced in some of the more recent conferences held at Mission Bay in 1986, Utah in 1987, and Scientist-Practitioner Conference in 1990. Because these conferences were held under the broader rubric of applied psychology, they have implications for counseling psychology specifically. The Mission Bay Conference consisted of members of the National Council of Schools of Professional Psychology (NCSPP) who wanted to be certain that their voice was heard during the Utah conference to be held less than a year later. In addition to strongly endorsing the practitioner model philosophy, the conference endorsed the "evolving and developing knowledge base" that closely paralleled APA accreditation criteria regarding curriculum mandates. The curriculum mandates covered areas such as "biological bases of behavior,

cognitive-emotional bases of behavior, social bases of behavior, individual bases of

behavior, statistics and research design, professional issues/ethics, and history and

systems" (Bourg, Bent, McHolland, & Stricker, 1989). In the main, the Utah

Conference held in 1987 addressed "generic" versus "specialty" delineations, levels

of training, training setting, and the appropriate model of training (APA, 1987).

Although the conference participants at the Utah Conference acknowledged the

practitioner model of training, they once again called for an integration of science

and practice as part of graduate training (APA, 1987).

Finally, the Scientist-Practitioner Conference held in 1990 reiterated the

scientist-practitioner model including the importance of the integration of science

and practice although the conference participants acknowledged that many

programs failed to meet this fundamental requirement (Belar & Perry, 1990). In

conclusion, it seems as though "... a research methodology uniquely applicable to

the clinic was made with equal intensity at Boulder in 1949 and at every conference

since, without any discernible change in the products of the graduate schools in

clinical psychology" (Barlow, Hayes, & Nelson, 1984, p.18).

Problems in Implementation

The previous subsection discussed the conceptual problems related to the

scientist-practitioner model due to differing perspectives on science, practice and

integration. Numerous conferences held since the inception of the model grappled with these issues and had limited success in resolving the conceptual differences. One of-repeated question in these conferences related to the role of the clinician as a consumer of research and/or as a producer of research. There were functional problems in the model in the realm of implementation that also made integration of science and practice problematic. These functional problems included differing values and priorities of faculty and students (Frank, 1984), quality of research training (Bernstein & Kerr, 1993), faulty curricular structures (Hoshmand, 1991), integration of didactics and practicum work (Halgin & Murphy, 1995, p.441), debates about appropriate dissertation criteria (Hayes, et al. 1999, pp.11-12), role of the department clinic (Goldfried, 1984), the emerging practice-oriented job market (Drabick & Goldfried, 2000), the influence of managed care (Drabick & Goldfried, 2000; Sprinthall, 1990), to name a few. I focus on some of the oft-repeated themes.

One of the primary goals of the scientist-practitioner model was that it would select students who had a dual interest in science and practice and similarly faculty members would embody these dual foci in their work. Contrary to the goal, it has been consistently found that graduate students entering the broad field of professional psychology are more interested in psychotherapy practice than in research. According to Parker and Detterman (1988), about 71% of clinical psychology graduate students had a predominant clinical orientation. Surveys of entering graduate students in counseling psychology also indicated that most of

them rated interest in research relatively low, had higher entrepreneurial professional interests, and were more service oriented (Tipton & White, 1988). More recently, an overall trend toward psychotherapy practice as the preferred professional activity has been observed in the counseling psychology specialty (Fouad, et al. 2004). The positive valence of psychotherapy practice could be explained as a product of personality variables (Beutler, et al. 1995; Frank, 1984; Gardner, 1980; Gelso, 1993; Spengler, Stohmer, Dixon, & Shivy, 1995; Stone & Vespia, 1999; Zachar & Leong, 1992), a consequence of epistemic styles (Hoshmand, 1991; Lyddon, 1989), or a result of market forces attracting graduate students interested in psychotherapy practice.

The qualities expected in a competent therapist are predominantly interpersonal in nature – empathy, warmth, and self-insight to a name a few. On the other hand, researchers are expected to be more comfortable engaging in research that is frequently solitary and requires an analytic orientation. Stone & Vespia (1999) conducted a survey of counseling psychology students and professionals using the Scientist-Practitioner Inventory and their findings supported the notion that practice-oriented individuals were more socially inclined while science-oriented individuals favored autonomy and analytic work. Another study of college students revealed that choice of an individual's theoretical orientation was based on the personal epistemology of rationalism, empiricism, or metaphorism (Lyddon, 1989). This particular finding has implications for adherence to the scientist-

practitioner model because the model might be more suitable for empirical linear thinkers than intuitive metaphorical thinkers (Spengler, et al. 1989). In terms of personality variables, it is possible that there might be a selection bias in operation where students chose to pursue careers that were congruent with their personality as evidenced by faculty members who typically are more research-oriented. It is possible that graduates of programs who are clinically inclined might seldom apply for these faculty positions.

Faculty members might mirror their research bias just as students express their inclination toward psychotherapy practice. In this context, research university settings might perpetuate the bias through the kind of academic and tenure expectations they demand of faculty members and these expectations might operate as barriers to integration of science and practice. For instance, most counseling psychology programs are housed in major research universities where research, publications, and other academic activities are rewarded frequently at the cost of psychotherapy practice and generation of clinically relevant research (Frank, 1984; Goldfried, 1984; Bernstein & Kerr, 1993; Heppner, et al. 1992; Peterson, 1985). Because most graduate students are committed to pursuing practice-related work in the future, they frequently complain about the inadequate preparation for clinical work in their doctoral programs (Stricker, 1975; Tipton & White, 1988; Watkins Jr., Lopez, Campbell, & Himmell, 1986). There is a disconnection between program and faculty members' priorities and students' aspirations, with faculty members

rating research as more important and students valuing psychotherapy practice over research (Frank, 1984; Halgin & Struckus, 1985; Meara, 1987; Ramirez, 1994; Royalty, Gelso, Mallinckrodt, & Garrett, 1986; Watkins, Lopez, Campbell, & Himmell, 1986).

Along with the disconnection between faculty members and students' interests, concerns about the quality of research training and the lack of positive role models have been expressed. In spite of valuing research, the research training seemed woefully inadequate in facilitating positive research experiences and fostering research ideas to develop through sound mentoring (Bernstein & Kerr, 1993; Betz, 1986). One possible result of the inadequacy might be the persistent challenge in generating scholarly publications. It has been repeatedly found that most graduates of Boulder programs publish very little or nothing (Peterson, 1985; Rennie, 1994; Robertson, 1995, p.24; Routh, 1994, p.128). One possible explanation for meager publication rates was that research productivity of students following graduation seemed linked to research productivity of students during graduate training, which has already been deemed inadequate (Rickard & Clements, 1985). It has been documented that mentoring and positive role models play a critical role in students' long-term career commitments whether in research or practice, and role models embodying the scientist-practitioner are typically absent during doctoral training (Betz, 1986; Gelso, 1993; Goldfried, 1984; Hill, 1997; John, 1986; Parker & Detterman, 1988). In addition to concerns about the lack of

mentoring, there were concerns voiced in the areas of didactics and clinical supervision as well.

The two primary modes of graduate training involve didactic coursework and clinical supervision and programs seemed to vary in how they combined these two aspects in doctoral training (Halgin & Murphy, 1995, p.441). Also, curriculum structures reinforced the science-practice split because clinical supervision was seldom framed as research questions and textbooks used for research and practice had a singular focus and rarely made an attempt to incorporate both science and practice (Hoshmand, 1991). The disjunction typically revealed a pattern where science was the focus in graduate school while practice was the focus in later professional activity, especially during pre-doctoral internship. The demarcated focus in doctoral training led to a successive rather than a simultaneous approach to integration (Kanfer, 1990). The successive approach, in turn, weakened the liaison between faculty members and supervisors in clinical training facilities (Kalinkowitz, 1978). Such challenges in doctoral training have led to the fundamental debate concerning whether academic university departments are appropriate sites for training scientist-practitioners at all (Albee, 1970; Kalinkowitz, 1978). An example of concerns in training scientist-practitioners in university settings relates to the viability of maintaining faculty members who have joint appointments with the university counseling center.

Many programs used to accommodate faculty members who held joint appointments in the program and the university counseling center but now that number has dwindled and they are viewed as "split" appointments rather than "joint" appointments (Heppner, et al. 1992). Joint appointments could be viewed as a strategy of integration because faculty members with joint appointments actively participate in research and practice and can operate as ideal role models for students.

On the other hand, core faculty members in Boulder model programs tend to fall along different points of a scientist-practitioner continuum (Goldfried, 1984). Extending the comparison to training programs, it appears that they also fell along the continuum where some programs are more research-oriented or practice-oriented. The predominance of research or practice are not explicitly stated in a program's training philosophy due to the expectation that programs will provide balanced and integrated training in both areas, as part of meeting accreditation criteria (Zachar & Leong, 2000). The scientist-practitioner continuum in programs indicates that there will be differences among various scientist-practitioner programs in how they interpret and implement the training model. Zachar & Leong (2000) concluded that, "Honesty with respect to what is really taught aside, as long as the APA continues to monitor graduate programs to make sure they provide both a foundation in basic scientific psychology and field-oriented clinical training, the

mix of science types and practice types will continue to make for dynamic (rather than fragmented) learning environments" (p.579).

Most scientist-practitioner training programs attempt to train professionals who will combine research and practice in their future careers, however, the job market does not appear to support this goal as it demands relatively more clinicians (Drabick & Goldfried, 2000; Parker & Detterman, 1988). Surveys of employment patterns reveal that about 56% of the initial job placements are service delivery related while about 29% are academic positions, and rest of the 15% gain employment in diverse settings such as the criminal justice system, business, and industry (Bernstein & Kerr, 1993; Fouad, et al. 2004; Galassi & Moss, 1986). The specialty also acknowledges the increasing "professionalization" of the field by considering raising the number of required practicum hours for internship in order to stay competitive (Neimeyer & Diamond, 2001). Surveys conducted on counseling psychologists indicate that although about half the respondents affirmed being engaged in research, the time they spent on it is was only about 7% to 8% while practice-related activities took up about 25% to 28% of their time. The remaining portion of the time got distributed between consultation, administration, teaching and other related professional activities (Fitzgerald & Osipow, 1986; Zimpfer & DeTrude, 1990).

The different job priorities of service delivery settings and the academy are not designed for the dual focus in science and practice either. The service demands

in clinical settings are seldom conducive for generating research, which furthers the split between science and practice (Abrahamson & Pearlman, 1993; Bibace & Walsh, 1982; Frank, 1984; Goldfried, 1984; Vachon, et al. 1995). Similarly, research publication and grant-writing demands preclude many academic psychologists from making the practice of psychotherapy a significant vocational activity (Davis & Meara, 1995; Murdock & Brooks, 1993). The varying demands of different job settings for psychologists led to the question if scientist-practitioner "values" are marketable (p.139). However, Murdock and Brooks (1993) found that a stronger identification with practice and its financial benefits were significant predictors of practice activity and about 65% of survey respondents (faculty members of APA accredited PhD programs) reported practice activity outside of academic roles, indicating that the split was not absolute.

One important variable to consider in this regard is that dynamics of the job market have changed significantly in the last two decades due to managed care. Managed care has shifted the focus from individual psychotherapy as the primary practice activity to practice with a much broader scope (Fouad, et al. 2004). Today, the task of developing, administering, and evaluating mental health service delivery is of top priority (Hayes, et al. 1999, p.1). Thus, the goals and preparation of the scientist-practitioner have to undergo dramatic changes because market forces shaped by managed care are very different from when the model evolved in the late 1940s. Hence, it has become even more critical that the integration of science and

practice is successful (Drabick & Goldfried, 2000; Hayes, et al. 1999, p.27).

Accountability, efficacy, and effectiveness drive reimbursement criteria (Elliot &

Klapow, 1997; Fretz & Mills, 1980; Klein, 1995; Steenbarger, Smith, & Budman,

1996; Yalof, 1997). It has become even more critical that the discipline of

psychology provides a scientific basis for practice and the integration of science and

practice is successful (Hayes, et al. 1999, p.28). Extending Klein's (1995) metaphor

once again, the marriage has to be saved.

Recommendations

The literature review has so far focused on the articulation of conceptual

differences in defining science, practice, and integration and problems related to

implementing the scientist-practitioner model. Various solutions have also been

suggested in order to successfully integrate science and practice. Two distinct kinds

of solutions have been proposed in this regard. First, a call for broader conceptual

definition of science/research and a call to understand the epistemology of

psychotherapy practice was made. Second, recommendations of specific functional

changes in doctoral training have been made in order to close the gap between

science and practice.

Re-conceptualizing Science and Understanding Psychotherapy Practice

One major alternative that has been suggested in the academic literature is broadening the concept of psychological science, beyond experimental methods and statistical data analysis, both in doctoral training and in scholarly publications (Heppner, et al. 1992; Hoshmand & Polkinghorne, 1992; John, 1986; Neimeyer & Diamond, 2001). For instance, suggestions for using alternative methodologies such as action research (Stoker & Figg, 1998) and utilizing "soft" methodologies (Howard, 1993) have been made. Methodological pluralism has been suggested as an alternative to incorporating singular positivistic approaches (Dana, 1987; Howard, 1985, 1986; Hoshmand & Polkinghorne, 1992; MacEachron & Gustavsson, 1997). The recent Delphi poll indicated that the specialty of counseling psychology considers developing methodological pluralism a top priority (Neimeyer & Diamond, 2001).

Ironically, the call for appropriate methodology was made during the Boulder conference itself. Raimy (1950) stated that:

> Research training for "rat" psychology is probably most efficiently accomplished by lengthy exposure to problems in which rats are the objects of observation and discussion...Nonetheless, the problems of human beings may demand approaches other than those used in studying the lower animals. If rigorous thinking can produce good research in animal psychology, equally rigorous thinking should be possible where humans are concerned. Proper methodology and crucial issues in the field of personality may be more difficult to establish and define; *the problems faced by one field of science are*

rarely if ever solved by a simple carryover of techniques and concepts from another field [italics added] (p.87).

The conference participants suggested that specific clinical research skills be taught rather than those that specifically pertain to the experimental psychologist (Hayes, et al. 1999, p.6). The specific clinical research skills recommended by the conference participants were at a nascent stage of development during the inception of the training model. In addition, clinical research skills also lacked scientific legitimacy in the academy, which was dominated by psychologists trained in natural science methods.

In addition to expanding the definition of psychological science, there was also a need to make existing scientific methods more sophisticated. Kordy (1995) lamented on a dependence on significance testing and suggested that researchers need to use more sophisticated tests such as power analysis to make studies more applicable. Levy (1981) suggested increased incorporation of single-subject methodology to repair the disconnection between science and practice and make research more relevant to practice.

Along with expanding notions of psychological science, the call to understand the nature of psychotherapy practice is also gradually gaining ground (Bibace & Walsh, 1982; John, 1998). One possible strategy is to develop a better understanding of the "epistemology of practice" along with an emphasis on "practice-based professional inquiry" (Beutler, et al. 1995; Claiborn, 1987; Hoshmand, 1991; Hoshmand & Polkinghorne, 1992; Polkinghorne, 1999; Stoker &

Figg, 1998). Practice-based inquiry is typically grounded in the human science approach, which has close affinity to psychological practice, in terms of cognitive processes involved in the two activities (Etherington, 1996; Hoshmand, 1991; Rennie, 1994). The epistemology of practice could be divided into three models – the correspondence model, the coherence model, and the noncorrespondence model (Ramirez, 1994). The correspondence model is primarily dependent on the tools for knowledge akin to the scientist-practitioner model. Coherence model is based on the socially constructed, languaged, narrative integrity, and the noncorrespondence model implies the existence of truth that is inaccessible through language. Thus, a scientist-practitioner subscribing to the correspondence model would be "using empirically derived techniques to ameliorate empirically categorized symptoms" (Ramirez, 1994). It might be appropriate for the specialty to critically reexamine the current tools used to understand the human subject and reconsider the kind of models being used in science and practice. The call for adopting the human science approach in psychological science and understanding the nature of psychotherapy practice would entail using the coherence model rather than the correspondence model.

Suggestions for modifying current strategies of integration were also made in the academic literature.

Changes in Strategies of Integration

Numerous studies have made recommendations entailing functional and structural changes in graduate training. These recommendations typically call for more positive and effective mentoring (Bernstein & Kerr, 1993; Galassi, 1989; Halgin & Struckus, 1985), improving the communication between researchers and practitioners (Belar & Perry, 1992; Bernstein & Kerr, 1993; Beutler, et al. 1995; Borders, et al. 1994; Frank, 1986; Gelso, 1993; Heppner, et al. 1992; Hoshmand, 1991), changing the curricular structure to include integration as a inherent goal of training (Heppner, et al. 1992; Hoshmand, 1991; Kanfer, 1990; Levy, 1981), and increasing publications and conferences that act as vehicles of furthering integration (Beutler, et al. 1995; Drabick & Goldfried, 2000; Goldfried & Wolfe, 1996).

It has been repeatedly suggested that counseling psychology take advantage of the positive outcome related to sound mentoring by providing good faculty role models and admitting students who have a genuine interest in both research and practice (Bernstein & Kerr, 1993; Galassi, 1989; Halgin & Struckus, 1985).

Another suggestion was that integration take place during didactic coursework through the introduction of important clinical issues, which would also help in improving communication between researchers and practitioners (Belar & Perry, 1992; Bernstein & Kerr, 1993; Beutler, et al. 1995; Borders, et al. 1994; Frank, 1986; Gelso, 1993; Heppner, et al. 1992; Hoshmand, 1991). Heppner, et al.

(1992) also suggested that a "practice adviser" could oversee the inclusion of research in practice-related training. A more sensitive attunement to integration of science and practice during practice-related training would facilitate the generation of clinically relevant research (Heppner, et al. 1992; Kanfer, 1990; Levy, 1981). Such an approach could open up the possibility for clinical inquiry being viewed as a scientific activity, leading to practice-based inquiry (Hoshmand, 1991).

One possible outcome of focused attention on research and practice training is the increase in more integrated publications that serve as vehicles of communication between researchers and practitioners (Beutler, et al. 1995). Another possible outcome would be that researchers and clinicians corroborate more to design, study, and evaluate interventions (Drabick & Goldfried, 2000; Goldfried & Wolfe, 1996).

As the previous subsection pointed out, managed care has changed the nature of the job market considerably and students in doctoral training need to be prepared to meet these new job market demands. The current job market requires more from doctoral psychologists than mere individual therapists because master's level clinicians meet this demand at a lower cost. In today's job market, doctoral-level professionals need to have skills related to developing, implementing, and evaluating mental health care service delivery and a better appreciation of the broader institutional picture, a need that has to be addressed during training (Elliott & Klapow, 1997; Hayes, et al. p.1; Snyder & Ingram, 2000, p.723). Training in

brief therapy and focusing on establishing scientific support for psychotherapy practice are steps in the right direction. However, it remains to be seen if broader conceptual approaches to psychological science are adopted and if practitioner-based inquiry takes place during doctoral training in the future.

Having traced the development of academic literature on doctoral training in counseling psychology using the scientist-practitioner model, it is evident that various conceptual and functional problems related to interpreting and implementing the model persist. My dissertation study aims to understand how selected counseling psychology programs differ in their interpretation and implementation of the scientist-practitioner model. I now discuss my rationales for conducting the dissertation research.

Rationale of Dissertation Study

The current review of the academic literature has examined the various conceptual and functional problems relating to the scientist-practitioner training model. Various recommendations have also been made to repair the rift between science and practice. However, only a few studies relating to outcomes of doctoral training have been conducted (Cherry, Messenger, & Jacoby, 2000; Gaddy, Charlot-Swilley, Nelson, & Reich, 1995; Norcoss, Gallagher, & Prochaska, 1989; Ross, Holzman, Handal, & Gilner, 1991). As mentioned in the previous chapter,

these training outcome studies examined differences in training outcomes by comparing different kinds of training models such as the scientist-practitioner, practitioner-scholar, and clinical scientist and by comparing different applied specialties. None of these studies sought to examine the variations in training operational among programs that adopt the scientist-practitioner model in counseling psychology. The goal of my dissertation study is to determine how counseling psychology programs that adopt the scientist-practitioner model vary in their interpretation and implementation of the model.

I pose three research questions in the dissertation study. First, how do programs conceptualize science, practice, and the scientist-practitioner model? Second, what are the various strategies of integration and how do programs implement these strategies of integration? Third, what are the different factors that influence the training process?

I use the collective case study method in order to examine selected counseling psychology doctoral programs that adhere to the scientist-practitioner model. My focus in the collective case study is on the different interpretations of the scientist-practitioner model and the different ways the model is implemented.

Conclusion

The scientist-practitioner model evolved in the late 1940s with the innovative goal of training professional psychologists as both scientists and practitioners, as part of doctoral training in universities. The purpose of the dual emphasis on science and practice, during the inception of the model, was to bring together academicians and clinicians, who had previously had little or no areas of commonality. The success of the model in achieving integration of science and practice has, however, proved elusive. Debates on the relative lack of success in achieving integration have crystallized around two major groups of questions - those that inquire into the fundamental nature of psychological science and practice, and those that question the nature of graduate training. While the hegemony of positivistic natural science approaches created a single notion of psychological science, the growth of different schools of psychotherapy practice led to multiple notions of psychological practice. In addition, an inadequate understanding of the epistemology of practice preserved the enigmatic quality of psychological practice. Although the development of human science approaches and technical eclecticism in psychotherapy practice has altered the equation, the debates in the academic literature have not ceased. Today, there is widespread acknowledgement that adopting a broader definition of psychological science coupled with practice-based inquiry would facilitate integration.

Questions about the training strategies used in doctoral training have also surfaced in the academic literature. Problems were identified in areas of personality and value differences between researchers and clinicians, the inadequacy of research and practicum training, faulty curriculum structures, and the inadequate preparation of psychologists to meet the needs of a job market shaped by managed care.

There has been an early acknowledgement of these problems as diagnostic of the science-practice split, and various recommendations to address each of these groups of problems have been proposed. However, the few outcome studies that were conducted focused on differences in training outcomes by comparing different kinds of training models and different applied specialties. The goal of the dissertation study is to determine how selected counseling psychology programs vary in their interpretation and implementation of the scientist-practitioner model. I use the method of collective case study in order provide a rich description of selected programs' conceptual approaches and functional implementation of the model. The next chapter on Method focuses on the method used to conduct this dissertation research study.

Chapter 3

METHOD

The overall purpose of this chapter is to lay out the specific research procedures that I used to conduct this study. The previous two chapters have built the argument justifying the relevance and need of the study – namely, there are conceptual and functional problems in the scientist-practitioner model and there are multiple interpretations and variations in how this model is implemented in accredited counseling psychology doctoral programs. These problems and variations specifically relate to the strategies of integrating science and practice in graduate training, one of the avowed goals of the model. In addition, as is evident from the previous chapter on the review of the literature, most of the academic debate relating to the scientist-practitioner model has been predominantly theoretical in nature, focusing on conceptual and functional problems in the model. A few program outcome studies have examined differences among different kinds of training models such as the scientist-practitioner, practitioner-scholar and clinical scientist models and among various applied specialties such as clinical, counseling, and school psychology. However, the variations among programs that adhere to the scientist-practitioner model, specifically the differences in interpretation and implementation of the model, have not been examined.

I had proposed that examining the variations in programs' interpretation and implementation of the scientist-practitioner model would facilitate a better understanding of the various conceptual and functional problems that have been discussed extensively in the academic literature. Thus, the examination of these operational differences within the scientist-practitioner model is the goal of this study.

This chapter is divided into three major sections. The first section will focus on the research questions that this study sought to answer. It will also include a thorough description of the method I used which is the case study method, specifically the collective case study method. The second section will provide a detailed description of the case selection process and the strategies I used for gathering data. This section will also include a description of the selected training programs that constituted the collective case study and a description of data sources used while gathering data. Finally, the third section will describe the strategies I used for data analysis.

Research Questions

Because the goal of this study is to show the manner in which the scientist-practitioner model is interpreted and implemented in selected APA accredited counseling psychology doctoral programs, the collective case study method was

used. This method calls for the collection of data appropriate for case descriptions of the programs and for a subsequent comparative analysis of the programs.

There is extensive academic literature available on the various challenges relating to the interpretation and implementation of the scientist-practitioner model. One consistent theme in the academic literature has been the challenges and the variations in how the scientist-practitioner model is interpreted and implemented in psychology doctoral programs. The previous chapter on the review of academic literature addressed these issues in depth. I state the salient themes again in order to provide a context for the research questions this study seeks to answer. Then, I discuss the few program outcome studies that have been conducted and, following this discussion, I state my study's research questions.

Contextual Background

As noted in chapter two, the ambiguity in the conceptualization of scientist-practitioner model (Zachar & Leong, 2000) allows for variations in the interpretation and programmatic implementation of the model (Peterson, 2000; Stoltenberg, et al. 2000). The theoretical literature locates the ambiguities in several areas: (a) the extent to which science or practice should be emphasized (Neimeyer & Diamond, 2001), (b) the appropriate definition of psychological science (Hoshmand & Polkinghorne, 1992; Howard, 1985, 1993; Kanfer, 1990; Klien,

1995; Linden & Wen, 1990; Page, 1996; Polkinghorne, 1984; Rychlak, 1998; Ussher, 1991), and (c) the functional challenges in integrating science and practice in actual training programs (Bernstein & Kerr, 1993; Drabick & Goldfried, 2000; Frank, 1984; Goldfried, 1984; Halgin & Murphy, 1995, p.441; Hayes, et al. 1999, p.11-12; Hoshmand, 1991; Sprinthall, 1990).

Apart from this theoretical debate, few program outcome studies have examined outcome variables in doctoral training but these studies have focused on differences among various applied specialties and/or differences among different kinds of training models (Cherry, Messenger, & Jacoby, 2000; Gaddy, Charlot-Swilley, Nelson, & Reich, 1995; Norcross, Gallagher, & Prochaska, 1989; Ross, Holzman, Handal, & Gilner, 1991). I review the findings of these program outcome studies before stating the research questions of my study.

Norcoss, et al. (1989) examined the preferences of Division 12 members for different training kinds of models – scientist-practitioner, practitioner-scholar, and clinical scientist – as a function of the influence of members' own training program's model during graduate study as well as their current professional activities. They concluded that training preferences are "based on one's own doctoral training experiences and current occupational demands" (p.826). Similarly, Cherry, et al. (2000) sought to compare training program outcomes as a function of the kind of training model clinical psychology programs adopt. They divided training outcomes as internal or intermediate training outcomes and external or

students' employment following graduation and included the variable of percentage of time spent on various weekly employment activities by faculty and students. They found that "training models are unique in the outcomes they produce" and that "models do differ in the type of training they provide students" (p.566). Their study provided more evidence on differences in training outcomes among different kinds of training models. Both these studies found that the kind of training model adopted during graduate study influenced a professional's view of the profession and the focus of one's professional activity, whether it is research or practice.

Program outcome studies also revealed that, in addition to differences between different kinds of training models, there are differences in training outcomes among different applied specialties. Across applied specialties such as clinical, counseling, and school psychology, program characteristics such as administrative housing of the program, accreditations status, type of degree offered, relative time spent in research or practice during graduate study influenced future trajectories of program graduates as their careers evolved.

Ross, et al. (1991) investigated the relationship between the performance on the Examination for the Professional Practice of Psychology (EPPP) and graduate program characteristics or dependent variables such as specialty, type of degree, administrative housing of program, and accreditation status and found significant differences between applied specialties with clinical psychologists leading in their performance on EPPP followed by counseling and school psychologists

respectively. They also found that there was no significant difference between PhD and PsyD degrees although there was a statistically significant difference in performance between those holding a PhD versus EdD, with the former faring better. Similarly, examinees from programs housed in psychology departments fared better than examinees whose programs were housed in schools of education or freestanding schools and examinees from programs that had full or provisional accreditation fared better than those examinees from non-accredited or probationary programs. McGaha & Minder (1993) found similar differences based on student's examination scores and the accreditation status of the student's graduate program.

In another similar study, Gaddy, et al. (1995) examined differences among applied specialties such as clinical, counseling, and school psychology. They compared three outcome variables – student activities, time to degree, and employment settings of graduates – among a representative sample of 149 accredited doctoral programs and found differences between these three applied specialties. Clinical psychology faculty and students' involvement in professional activities was greater than those in counseling psychology and school psychology programs. In terms of time taken to complete their degrees, students in PhD programs took approximately 1.5 years longer than those in PsyD programs. Employment outcomes revealed a wider spread of settings in terms of initial employment following graduation and a gradual shift toward individual, group, and Healthcare Maintenance Organizations (HMO) practice subsequently. Both these

studies (Gaddy, et al. 1995; Ross, et al. 1991) established that there are differences in training outcomes among different applied specialties.

Gaddy, et al. (1995) states that, in general, "there is a relative paucity of published research on outcome of accredited programs in professional psychology" (p.508). However, these outcome studies do not offer explanations about why these specific outcome differences among the different kinds of training models or among different applied specialties exist. None of the outcome studies cited above sought to examine how scientist-practitioner programs in counseling psychology differ in their interpretation and implementation of the scientist-practitioner. Thus, this study examined the differences in interpretation and implementation of the scientist-practitioner model of training in selected accredited counseling psychology doctoral programs.

Integration of science and practice, a critical component of the model, has proved to be problematic both in its conceptualization as well as in its implementation in different training programs. Examining differences among programs that adopt the scientist-practitioner model facilitates a better understanding of how training programs approach the task of integration and in understanding why the task proves to be difficult. This study attempts to fill this gap in the existing literature by examining these differences in selected doctoral programs in counseling psychology that adopt the scientist-practitioner training model. The first step toward understanding the nature of differences among

programs involves constructing a thorough description of selected training programs, in terms of the different interpretations and differences in implementation of the training model. Subsequent studies in the future can develop theoretical explanatory frameworks to further explain these differences among training programs. I now state the research questions this study sought to answer.

Statement of Research Questions

In order to develop a thorough understanding of how training programs interpret and implement the scientist-practitioner model, the following aspects of training were examined - the conceptual approach in defining science and practice; the concept of the scientist-practitioner; various strategies of integration; and factors, internal and external to the program, that impact training. Thus, the primary questions addressed by this study are:

1. What are the conceptual approaches the selected APA accredited counseling psychology doctoral programs that espouse the scientist-practitioner model use to define the scientist-practitioner?

2. How do these selected training programs describe and implement their strategies of integration in training?

3. What are the different training-related factors, internal and external to the program, that impact the conceptualization and implementation of these strategies,

as evident from the available data? This question was formulated during the early phase of data gathering and analysis.

The next subsection focuses on the rationale for choosing the collective case study method for the study.

Method

The program outcome studies that were previously discussed examined training outcomes based on a set of variables that characterize training programs such as the kind of training model the program adopts, kind of specialty, kind of degree offered, administrative housing as well as outcome variables such as graduates' professional activities, time to degree, and initial and subsequent employment following graduation. The outcome studies used secondary data from programs' annual reports, self-study, EPPP examination scores and surveys of APA division 12 members. Because the focus of my study is counseling psychology programs that adopt the scientist-practitioner model, I examined selected accredited counseling psychology doctoral programs and I did not examine data from other applied specialties or counseling psychology programs that adopt other kinds of training models.

The approach to data analysis in the outcome studies mentioned previously included comparison of various groups and variables using chi-square analysis

(Norcoss, et al. 1989), separate one-way ANOVAs (Ross, et al. 1991), and the Kruskal-Wallis H test (Cherry, et al. 2000; Gaddy, et al. 1995). Such analysis of inter-group differences enabled an overall understanding that there are significant differences among different kinds of training models and between applied specialties when various outcome variables are compared across these groups. However, none of these program outcome studies examined what kind of differences might be operational in training programs that adopt a specific kind of training model. Specifically, in relation to the scientist-practitioner model, they did not investigate how training programs differ in their interpretation and implementation of the model. This gap not only provided the rationale for conducting my study but it also informed the method used to conduct the study.

The goal of my study was to develop descriptions of how different scientist-practitioner programs approach the task of integration in order to understand how scientist-practitioner programs differ in their strategies of integration. Comparing program demographics across different scientist-practitioner programs would not facilitate the goal of understanding the nature of differences among programs that adhere to the scientist-practitioner model. Thus, developing a thick description of the selected programs was the first step toward capturing the complexity of the various strategies used by counseling psychology training programs to achieve the goal of integration.

At an initial level, qualitative research methods provided a means of developing programmatic descriptions of the various strategies used to implement the conceptual scientist-practitioner model. Qualitative research uses multiple methods and it "reflects an attempt to secure an in-depth understanding of the phenomenon in question" (Denzin & Lincoln, 2000, p.5). According to Denzin & Lincoln (2000), "the word *qualitative* implies an emphasis on the qualities of entities and on processes and meanings that are not experimentally examined or measured (if measured at all) in terms of quantity, amount, intensity, or frequency" [italics in original] (p.8). Unlike quantitative research that values etic, nomothetic information, qualitative research values rich descriptions of the social world (p.10). Given that this study seeks to develop a contextual understanding of the different strategies of integration implemented by selected training programs by developing a thick description of the programs, qualitative research methods were considered more suitable than quantitative research methods.

In a qualitative research study, the choice of methods is determined by "what information most appropriately will answer specific research questions, and which strategies are most effective for obtaining it" (LeCompte & Priessle, 1993, p.30). These methods include ethnomethodological techniques, grounded theory, life history research, interpretive practices and case study among a myriad of qualitative research methods (Denzin & Lincoln, 2000, p.22).

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I briefly describe these methods in qualitative research in order to provide my rationale for choosing the collective case study method for my study as opposed to other qualitative research methods. For instance, different kinds of ethnographic methods are currently operational but one key assumption of the method "has been that by entering into close and relatively prolonged interaction with people (one's own or other) in their everyday lives, ethnographers can better understand the beliefs, motivations, and behaviors of their subjects than they can by using any other approach" (Tedlock, 2000, p.456). Ethnography typically relies on participant or non-participant observation and fieldwork as tools to gather data (p.455). I seek to understand how programs describe and implement the strategies they use to integrate science and practice but I am not interested in understanding the culture of program per se or engage *in situ* observation of how programs function. Hence, ethnographic methods would not facilitate the development of these descriptions of strategies of integration.

Grounded theory, on the other hand, "consist of systematic inductive guidelines for collecting and analyzing data to build middle-range theoretical frameworks that explain the collected data" (Charmaz, 2000, p.509). I did not use the assumptions of grounded theory to develop my research questions or select cases for this study. More importantly, I did not intend to develop a theoretical explanatory framework. My goal was to develop a thorough description of the differences in interpretation and implementation of the scientist-practitioner model.

Grounded theory might be more useful for future studies that aim to develop

theoretical explanatory frameworks based on the description of the differences

among selected scientist-practitioner programs in counseling psychology.

Life history methods are used to understand personal experiences of

individuals from the individual's perspective and it can viewed as an "retrospective

account by the individual of his life in whole or part, in written or oral form, that

has been elicited or prompted by another person" (Watson & Watson-Franke, 1985,

p.2). Because my focus is on interpretation and implementation of the scientist-

practitioner as embodied in selected training programs, it did not involve

understanding individuals' life experiences. Hence, this method was considered

inappropriate for studying a program's training policies.

Interpretive practices that include a variety of phenomenological approaches

are a "constellation of procedures, conditions, and resources through which reality

is apprehended, understood, organized, and conveyed in everyday life" (Gubrium &

Holstein, 2000, p.488). Most interpretive practices attempt to understand

experiential aspects of human experiences and are not well suited for understanding

and describing how programs interpret and implement the scientist-practitioner

model.

Case study as a form of research "is defined by interest in individual cases,

not by the methods of inquiry used" (Stake, 2000, p.435). Case study methods

"involve systematically gathering enough information about a particular person,

social setting, event, or group to permit the researcher to effectively understand how

the subject operates or functions" (Berg, 2004, p.251). According to Patton (1987):

> Case studies become particularly useful where one needs to
> understand some particular problem or situation in great depth, and
> where one can identify cases rich in information – rich in the sense
> that a great deal can be learned from a few exemplars of the
> phenomenon in question (p.19).

The single epistemological question that drives the study is, "What can be learned

from the single case" (p.436)? In this study, this question extends to multiple cases.

Stake (2000) distinguishes between three kinds of case study – intrinsic,

instrumental, and collective. Intrinsic case study is undertaken if the primary

interest is the case itself and not because it might necessarily lead to a better

understanding of other cases or it might lead to more theory-building (p.437).

Instrumental case study is undertaken, on the other hand, if examining a case might

"... provide insight into an issue or to redraw a generalization. The case is of

secondary interest, it plays a supportive role, and it facilitates our understanding of

something else" (p.437). A collective case study is an "instrumental case study

extended to several cases" (p.437). The collective case study was used for this study

and I now provide the rationale for choosing this particular form of case study.

The variations within the scientist-practitioner model could not be

adequately understood by examining one training program or a single case per se.

The goal was not merely to describe a particular training program's strategies for

the sake of understanding that particular training program as would be the goal of

an intrinsic case study. An examination of carefully selected exemplar programs was necessary to get a better grasp of how programs vary in their interpretation and implementation of the scientist-practitioner model. Thus, the goal was to understand an issue in depth and in this study the issue involved understanding how different training programs interpret and implement the scientist-practitioner model. In the collective case study, each individual case (individual training program) was treated as a distinct unit of study and then a comparison across cases was conducted to develop a better description of the different interpretations and differences in implementation of the model, within and across the cases. Cross-case comparisons facilitate the understanding of differences within the scientist-practitioner model in terms of how programs interpret and implement the training model. Thus, the focus on understanding different training programs' approaches to interpreting and implementing the scientist-practitioner model justified conducting a collective case study.

For the purpose of answering the research questions stated previously, I chose to conduct an in depth examination of a selected number of training programs with a focus on understanding how programs interpret and implement the scientist-practitioner model. Case study method was the most appropriate method for this purpose. Training programs fit the requirement of what constitutes a case – it is a bounded, integrated system (Stake, 2000, p.436). In addition, studying selected exemplar training programs with a focus on how these programs conceptualize and

implement the scientist-practitioner model facilitates the development of rich

descriptions of their strategies of integration. According to Berg (2004):

> By concentrating on a single phenomenon, individual, community or
> institution, the researcher aims to uncover the manifest interaction of
> significant factors characteristic of this phenomenon, individual,
> community, or institution. But, in addition, the researcher is able to
> capture various nuances, patterns, and more latent elements that
> other research approaches might overlook (p.251).

The focus on interpretation and implementation of the scientist-practitioner model

also "provide[s] a powerful conceptual structure for organizing the study of a case"

(Stake, 1995, p.17). The collective case study is also undertaken "because it is

believed that understanding them will lead to better understanding, perhaps better

theorizing, about a still larger collection of cases" (Stake, 2000, p.437). Thus,

developing a description of the selected training programs' interpretation and

implementation of the model can facilitate future understanding of strategies of

integration used by scientist-practitioner programs that are not part of this study.

However, case studies have limited generalizability and the results of the

study will not be generalizable to all accredited counseling psychology programs.

But, it will inform future studies and accreditation policies by bringing out the

differences among programs that adhere to the scientist-practitioner training model

and provide a richer understanding of the complexity inherent within the model.

Data Gathering

It would have been ideal to study all 65 programs in order to develop a complete description of all the different interpretations and different approaches to implementation of the model used throughout counseling psychology doctoral programs. The collective case study research strategy calls for the selection of particular case exemplars from across the spectrum of variations in the phenomenon under study. For this study, eight exemplars of counseling psychology programs identified as implementing various strategies of the scientist-practitioner model were selected. In addition, an in-depth examination of all 65 programs is not feasible to be undertaken as part of an unfunded dissertation study nor is it necessary as long as great care had been taken while selecting the exemplar cases. The focus of the case study method is on understanding the particular case under scrutiny rather than aim for broad generalizations. Hence, I made a choice of carefully selecting a few training programs that would constitute my collective case study research. Data gathering consisted of two stages – first, selecting the cases for the study; second, gathering data from and about the cases.

Selection of Cases

During the first stage, there were two rationales for selecting the cases. Firstly, the cases had to be exemplars such that they embody the variations within the scientist-practitioner model. Secondly, selection had to be made on a pragmatic basis taking into account accessibility of information, level of cooperation of the training director, and limitation of time and resources.

As mentioned in the beginning of this chapter, there are multiple interpretations and variations in how the scientist-practitioner model is operational. In counseling psychology, most programs appear to occupy the middle ground with a narrow range starting from "scientist-practitioner, practitioner-scientist, and practitioner-scholar models" (Stoltenberg, et al. 2000). The authors of this article also cite Hill that all counseling psychology programs "seemed to integrate science and practice to at least some degree" (Stoltenberg, et al. 2000). To select program cases that varied in their interpretation and implementation of the scientist-practitioner model, it was necessary to devise a categorical system, because such a categorical system has not been developed in the existing literature. I devised a three-category logical system, which was used in order to provide examples of cases that employed different implementation strategies. The three categories were: (a) programs that are predominantly science-focused, (b) programs that seem to be balanced in their integration of science and practice, and (c) programs that are

predominantly practice-focused. As mentioned previously, variations within programs in terms of their varying emphasis on science and/or practice has been acknowledged and such varying emphasis led me to create this categorical logical system.

Following this categorization, I sought nominations of training programs by sending out a letter to all current training directors of accredited counseling psychology programs that adopted the scientist-practitioner model, describing my study and seeking nominations of programs that were examples of the three categories (See letter in Appendix A). The study was limited to programs within the United States only. This letter was sent out to 65 training directors throughout the country. I sent this letter with the relevant IRB authorization papers by US mail and, after a gap of two weeks, emailed the letter to all the training directors. The email did not include the IRB authorization papers because they had already received them by US mail. A list of all scientist-practitioner programs was provided to them in this letter. The list was created by referring to the latest listing of accredited doctoral programs in counseling psychology in the *American Psychologist* (APA, 2002). This list did not include programs in counseling psychology that espoused the practitioner-scholar model, practitioner model, and combined professional-scientific programs because these programs did not serve my goal of understanding differences in the scientist-practitioner model in counseling psychology. Because training directors have expertise and familiarity in

the area of doctoral training, their knowledge of training programs was used at this stage. Thus, while seeking nominations, I requested training directors to nominate scientist-practitioner programs that they deemed to fall into these three arbitrary categories.

Ideally, if all the 65 training directors or at least most of the training directors had responded to my request, I would have been in a position to clearly and easily select programs in all these categories. However, only 14 training directors responded in the six weeks after the letter and email was sent out. Consequently, I decided to modify my case selection process. I sought additional feedback and nomination of programs from two of my dissertation committee members – Dr.Goodyear and Dr.Stone – who are considered experts in the field of graduate training of counseling psychologists. I provided the list of programs that were nominated in the three categories by the 14 respondents to my letter and email and, in addition, enclosed the list of programs I had sent to training directors and sought their feedback. They concurred with most of the nominations that had been received and made some minor modifications.

The final list of nominations based on training directors' nominations and additional feedback from Dr.Goodyear and Dr.Stone is included in Table 2 below. Pseudonyms of philosophers' names are used in order protect confidentiality of participating institutions and training directors. Finally, 17 training programs were selected for the collective case study. Of these 17 programs, four programs were

nominated in the science-oriented category, nine programs in the balanced category, and four programs in the practice-oriented category. The uneven number of programs in each category was not a major concern. As mentioned previously, most programs appear to integrate science and practice to some degree and, hence, I was not surprised to see more programs nominated in the balanced category as opposed to the science-oriented or practice-oriented categories.

Table 2. List of Nominated Programs for the Collective Case Study.

Science-Oriented	Balanced	Practice-Oriented
University of Aquinas	University of Plato	University of Kierkegaard
University of Aristotle	University of Husserl	University of Hume
University of Spinoza	University of Socrates	University of Kant
University of Locke	University of Dewey	University of Anselm
-	University of Hegel	-
-	University of Descartes	-
-	University of Heidegger	-
-	University of Leibniz	-
-	University of Stuart Mill	-

Note: Dashes indicate that programs were not nominated in this category.

Gathering Data from Selected Cases

The second stage of data gathering involved contacting training directors of the nominated training programs in order to seek their consent and assistance to gather data.

Following the selection of cases, I mailed a second letter to the training directors of the 17 nominated programs describing my study, seeking their assistance in gaining access to their program's current self-study, information related to training such as faculty vitae, course outlines, and about 45 minutes of their time to conduct an audio-taped telephone interview. The letter is included in Appendix B. The relevant IRB authorization to conduct this stage of the study was also included with this letter. Two weeks after mailing the letter, I emailed the letter to all the training directors without including the IRB authorization papers. If all the 17 training directors had responded positively, I would have had 17 cases for my collective case study. However, getting access to self-studies and getting the training directors' consent for a telephone interview was a difficult process. Following my email request, two weeks after the hard copies were mailed out, one training director responded back stating that she could not participate in the study and two training directors consented to participate. However, the remaining 14 training directors did not respond at all.

At this juncture, I requested Dr.Goodyear and Dr.Stone to assist me in the data gathering process. They graciously consented and forwarded my request for access to self-studies and my request for a time for an interview to the 14 training directors once again. I received six positive responses and two negative responses following their email requests. Six training directors never responded. Thus, the six programs whose training directors responded positively were added to the collective case study in addition to the two training programs that were already part of the study.

In addition to the eight programs, I chose to add another nominated program (University of Aristotle) that provided access to its self-study on their program website and the website also had detailed information related to doctoral training. However, the training director of this program never responded to my request for a telephone interview.

University of Hume, which was nominated in the practice-oriented category, adopts the scientist-professional program. Initially, I had concerns if this program should be included in the study because it is not strictly a scientist-practitioner program. Following a discussion with my dissertation committee members, I decided to include the program because the scientist-professional training model explicitly aims to integrate science and practice and the differences between the scientist-professional and scientist-practitioner models was not considered wide enough to not select the program.

Of the eight training directors who consented to participate, two training directors declined to provide access to the program's self-study. A few weeks after consenting to participate in the study one of the training directors (University of Anselm) informed me that he could provide me with less than 15 minutes for a telephone interview. Hence, I chose not to include this program in the collective case study because I would have had insufficient information and I could not develop meaningful descriptions based on the available data. Thus, eight training programs constituted my final collective case study. Of these eight programs, one program fell in the science-oriented category, one in the practice-oriented category, and six in the balanced category. The final list of training programs that constituted my case study is included in Table 3 below.

Table 3. Final Selection of Training Programs for the Collective Case Study.

Science-Oriented	Balanced	Practice-Oriented
University of Aristotle	University of Plato	University of Hume
-	University of Socrates	-
-	University of Heidegger	-
-	University of Hegel	-
-	University of Husserl	-
-	University of Descartes	-

Note: Dashes indicate that programs were not nominated in this category.

Description of Cases (Training Programs)

Program descriptions are completely based on program website information of respective training programs. Phrases or statements cited in these descriptions are from the program website and I provide the page number from the printouts and section from which the statements are cited followed by the suffix, Website. But, I do not provide website references. In order to protect confidentiality of training programs and current training directors who consented to interview, the website reference was not provided because access to this reference information would compromise confidentiality of training directors and training programs.

University of Aristotle (Science-Oriented Program)

The counseling psychology program is housed in one of the largest departments of psychology at a large Research I state university. The department of psychology was established in 1919 and the counseling psychology doctoral program has been accredited since 1952. Historically, illustrious leaders in the field of psychology worked as faculty and administrators in this department, which helped in enhancing the prestige and popularity of the department. The counseling psychology doctoral program was also nurtured by leaders in the specialty who played a pivotal role in the development of the department in general and the

counseling psychology program specifically. The program has a rich and consistent tradition of research productivity that is based on an empirical research viewpoint to psychological science and research (Counseling Psychology, p.1; Website). The program also has a tradition of specializing in the areas of vocational issues, multicultural research, psychological assessment, biological bases of behavior, and in the interface between counseling psychology and social psychology. The department's historical parallel commitment to "pure science" and "practical application" continues through "a tradition of critical questioning, challenging assumptions, and pressing for quantification and measurement" (A Synopsis of our History, p.4; Website).

The following information was available in the link titled "Highlights from the Counseling Psychology Program". The program consists of three core faculty members, 13 affiliated faculty members, and four emeritus professors. The faculty members currently serve on seven editorial boards, and many have received multiple awards from APA, ACA, and Division 17 for their scientific contributions. There are currently 25 doctoral students in the program and 300 students have graduated from the program with masters and doctoral degrees since 1952. From 2000 to 2003, 88% of the students were authors or co-authors of convention papers and 75% were authors or co-authors of journal articles and book chapters. Many students have received multiple awards, fellowships, and grants. Among the current

students, six received graduate school fellowships, 16 department fellowships, and three graduate research partnerships grants.

This program was nominated seven times as a science-oriented scientist-practitioner program. Dr.Stone and Dr.Goodyear concurred with this nomination.

University of Plato (Balanced Program)

The counseling psychology doctoral program is housed in the college of education in a major Research I state university. The department offers multiple master's programs in addition to doctoral training. The doctoral program is one of the oldest in the country and it was accredited in 1953. It has a long tradition of research productivity, teaching excellence, and successfully competing for external funding. The counseling psychology program offers specialized training in multicultural issues, teaching effectiveness, and supervision.

Currently, there are 13 faculty members in the program. In the past five years, the program was awarded the APA Richard Suinn Award for excellence in multicultural graduate education (Counseling Psychology Program, p.2; Website) and it was selected as the Psychology Department of the Year by the APA Association of Psychology Graduate Students (p.2).

The program was nominated as a balanced scientist-practitioner program five times and Dr.Goodyear and Dr.Stone supported the nomination.

University of Socrates (Balanced Program)

The department of educational and counseling psychology in the school of education, part of a large state university, houses the division of counseling psychology. The division offers one doctoral training program and three master's degree programs. The program has been continuously accredited since 1980 and consists of 10 faculty members. Since the program got accredited, more than 130 students have graduated with doctoral degrees (A Message from the Director of Training, p.2; Website). The Committee on Accreditation commended the program for a clear and organized training model and curriculum. The program's website states that the doctoral program has been reputed for faculty productivity and is ranked among the top programs in the country.

This program was nominated once as a balanced scientist-practitioner program and Dr.Stone and Dr.Goodyear chose this program in this category as well.

University of Heidegger (Balanced Program)

The doctoral program is housed in the school of education and offers a doctoral and master's degree program. It is part of a major private Research I university. The doctoral program has been fully accredited since 1996. The program is currently undergoing major administrative and programmatic changes as part of

larger policy shifts in the school of education, leading to the phasing out of the program. These changes have impacted the training program in the last two years as it adjusts to these major changes. The division of counseling psychology has a record of attracting faculty who are leaders in the specialty of counseling psychology and who are active in Division 17 activities. There appears to be a difference in the kind of doctoral training offered prior to such programmatic changes being instituted in comparison to the current status of the program. A reduction in the number of core faculty members and resources has challenged the demands made on faculty members, students, and the administrative staff. Currently, there are four core program faculty members, three 'other' program faculty members, and eight adjunct faculty members. The program currently has approximately 50 students.

Dr.Stone and Dr.Goodyear nominated this program as a balanced scientist-practitioner program although other training directors did not nominate this program.

University of Hegel (Balanced Program)

The doctoral program is housed in the college of education in a major state university. The program adheres to the scientist-practitioner model of training with an emphasis on "empirical [*sic*] data as the basis for professional practice"

(Introduction, p.1; Website). The program is gaining prominence by attracting faculty members who are recognized and visible in the specialty of counseling psychology for their academic achievements. Faculty members from both counseling psychology and counselor education teach in the program and there are a total of 15 faculty members in the program (Counseling Psychology Faculty, pp.1-3; Website).

This program was nominated as a balanced scientist-practitioner program four times and Dr.Goodyear and Dr.Stone concurred with this nomination.

University of Husserl (Balanced Program)

The doctoral program, in the college of education, is housed in a Research I state university. It offers a doctoral degree but no master's degree is offered. The main division consists of doctoral programs in five specialties, including counseling psychology. All the programs share a philosophy of application of psychological and quantitative principles (Counseling Psychology, p.4; Website). The division also has a long tradition of research in psychological assessment and psychometrics and the division houses a research center that focuses on psychometric issues.

This program has been accredited since 1983 and consists of six core faculty members and seven adjunct faculty members. Faculty members have been recognized with awards for outstanding achievement in Counseling Health

Psychology and serve on several journal editorial boards. A number of students have received dissertation fellowships, research awards, and minority fellowships both from the university and various APA divisions.

The program was nominated as a balanced scientist-practitioner program primarily by Dr.Stone and Dr.Goodyear although none of the training directors who were previously contacted nominated this program.

University of Descartes (Balanced Program)

The doctoral program is one of the older programs in counseling psychology and has been continuously accredited by APA since 1957. The program is part of the department of educational psychology in the school of education and is housed in a state university. There are nine faculty members in the program and there are approximately 55 graduate students in the program.

The program was nominated as a balanced scientist-practitioner program twice and Dr.Goodyear and Dr.Stone chose this program in this category as well.

University of Hume (Practice-Oriented Program)

The program is housed in the college of education in a major state university. The program adheres to the scientist-professional model of training and

admits only master's level students into the program. Multicultural awareness and training is a major component of the doctoral program. The program was established in the 1940s and, over the years, it underwent a series of changes (Doctoral Student Handbook, p.4; Website). Finally, the program received full APA accreditation in 2000. The program consists of five core faculty members and seven affiliated faculty members. Currently, there are approximately 41 students in the program.

The program was nominated in the practice-oriented category four times and Dr.Goodyear and Dr.Stone agreed with the program's nomination in this category. They also endorsed the inclusion of this program in the collective case study in spite of the program adhering to the scientist-professional model of training.

The next subsection describes the various data sources utilized for gathering data.

Sources of Data

Qualitative researchers are interested in any data that contribute to knowledge of the situation they are studying (Polkinghorne & Gribbons, 1998, p.118). According to Polkinghorne (1991), "qualitative researchers are data scavengers" (p.182). Polkinghorne & Gribbons (1998) stated that the primary function of participants in qualitative inquiry is to be sources of rich data (p.118).

Therefore, training programs were chosen selectively so that they provided "intense descriptions of the situation under investigation" and added "enough variation in the data to develop a comprehensive structural description" (Polkinghorne, 1998, p.119). According to Stake (1995), "choosing issues helps to define data sources and data gathering activities" (p.133). Multiple sources of data were used to gather information about the cases and these sources were chosen because they provide information about programs' training policies. Data sources consisted of information from the program's website, the program's current self-study, dissertation abstracts from the past seven years, and interviews with the program's current training director. I now provide my rationale for choosing these sources of data for my study.

Program Website

Information from the program website was used as one of the sources to gather information about a training program. Such information is easily accessible and provides preliminary data on a program's specific training philosophy, programmatic details, and occasionally information about coursework. However, because websites are typically developed with the goal of marketing and advertising a program, information relating to challenges in integration would not be available.

Programs also vary in how much information they provide on their program websites.

All the eight training programs had accessible website information related to doctoral training. I printed out all the information including data from web links in each program website.

Self-Study

Self-study is a document written by the program for the purpose of accreditation by APA and it contains detailed information about a program's training philosophy, conceptual approach to training, strategies of implementing the training model, faculty vitae, coursework syllabi, and alumni and current student survey data about their satisfaction with training. Typically, a self-study consists of a narrative portion and a non-narrative portion consisting of tables and appendices. Training programs varied in their policy of providing access to their self-study documents. Of the selected eight training programs, one program (University of Plato) refused to provide any access to the self-study while the rest differed in how much access they were willing to provide me. The remaining seven programs provided access to the narrative portion of the self-study; four programs did not provide access to all the tables and appendices that constitute the complete self-study. Consequently, information such as course syllabi, faculty vitae, graduate

employment statistics and other related information was not always available. Programs also varied on how current the self-studies were because they were prepared during different APA site visit schedules.

Dissertation Abstracts

Dissertation abstracts of students from the selected training programs were accessed from Proquest Dissertation Abstract Database. This information is easily accessible and I chose to examine dissertation abstracts from 1997. I chose the year 1997 because the oldest self-study was written in that year. The research methods used in dissertations provide a concise view of the conceptual approach to psychological science and research programs espouse. Hence, dissertation abstracts were used as a data source. However, a few programs listed inexplicably small number of dissertation abstracts in the database.

Interviews

The rationale for conducting interviews was to capture information that is not evident or mentioned in other data sources. According to Patton (1987), "The fundamental principle of qualitative interviewing is to provide a framework within which respondents can express their own understandings in their own terms"

(p.115). As mentioned previously, data sources such as program website information and self-studies can be biased and limited in providing information about the challenges of integrating science and practice. They are predominantly descriptive. Interviews with training directors are also vulnerable to problems relating to time constraints of the training director, willingness of the training director to openly discuss training issues, and biases of the training director. In spite of these limitations, interviews can provide valuable data and they can be helpful in getting access to the evaluative component as well the training director's perspective on the subject of study. Training directors can share their evaluations of training policies rather than provide mere descriptions of what is operational in training programs. Thus, the main goal of conducting these interviews was to gain access to information that was not easily accessible from the other data sources.

I conducted interviews of current training directors of the selected training programs in order to get their perspective on the subject of this study. Five interviews were conducted over the telephone and audio-taped while two interviews were conducted face-to-face and these interviews were also audio-taped. Consent for conducting the interview as well as permission to audiotape the interview was sought from the training director prior to the interview. The relevant details were included in the IRB paperwork that was sent to each training director. One training director (University of Aristotle) never responded to my request to conduct an interview and, therefore, this interview did not take place.

Wolcott (1994) identifies "three major modes through which qualitative researchers gather their data: participant observation (experiencing), interviewing (enquiring), and studying materials prepared by others (examining)" (p. 10). The other sources I utilized until now fall under the last category of materials prepared by others that I examined. Interviews fall under the second category wherein I inquired about the research questions I was seeking to answer by conducting interviews of training directors. Interviews provide the pathway to discovering and portraying multiple realities (Stake, 1995, p.64). Ideally, I would have preferred to access these multiple realities by interviewing individuals who play different roles and possibly have different perspectives on training-related issues. For example, current faculty members in these training programs, past training directors, adjunct faculty members, clinical supervisors in practicum sites, current graduate students and alumni, members of the APA Committee on Accreditation and other members of the training program could provide varying perspectives about training and the integration of science and practice. Due to limitation of time and resources as well as constraints of access to these individuals, I limited my interviews to current training directors.

Interviews can be approached through various strategies. Patton (1987) differentiates between three kinds of approaches: "(1) the informal conversational interview, (2) the general interview guide approach, and (3) the standardized open-ended interview" (p.109). The informal conversational interview is spontaneous and

is shaped by the natural flow of the conversation and the questions are responsive to individual interviewees (p.110). The interview guide approach entails having a prepared list of questions or issues prior to the interview and, hence, the interview is not as spontaneous. However, the interviewer has the option "to build a conversation within a particular subject area, and to establish a conversation style – but with the focus on a particular predetermined subject" (p.111). The standardized open-ended interview is more structured and consists of a set of questions carefully worded and arranged and these questions are posed in the same order to all the respondents (p.112). This style of interviewing is primarily "used when it is important to minimize variation in the questions posed to interviewees" (p.113).

For my study, I adopted the interview guide approach. This approach is neither as unstructured as an informal conversational interview nor is it as structured as the standardized open-ended interview. Based on the research questions and issues to be explored, a preliminary list of questions was formulated (See Appendix C). The main purpose of these questions was to be certain that all the relevant topics were covered during the interview. In addition, training directors' time is valuable and I wanted to maximize the information gathered by using the interview time economically. According to Patton (1987):

> The advantage of an interview guide is that it makes sure the
> interviewer has carefully decided on how best to use the limited
> time available in an interview situation. The interview guide helps
> to make interviewing different people more systematic and
> comprehensive by delimiting the issues to be discussed in the

> interview. The interview guide approach is especially useful in conducting group interviews. A guide keeps the interaction focused, but allows individual perspectives and experiences to emerge (p.111).

As the data gathering process evolved, I added more questions to the interview relating to how training directors described the programs' strategies of integration as well as various factors, internal and external to the program, that they deemed as influential in the implementation of the model. These questions are also mentioned in Appendix C.

According to Kvale (1996), there are seven stages in an interview investigation (p.88). These stages are thematizing, designing, interviewing, transcribing, analyzing, verifying, and reporting (p.88). The first three stages have already been discussed including the relevance and need for the study, the method used in the study, and the rationale and approach to conducting interviews with training directors. The fourth stage involves transcribing. I transcribed all interviews verbatim using a transcribing machine in order to transform the oral speech to written text for the purpose of analysis. I transcribed each interview immediately after the interview was completed so that I could use the information gathered to inform my future interviews. The next subsection on data analysis describes my approach to data analysis in depth. The sixth stage of interview investigation is identified as verifying (p.88). I emailed verbatim transcripts of interviews to respective training directors and sought their feedback. None of the training directors made any additional comments and all of them affirmed the

accuracy of the transcript content. The next chapter on Findings reports the findings of the study through individual case descriptions.

It is critical that the quality of the interview is excellent because "the quality of the original interview is decisive for the quality of the later analysis, verification, and reporting of the interviews" (Kvale, 1996, p.144). There are three important components that determine the quality of the interview – the interviewer's skill, the interview subject or the interviewee, and how "self-communicating" the interview is (p.145).

With regards to the interviewer's skill, I believe that my experience for three years as a research assistant in a multi-site, large scale ethnography study and my clinical training have honed my interview skills – framing questions, establishing rapport with the interviewee, picking up nuances, verifying interpretations, and getting maximum information. In addition, I was also aware of my biases that could influence the interview process and the overall study itself. My opinion on this subject was based primarily on two experiences – reading the existing literature and my current experiences as a doctoral student in an APA accredited doctoral counseling psychology program. As a result of reading the literature and my current student status, I was more skeptical about the feasibility of integrating science and practice and also questioned the fundamental assumption that an individual could be competent in both science and practice. In addition, I also questioned the notion of the scientist-practitioner, trying to understand what the term meant.

I was acutely sensitive to how this bias could influence the interview or data analysis process and I assiduously kept analytic memos in order to be constantly aware of my biases while conducting interviews and interpreting data. These particular memos helped me appropriately word my interview questions and informed the kind of details I sought from training directors. Finally, I assumed a reflective stance to the task at hand so that I could remain open to the complexity within the data. Being self-reflective and maintaining memos were especially helpful during interviews because I could carefully phrase inquiries and clarifications in a manner that would not foreclose training directors' responses. My preferences for methodological diversity in research training and practitioner-based inquiry as approaches to integrating science and practice informed how I interpreted the selected programs' approach to integration.

The interview subjects in this study were the current training directors of the selected training programs. Of the eight selected programs, the training director of one program (University of Aristotle) never responded to my request for an interview. The remaining seven training directors responded positively but all of them committed to a single interview for a span of about 45 minutes. One training director (University of Heidegger) was available locally and, hence, I chose to conduct a face-to-face interview. Another training director (University of Hegel) informed me while I was trying to get access to the program's self-study that the document was loosely bound and it would be difficult for him to photocopy such

large amounts and send them to me. Consequently, I offered to drive down (about 400 miles) and photocopy the materials. We decided to schedule a face-to-face interview during my visit to photocopy the self-study. All the seven training directors who consented to interview were friendly, forthcoming, and honest about their evaluations of the training programs and the challenges involved in integrating science and practice. Many training directors candidly admitted to problems in training and discussed the gap between what the self-study stated as a particular strategy of integration and the actual implementation of the strategy.

A "self-communicating" interview is self-contained (Kvale, 1996, p.145). That is, the interview data reveals important information as well as remains open to further interpretations. All the interviews reveal the information I sought and they also facilitated interpretations by enabling the creation of links between conceptual approaches and functional implementation of strategies. It also facilitated the understanding of factors, internal and external to the program, that impacted doctoral training.

Conducting interviews entails following certain ethical guidelines. The two main ethical concerns that I addressed were informed consent and confidentiality. Consent to conduct audio-taped telephone interviews were sought at two junctures. Prior to conducting the study, I got approval from the Institutional Review Board (IRB) to conduct my study and the IRB application for my study's approval included details regarding the interview process. The IRB approval paperwork was

mailed to all the training directors who were interviewed so that they are aware of the details of my study prior to giving consent. I provided detailed information about the goal of my study, the data gathering, data analysis, and data storage policies. They were informed that the interview would be conducted over the telephone unless face-to-face interview was feasible and that all interviews would be audiotaped. In addition, I informed them that the interview would take 45-60 minutes approximately and I might request an additional interview time, if needed. The second juncture for getting consent was just prior to beginning the interview. I explained the goal of my study and described the interview process briefly and explicitly sought their consent to audiotape before switching the record button on.

The second ethical issue concerned confidentiality. Common etiquette of ethics and IRB rules both dictated that I protect the identity of a training program and the training director. Details regarding how confidentiality would be protected were mentioned in detail in the IRB paperwork that was mailed to them. The safeguards included using a pseudonym of philosopher's name for each training institution and not providing any identifying information about a training program or a training director while describing the cases or analyzing them. In addition, I did not provide website references or specific self-study references to protect confidentiality. Similarly, while quoting excerpts from any data source, all identifying information such as another faculty member's name or complete titles of presentations and publications were replaced by an ellipsis. All the data stored in

my personal laptop computer are password protected and hard copies of data are stored in a locked cabinet in my personal library. The audiotapes are coded, with no identifying information present, and are also placed in the locked cabinet. The protection of confidentiality of training directors and their respective training institutions is not limited to the dissertation alone but it extends to any publication arising from this research in the future. Self-studies will be identified with a prefix of SS followed by the pseudonym. For example, the self-study of University of Aristotle will be identified as SSAristotle. Similarly, interviews of training directors will be identified using a prefix I. For example, interview of the training director from University of Hume will be identified as IHume. Dissertation abstracts will identified with a prefix DA. For example, dissertation abstracts from University of Husserl will be identified as DAHusserl. Specific page numbers and line numbers will also be provided, the latter for interviews only.

Summary of Data Collected

I discussed the various data sources and the kinds of data I gathered for this study in detail. In summary, the data sources for the study included program website information, self-studies from the selected cases, dissertation abstracts from 1998, and interview transcripts based on interviews with training directors of the selected programs. In order to provide a sense of the quantity of information

gathered, I mention the number of pages of data I gathered from each data source

for each selected case or training program. This information is presented in Table 4

below. Most of this data is single-spaced.

Table 4. Quantitative Summary of Gathered Data from Different Data Sources.

Program	Website	Self-Study	Dissertation Abstracts	Interview Transcripts
University of Aristotle	50	36	41	-
University of Plato	92	-	38	6
University of Socrates	67	68	26	5
University of Heidegger	46	214	13	11
University of Hegel	35	191	29	10
University of Husserl	118	85	25	10
University of Descartes	119	119	12	9
University of Hume	232	68	8	12
Total # of pages	759	791	192	58

Note: Dashes indicate that the data source was not accessible.

Data Analysis

In qualitative research, "there is typically not a precise point at which data

collection ends and analysis begins" (Patton, 1987, p.144). In fact, qualitative data

analysis is typically a reiterative process of data gathering and data analysis.

Polkinghorne (1991) explains that qualitative approach is based on the principles of "gestalt logic" or "hermeneutic circle" which conceptualizes understanding as "a reciprocal interaction of the whole schema and its parts" (p. 179). This study is no exception. I now describe how I approached the task of data analysis in detail.

Data analysis roughly began after I gained access to two self-studies and after I completed two interviews with training directors. Prior to that I had arbitrarily divided training programs into three categories – science-oriented, balanced, and practice-oriented and based on these categories, I had selected eight programs for the case study. In addition, I had tentatively formulated interview questions based on information gleaned from the existing literature (See Appendix C), which I used during the first two interviews.

Upon reading the interview transcripts and the two self-studies, I made two observations. First, there appeared to be a gap and a disconnection between what programs' self-studies describe as their philosophies of training versus how training directors viewed the program philosophies and how they evaluated the success and quality of training. Reading self-studies gave me the impression that the task of training a student to be a scientist-practitioner is well understood and easily carried out. The oft-repeated theme in self-studies while describing the scientist-practitioner was the use of critical thinking in research and practice. On the other hand, although training directors sounded sanguine about the goal of integration, they shared their reservations and conceded to problems in attempting to integrate

science and practice in training. My second observation was that training directors'
notions of what a scientist-practitioner meant was not uniform. For example, some
training directors viewed a scientist-practitioner as an individual who spends equal
time engaging in both activities while others viewed the scientist-practitioner as an
individual who applies science during the therapeutic process. As I became aware
of these disconnections between the self-studies and interview content, I decided to
revisit the literature once again.

There had been a gap of approximately five months since I read the
academic literature, while preparing the literature review for the dissertation
proposal. As I started reading the articles again, I realized that I had an extensive
number of articles and book chapters but the articles and book chapters were
disorganized and so I had to first organize the literature. While writing the literature
review, I had spiral bound all the articles and book chapters for ease in handling. I
had 15 spiral bound volumes. However, I could not easily remember or trace any
particular article unless I perused through all the 15 volumes. This was a time-
consuming, inefficient, and frustrating process. Consequently, I decided to make a
table of contents for each volume so that I could easily trace articles and I also used
red plastic tabs to demarcate each individual article so that I reduce time spent
turning pages searching for a particular article in a volume. To further organize the
spiral bound volumes, I labeled each article using the red tabs by a code I had
created – "Science", "Practice", "S-P", and "Functional". "Science" and "Practice"

were articles discussing conceptual problems. "S-P" identified articles that discussed the notion of scientist-practitioner and "Functional" related to articles on implementation of the model. Having organized the articles, I used the structure in the literature review and read articles relating to conceptual issues in science and practice followed by articles that discussed functional problems in the model.

At this stage, the "S-P" articles proved helpful because these articles discussed what I had observed in my preliminary reading of the data – two self-studies and two interview transcripts. My observations were that there are different interpretations of the scientist-practitioner model and programs train scientist-practitioners of different hues. Based on this new insight, I added two questions to the interview – How do you define a scientist-practitioner? How does your program train students to become scientist-practitioners (as per the definition)?

Equipped with this new insight, I was looking forward to the next interview and incoming data but the next set of self-studies took a few weeks to arrive and many training directors scheduled interviews in June/July, due to varying summer schedules. I used this waiting period to read all the articles once again and I also re-read the self-studies and interview transcripts I already had. I made a rough outline of different definitions of psychological science – natural and human science approaches, different definitions of practice – various theoretical orientations, different definitions of the scientist-practitioner – critical thinker, competent in research and practice, competent in ESTs, and knowledgeable in research and

practice. I also listed different strategies of integration – mentoring/role modeling, taking coursework in research and practice in every semester, and participating in faculty research groups. I made notes and summaries of most articles during this stage. This process helped me in developing a conceptual understanding of what I was finding although, at this stage, it merely translated into numerous pages of hand-written notes and memos.

As I was completing the reading and note-taking exercise, more self-studies came in and so did training directors become available for interviews. These subsequent interviews had the two additional questions I mentioned above. After I completed the fourth interview, I also observed that external factors impacted training. For example, one of the training directors described how the existence of a well-funded, highly respected research center in the department that conducted research on psychometric issues in counseling influenced the tenure process and the kind of research conducted in the program. Because the faculty members involved in this research center adopted highly traditional notions of psychological science, qualitative research appeared to be frowned upon. Thus, many faculty members as well as graduate students were encouraged to engage in positivistic, quantitative research. Similarly, another training director described how the merging of two state universities about two decades ago, led to the creation of the current university structure. The merger also led to the integration of a clinical psychology and counseling psychology program. Faculty members from the former program were

quantitatively-oriented and they changed the flavor of the counseling psychology program by conducting more positivistic research. Such observations led me to pay more attention to various influences a program is vulnerable to.

Consequently, following the fourth interview, I added more questions during my interviews seeking information on these influencing factors. At this stage, I added the final question in my section on research questions. I asked training directors the following questions – Are there any factors within the program or outside that influence training? How do these factors impact training, especially the science and practice components? How do these factors influence the development of the scientist-practitioners in the program? According to Stake (1995), "in a qualitative research project, issues emerge, grow, and die" (p.21). The evolution of these questions is an example of such emergence of issues.

By mid-July, I had all the data I hoped to gather and I began a more formal stage of data analysis which mainly entailed using the constant comparison method of case analysis. This process began with reading all the self-studies and interview transcripts a number of times. I began making notes and creating categories in the margins. However, I soon realized that accessing the notes and categories was not feasible as I was once again turning pages looking for a small notation. Having learned more user-friendly approaches while reading the articles two months prior, I abandoned writing notes in the margins. Instead, I purchased numerous plastic tabs in different colors. Green tabs were for science, blue tabs for practice, pink tabs for

integration, yellow tabs for influences, and orange tabs for miscellaneous observations.

As I completed this exercise of placing color tabs, I had developed a more detailed understanding of the eight training programs. To further the analytic process, I re-examined the interview transcripts and self-studies each color code at a time. This examination entailed understanding each training program as well as making comparisons across training programs. The color-coding was particularly helpful because I could compare all the main categories across training programs. However, before comparing training programs, I developed a brief description for each training program with the goal of answering the research questions for each individual case. While creating this description, I further labeled each plastic tab with the theme that each tab identified. For example, I differentiated among different kinds of influences (school of education, faculty attitude, managed care etc) in the yellow tabs and differentiated between the concept and strategies of integration in the pink tabs with a "C" and "S" respectively. Then, I embarked on the cross-comparison process.

By the time I was ready to compare cases, I had read the academic literature, the self-studies, and the interview transcripts more than 10 times and I had become very familiar with the data such that I could remember where different themes were present easily. However, ideas, statements, quotes, and categories still seemed elusive and lost in the data. To make the analysis manageable, I created a visual

representation using Microsoft Visio software. I re-named influences as Contextual

Factors and this representation is presented in Figure 1 below.
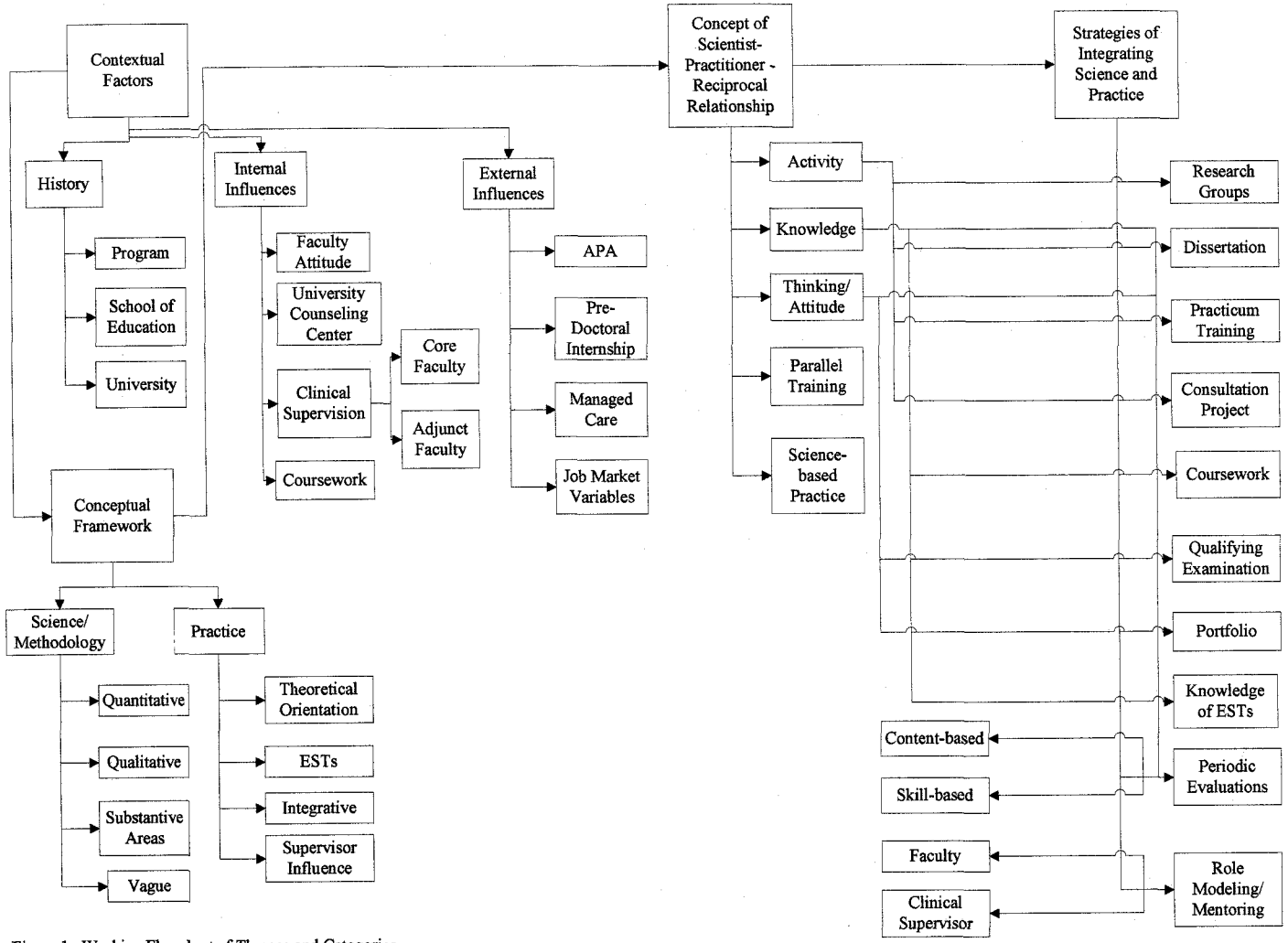
Figure 1. Working Flowchart of Themes and Categories.

The creation of the flow chart proved immensely helpful as I progressed through data analysis. The flow chart continuously evolved and changed during data analysis as new insights, questions, and themes emerged. Although I felt equipped to engage in cross-case comparison, I chose to complete writing the description for each training program before proceeding to case comparison because it helped me become more familiar with the data and I could easily identify how programs were similar or distinct in the strategies they used to integrate science and practice.

This exercise of comparing color tabbed themes, reflecting on the evolving flow chart, and preparing individual case descriptions continued throughout the data analysis phase, which included writing multiple drafts of the next chapter on the findings of this study. This exercise essentially helped me develop case descriptions from the available collective case study data of more than 1800 pages. The next chapter on Findings provides detailed case descriptions of six training programs out of the eight training programs I examined.

Chapter 4

FINDINGS

The goal of my study was to describe the differences in the interpretation and implementation of the scientist-practitioner training model by examining selected counseling psychology programs. Eight training programs constituted the cases for the collective case study. My goal was to develop a thorough understanding of each program per se and identify and describe the differences among programs, in terms of their interpretation and implementation of the scientist-practitioner model. For this purpose, I developed detailed case descriptions of the selected programs. The available data from program websites, self-studies, dissertation abstracts, and interviews with training directors were used for this purpose. In order to manage the length of this chapter, I provide six detailed case descriptions from the eight cases that were examined. The six cases selected for the detailed description represent the widest variations among the cases and, hence, were selected for developing the detailed case descriptions. Most of these programs are housed in Research I universities that emphasize research productivity. The universities' emphasis on research productivity parallels the programs' emphasis on research as well. However, I incorporate data from all the cases, including the two cases that were not described, while conducting comparative case analysis in the next chapter.

As I describe the cases, I use an ellipsis when I need to exclude any identifying information in statements I quote in order to protect the confidentiality of the participating institutions. This notation follows the APA Publication Manual guidelines when parts of a quote need to be excluded.

Individual Case Descriptions

In this section, I provide detailed descriptions of six individual cases from the eight cases that constituted the collective case study and the descriptions focus on how each training program's strategies of integration looks in operation. Each case description consists of three sections — (1) the program's concept of science and practice; (2) the program's concept or definition of the scientist-practitioner, and its strategies of integration, and finally; (3) factors, internal and external to the program, that might impact doctoral training. For the first section, my focus is not on the content of science training but my focus is on the methods of scientific inquiry as described in training in research methods. The kind of training provided in research methodology is indicative of how programs define psychological science. For the third section, I define "internal factors" as factors operating within the department where the program is housed and I define "external factors" as factors operating beyond the department level (e.g. university-level, APA, health care system, change in population demographics and so forth).

University of Aristotle

The program was nominated as a science-oriented scientist-practitioner counseling psychology doctoral program. Because I could not interview the current training director, the case description is solely based on secondary data gathered from the other three data sources – the program website, the narrative portion of the self-study, and dissertation abstracts since 1997.

Concept of Science and Practice

As mentioned previously, the program was nominated as a science-oriented scientist-practitioner program and I attempted to understand the program characteristics that led to such a perception by various training directors. My first goal was to understand the program's view of psychological science and practice. Three themes emerged in this regard. The first theme was the departmental emphasis on science, the second theme related to the counseling psychology program's emphasis on science, specifically the program's adoption of natural science, positivistic notions of psychological science. Finally, the third theme related to program's view of psychotherapy practice as being empirically based and this translated to a specific focus on training in ESTs. The term "empirical" is defined as experiment-based knowledge and I adopt this definition while using this

term in the future. However, I do not subscribe to such a limited definition of this term.

The first theme that emerged from the program website and self-study was that the department of psychology proudly values the science and research component of doctoral training and provides detailed information about this component. For instance, the section on "A Synopsis of our History" shares the contributions of various pioneering leaders in the field of psychology who were part of the department faculty since 1919 and these contributions are predominantly scientific in nature. Scientific contributions are limited to research conducted using the natural science, positivistic approach to psychological science, which is operationalized as quantitative research. The prestige of the department is tied to the prolific research productivity and visibility of the faculty members in the field (Synopsis, p.1; Website). The main areas of research focused in the department are biological bases of behavior, psychological measurement and psychometric research, rise of theory and application of behaviorism, vocational issues, and interface between counseling psychology and social psychology (Synopsis, pp.1-4; Website). More recently, the department has begun to conduct research on multicultural issues related to mental health and counseling (Counseling Psychology, p.1; Website).

Although the "Synopsis" section states that the department is characterized by a parallel commitment to "pure science" and "practical application", the major

portion of the Synopsis focuses on the achievements related to "pure science". The

section concludes with the following statement as characterizing the psychologists

in the department, "The tendency to ask critical questions, to challenge

unquestioned assumptions, and, perhaps most characteristically, to press for

quantification and measurement is now, as always, the hallmark of the ...

psychologist" (Synopsis, p.4; Website).

The department's emphasis on science and research appears to be mirrored

in the counseling psychology program's emphasis on science and research as well

(Synopsis of our History, pp.1-4; Website). The Counseling Psychology program is

defined as providing a "broad foundation in the science of psychology and takes an

empirical-research [*sic*] viewpoint toward counseling psychology" (Counseling

Psychology, p.1; Website).

The second theme that emerged with regard to the predominant focus on

psychological science was that the program typically defines psychological science

based on traditional positivistic notions of science. The definition is evident in

multiple ways – the kind of research being conducted by faculty members; high

visibility of faculty members in terms of their academic achievements; the qualities

emphasized while admitting students into the program; the kind of research centers

supported within the program where counseling psychology students are actively

engaged in research; the research-related coursework that students complete as part

of following the program curriculum, and the kind of dissertations produced by the

students. I now describe each of these program characteristics in greater depth in order to provide evidence for the program's commitment to the natural science view of psychological science and research.

The program website includes a link titled "Faculty" which contains information about each core faculty members' research interests, ongoing research projects, and recent publications. I describe some of the faculty research interests from the "Faculty" link without identifying individual faculty by name or by providing other identifying information while describing publication areas. The publication areas are examples of faculty members' positivistic approach to psychological research.

One professor's research interests lie at the interface of counseling psychology and social psychology, especially the application of social psychological theory to problems concerning counseling psychologists. Her major focus within this area is the study of adjustment to stressful or traumatic life events. An example of one of her recent publications is about correlates of posttraumatic growth among a specific population. Another faculty member is interested in studying various aspects of career development including conducting research on relevant psychological assessment tools used in the area of vocational counseling. Her research has a strong emphasis on psychometric variables and she endorses the empirical tradition that the department has historically been committed to. She recently published an article on discriminant functions related to a vocational test.

The third faculty member conducts research on multicultural issues and social connectedness including the study of psychological measures related to ethnic identity. One of his recent publications is about the measurement of ethnic identity of a specific ethnic group. The fourth faculty member focuses on various issues related to computerized adaptive testing and his research is heavily psychometric in nature. For instance, he recently published an article about effective and efficient measurement of psychological variables using computer technology.

Thus, research conducted by faculty members appears to be predominantly based on natural science approach to psychological science and use positivistic ideas of human behavior to inform their research. This conclusion is based on the various publication titles that describe research studies with a predominant focus on psychometrics and quantifying and measuring different psychological variables.

In addition to the nature of faculty research, faculty members are highly visible in the field in terms of the number and rate of publications and the various journal editorial boards they currently serve on. One faculty member is the editor of a premier peer-reviewed journal in counseling psychology and also serves on the APA's Board of Scientific Affairs. According to the program's self study (SSAristotle):

> As a group, the faculty have high visibility within the profession through their publications (e.g. refereed journal articles, book chapters, and books); frequent presentations at state, national, and international professional meetings; committee service; elected positions held within the state and national professional

organizations; Fellow status within the American Psychological Association (APA), the American Psychological Society (APS), and the America Association for Applied and Preventive Psychology (AAAP), and their service as editors and associate editors of journals, as journal editorial board members, and as journal reviewers (p.16).

High visibility in the profession is probably an indirect example of the program's approach to psychological science. It is possible that their academic success is translated as role modeling experiences for graduate students, as they are socialized into the academic world of research and publications. Because faculty members excel in quantitative research, students might define academic success as conducting quantitative research and becoming visible in the field in a manner similar to the faculty. However, it was not possible to verify with the training director if faculty members' high visibility is, in fact, translated into role modeling experiences for students. Instead, I attempted to examine information related to student publications and presentations as a possible evidence of this link.

A review of recent student presentations and publications seems to support the notion of students modeling faculty members' view of research. In addition, the detailed inclusion of students' research achievements in the program website can be viewed as a way of increasing students' visibility with regard to their research achievements. The program website has a link to student and faculty achievements (Highlights from the Counseling Psychology Program, pp.1-2; Website). Student achievements fall under three categories – highlighting recipients of grants and fellowships, student presentations, and publications. From the year 2000 to 2003,

88% of the students were authors or co-authors of convention papers and 75% of

the students were authors or co-authors of journal articles and book chapters

(Highlights from the Counseling Psychology Program, p.1; Website).

Another link titled "Student Presentations and Student Publications"

provides a list of references of student presentations and publications. Most of the

references appear to be heavily quantitative-research driven, based on the titles of

students' presentations and publications. For example, some of the student

publications relate to psychometric aspects of psychological tests, biological

underpinnings of human behavior, and quantitative measurement of psychological

variables related to behavior change (Student Publications, pp.1-8; Website).

Similarly, some student presentations focus on validity of psychological tests,

determining biological causes of human behavior, and on experimental results

based on tests conducted on rats (Student Presentations, pp.1-8; Website). The

research areas seem indicative that students also engage in research using

quantitative methods and they adopt the natural science approach to psychological

science, similar to faculty members. I discuss the relevance of role modeling and

mentoring in greater depth later in the subsection on the strategies of integration.

Another example of the program's commitment to natural science-based

psychological research is that the program emphasizes interest and skills in conducting

quantitative research as a desired prerequisite for being admitted into the program.

According to the self-study (SSAristotle):

> The goal of the Counseling Psychology faculty is to admit students into the program who want broad, scholarly training in the science of psychology and specializations in the area of counseling psychology. We admit those applicants who have demonstrated analytical, quantitative, and verbal skills as undergraduates at a level that suggests they are adequately prepared for graduate school (p.2).

It is possible that the program attracts students who already subscribe to the natural science view of psychology and hence are a good fit with the program. On the other hand, if incoming students do not subscribe to this view or if students are inclined toward psychotherapy practice, they might experience a dissonance with their personal views and interests and the program's training philosophy. Consequently, the students might find the natural science-based training philosophy as a barrier to integrating science and practice. However, it was not possible to verify the issue with the training director.

In addition to the kind of faculty and student research and student admission policies, positivistic notions of psychological science are further reinforced by the two research centers housed in the department of psychology, both relating to vocational and career development issues. Although the research centers are administratively housed in the department of psychology, the counseling psychology program faculty members and students play a relatively more active role in the centers' functioning. One of the research centers conducts psychometric research and the other center operates as a research center on career issues and functions as an advanced practicum site providing training in career counseling as well. Both centers encourage graduate students in the program to get actively

involved in the centers' research as well as its practicum component. The centers provide dissertation fellowships and research assistantships in order to encourage students to conduct research in the area of vocational and career development. Both research centers focus on psychological assessment, psychometric aspects of assessment tools, and quantitative measurement and comparison of psychological variables related to career development and vocational issues (Ongoing Research Projects, p.1; Website). The research foci are examples of the natural science view of psychological research supported by the program.

Coursework related to research are important indicators of what kind of research training and definition of psychological science a program adopts. In the program, training in research design and methodology takes place primarily through coursework such as Design and Analysis of Experiments, Research Methods in Social Psychology, Statistical Analysis Using Structural Equation Modeling, Advanced Multiple Regression, Regression and Linear Modeling, Factor Analysis, Psychological Scaling, Advanced Statistical Computing, Structural Equation Modeling, and Latent Variable Models (SSAristotle, pp.6-7). Although some of the courses are taken electively, the conspicuous absence of qualitative research courses and the emphasis on quantitative methods and statistical data analysis can be taken as another example of the natural science view of psychology that the program adopts during research training.

Student dissertations can be viewed as a product of their research training, faculty mentoring, and the prevailing views of acceptable topics of research and acceptable methods of conducting research. Four dissertations completed by students in the program are available in the Proquest database. The four dissertation abstracts indicate that students used only quantitative research methods in their dissertation research, which can be taken as another instance of the natural science view of psychology that the program subscribes to. The intriguingly small number of dissertation abstracts available in the database surprised me but I could not determine the reasons for the small number of dissertation abstracts.

Because the program also aims to train students in psychotherapy practice as part of implementing the scientist-practitioner model, I now describe how the program defines psychotherapy practice. The self-study and the website do not provide extensive information on the practice component of the program. It is limited to information about coursework related to psychotherapy practice, practicum and internship training. The main focus of psychotherapy training appears to be student exposure to different theoretical orientations and supervised practicum and advanced placements culminating in the pre-doctoral internship. During the theories course, guest lectures by "practitioners who adhere to a full range of theoretical orientations (e.g. psychodynamic, Adlerian, cognitive, behavioral, rational-emotive, solution-focused, Gestalt, feminist, family systems, client-centered, Jungian, and existential)" are organized (SSAristotle, p.4). There is

also an emphasis on integrating assessment with practice during didactic coursework and the availability of the in-house research center that also conducts career-related assessment and vocational counseling facilitates the integration of practice and assessment (SSAristotle, p.9).

Finally, the third theme relates to how psychotherapy practice is viewed in the program as an empirically supported endeavor. Although the program attempts to expose students to a variety of theoretical orientations, greater emphasis in psychotherapy training appears to be on the value of developing empirical support to practice and becoming competent in the use of ESTs. For instance, "in-class discussion focuses on empirical [*sic*] support for each theory" (SSAristotle, p.4). During training, "skills necessary for <u>evaluating the efficacy of interventions</u> are taught in both research and advanced practicum seminars" [underline in original] (SSAristotle, pp.7-8). The program also purchased a set of treatment manuals that students use during psychotherapy training (SSAristotle, p.12). These include "manuals describing empirically supported treatments for anger, depression, anxiety, and Post Traumatic Stress Disorder. These manuals are also discussed in the seminar" (SSAristotle, pp.12-13). It is not clear if the potential incompatibility of some theoretical orientations such as gestalt therapy and ESTs are examined during psychotherapy training. Thus, the program appears to adopt positivistic notions of psychological science and an experiment-based empirically supported view of psychological practice. I define this view of practice as *natural science-*

based practice. The next subsection examines the program's concept of the scientist-practitioner.

Concept of Scientist-Practitioner

In a generic sense, a scientist-practitioner integrates science and practice. My goal was to glean the meanings of three critically important terms – psychological science, psychotherapy practice, and integration. The previous subsection focused on the concepts of psychological science and psychotherapy practice adopted by the training program. Psychological science appears to be defined using the natural science approach while psychotherapy practice is defined using a positivistic scientific approach to psychotherapy practice and developing competence in the use of ESTs. The concept of integration is based on the program's description of the scientist-practitioner model and the strategies it uses to implement the model.

The training philosophy of the program is "based upon the scientist-practitioner training model, which emphasizes that students should be broadly trained in the science of psychology, in the conviction that a full-spectrum grasp of the field is necessary for the fullest understanding of the area of specialization, which is counseling psychology" (SSAristotle, p.4). The integration of science and practice is conceived as a "blending of science and practice" through the "reciprocal

relationship between science and practice" (SSAristotle, p.4) so that graduates become competent practicing counseling psychologists as well as researchers and/or academicians. Ideally, I would have liked to discuss the nature of the reciprocal relationship and what the process of blending science and practice entails with the training director during an interview. Because the interview did not materialize, I have gleaned the meaning of these statements based on the strategies of integration described in the self-study.

Strategies of Integration

The program appears to implement multiple strategies for integrating of science and practice. The strategies aim to blend science and practice through "the reciprocal relationship between science and practice" (SSAristotle, p.4). However, an examination of the program strategies reveals a more unilateral approach, which I already termed as natural science-based practice. Natural science-based practice focuses on the application of positivistic scientific approach and experiment-based empirical research in psychotherapy practice. The complementary approach of practice informing research, which I call *practice-based science*, is indirectly evident in how one of the research centers also functions as a practicum site and the organization of seminars with practica. However, I could not gather sufficient evidence of how practice-based science is operational in the program.

The strategies of integration include the curriculum structure, the emphasis on scientifically approaching psychotherapy practice during coursework, focus on developing competence in the use of ESTs, incorporation of General and Practicum Seminars during practica, the availability of two in-house department research centers that facilitate research and psychotherapy training, the nature of faculty mentoring, the focus of Comprehensive examinations, and the evaluation criteria developed to assess a student's performance in the Comprehensive examinations.

Core curriculum courses are organized such that students take research as well as practice courses every semester (Six Year Plan, Entering Class of 2004-2005; Website). The main theme that emerged in the description of coursework is that "in-class discussions focus on the empirical [*sic*] support for each theory" (SSAristotle, p.4). The statement is made in the context of the different guest lecturers who are invited to share their knowledge of various theoretical orientations. This approach of establishing scientific basis for psychotherapy practice is an instance of natural science-based practice.

Similarly, while describing what the program expects graduate students to complete during their doctoral training, the program website states that, "Through structured experiences, students are able to apply the science of psychology to their counseling. The practice experiences subsequently inform the types of research conducted by students and faculty" (Curriculum, p.1; Website). The first statement appears to be an instance of science-based practice, the second statement describes

the reciprocal relationship of science and practice where practice also informs research. Once again, it was not possible to elicit more information about how practice-based science takes place and it would have been helpful to clarify the issue with the training director.

Core curriculum courses are complemented with seminar and practicum experiences. The inclusion of General and Advanced Practicum Seminars reinforce the connection between science and practice through approaching psychotherapy practice issues from a scientific viewpoint (SSAristotle, p.12). According to SSAristotle, "In addition to core curriculum courses that provide the foundation of future learning, students participate in seminars and advanced practicum experiences that emphasize scholarship, scholarly inquiry, and problem solving based on scientific knowledge and empirical [sic] data" (p.10). For example, "The General seminar approaches practice issues from a scholarly perspective and explores topics such as theoretical and ethical issues, counseling techniques, empirically supported interventions, and client populations" (SSAristotle, p.12). Advanced Practicum Seminars are held concurrently with practica.

Practicum training also reinforces the relationship between science and practice. For instance, during the first practicum that is traditionally completed at the University Counseling and Consulting Services (UCCS), students are "required to demonstrate increasing competence in the application of counseling theory to practice, discrimination in selection of theory, and increasing awareness of their

own preferences for models of counseling. Use of measurement tools is integrated to the Practicum…" (SSAristotle, p.10). Among the five goals of the practicum seminars, one goal is to "(a) to teach students to integrate scientific and scholarly literature with their current practice experiences" (p.12). Typical Advanced Practicum seminar topics include use of tests and testing, application of counseling theories, and empirical supported intervention procedures (p.10). Thus, the curriculum structure of including research and practice courses in every semester and organizing General and Practicum Seminars with a focus on advancing the goal of science-based practice can be viewed as strategies of integration.

Another strategy for integration is evident in how the in-house department research centers function. As mentioned previously, the department supports two research centers and one of them also functions as an in-house advanced practicum site (SSAristotle, p.9). This is a "career counseling clinic staffed by graduate students in counseling psychology that provides comprehensive assessment, test interpretation, and planning services for individuals who want to learn more about their vocational potential" (Ongoing Research Projects, p.1; Website). Although the operation of such a clinic can be understood as an example of a strategy to integrate science and practice, the written literature in the website and the self-study emphasizes the research component only. Information about the center is mentioned in the section on "Ongoing Research Projects" with a focus on how the research conducted in the clinic and the clinical data gathered is used for longitudinal

research as well as other graduate research projects (Ongoing Research Projects, p.1; Website). An instance of science-based practice is that students are encouraged to use the accumulated psychometric data to inform their practicum work (Ongoing Research Projects, p.1; Website). The emphasis on psychological research might support the program's nomination as a science-oriented program because although these research centers have a practicum component, the emphasis is on the research component.

Faculty mentoring is considered a strategy to facilitate integration. Research training primarily entails students' participation in various Reading and Research Groups conducted by faculty members and becoming involved in the different research centers located within the department (SSAristotle, p.6). Psychotherapy training entails completing relevant coursework, practica, and the pre-doctoral internship. During doctoral training, faculty and supervisor mentoring play a critical role because "close working relationships with faculty provide students with opportunities for research experiences and professional development activities" (SSAristotle, p.4). However, core faculty members seem to model science and research while adjunct faculty members and field supervisors model the practice of psychotherapy. For instance, "The Budgeted Faculty (Core Faculty) provide the preliminary influence vis-à-vis the scientist component of the scientist-practitioner model of a counseling psychologist" (SSAristotle, p.16). The core faculty members' mentoring role might include how they model academic success through the kind of

research they conduct, their high visibility in terms of their publications, serving on journal editorial boards, and actively participating in various national professional organizations.

On the other hand, adjunct faculty members and field supervisors play a major role in psychotherapy training. According to the self-study, "The Adjunct and Clinical Adjunct Faculty and other Contributors are all involved in the training and supervision of our students. They demonstrate for students what it means to be a practicing counseling psychologist in settings within and outside the University" (SSAristotle, p.16). It is not clear if adjunct faculty members share a similar philosophy of training as the program. A gap between core and adjunct faculty members' training philosophy can significantly challenge the implementation of the goal of integration because students might experience dissonance in doctoral training from these two sets of faculty members.

Integration of science and practice is evaluated through various milestones students need to successfully navigate. These milestones include completion of coursework, completion of the Counseling Written Special Preliminary Examination (SSAristotle, p.14). The examination is designed so that the student can demonstrate (SSAristotle):

> detailed knowledge of research methodology and of the empirical
> literature; to demonstrate originality and rigorous thinking in
> developing research designs and research ideas; to exhibit
> knowledge of counseling theory, history, and its applications, to
> show expertise in testing and assessment; to exhibit knowledge of

empirically supported interventions, and to demonstrate sensitivity to and knowledge about ethical issues and cultural diversity (pp.14-15).

As the above quote states, "originality and rigorous thinking" entails the development of critical thinking. The conceptual definition of the scientist-practitioner does not explicitly state the importance of critical thinking. However, it is a theme that emerges frequently in how the program attempts to implement the goal of natural science-based practice by inculcating strong research competence and an attitude of scholarly inquiry.

Thus, it appears as though the reciprocal relationship of science and practice is less reciprocal and most strategies of integration approach the task of integration as natural science-based practice. The next subsection focuses on internal and external factors that impact doctoral training. It was not possible to develop a clear description of these factors because the available data did not directly address such factors. Because I could not interview the training director, I attempted to identify factors that I deemed influential in the program.

Internal and External Factors

There are three main internal factors that appear to play important roles in doctoral training. First, the department's historical emphasis on science and research is mirrored in the counseling psychology program's focus on science and research. Second, the presence of faculty members who are highly visible

professionally and are successful in various facets of conducting research probably plays a pivotal role in providing successful academic role models for students. The core faculty members, however, model a specific approach to psychological science – natural science, positivistic notions of psychological operationalized through quantitative research and statistical data analysis. Third, the presence of the two in-house research centers drives the kind of research typically conducted in the program.

Although no external factors could be clearly delineated as playing a role during doctoral training, two factors emerge as possibly playing influential roles. First, the university's status as a Research I University could inform program policies and the value placed on research and publications. The Research I status could also influence the kind of scientific research conducted in the program because most research universities subscribe to the natural science, positivistic approach to research. Second, it could be surmised that the emphasis on ESTs reflects a response to the changing health care delivery system, especially managed care. With the advent of managed care and its demand for accountability and experiment-based empirical support, the program might be focusing on training students in empirically supported interventions so that they are competitive in the current job market. Once again, I could not further corroborate with the training director about these observations. It was also not possible to identify other

influential factors that might be operational in doctoral training but were not evident in the available data.

Summary

Based on information from the available data sources, the program can be described as a science-oriented scientist-practitioner program. The program espouses positivistic notions of psychological science and conceptualizes practice of psychotherapy as an experiment-based empirical endeavor. The concept of scientist-practitioner "emphasizes that students should be trained broadly in the science of psychology" (SSAristotle, p.4). Although training in psychotherapy takes place, the predominant focus in psychotherapy training relates to adopting "an empirical [*sic*] research viewpoint toward counseling psychology" (SSAristotle, p.4). The integration of science and practice is implemented through multiple strategies. Curriculum structure, the focus of General and Practicum Seminars on science-based practice, the emphasis on ESTs, the role of the in-house Department research centers, faculty mentoring, and evaluation of students' competence are examples of strategies of integration.

The predominant notion of integration emerges as natural science-based practice with minimal information about practice-based science. Although the research centers conduct applied research and provide psychotherapy training, the

exact nature of practice-based research remains unclear. Another issue that could not be further clarified entails the nature of faculty mentoring. As mentioned in the self-study, core faculty members appear to be role models and provide mentoring in research while clinical adjunct faculty members and field supervisors tend to role model and provide mentoring for psychotherapy practice. It is not clear if clinical adjunct faculty members and various supervisors in practicum training also espouse the natural science view of psychological science and the experimental-based empirical view of psychotherapy practice. If clinical adjunct faculty members and field supervisors adopt a human science view of research and psychotherapy practice or fail to subscribe to the overall program philosophy, the integration of science and practice could be disjunctive and students might receive conflicting mentoring about notions of science and practice and how they are integrated.

Finally, I include a flow chart below (Figure 2) that provides a visual representation of the program's case description.
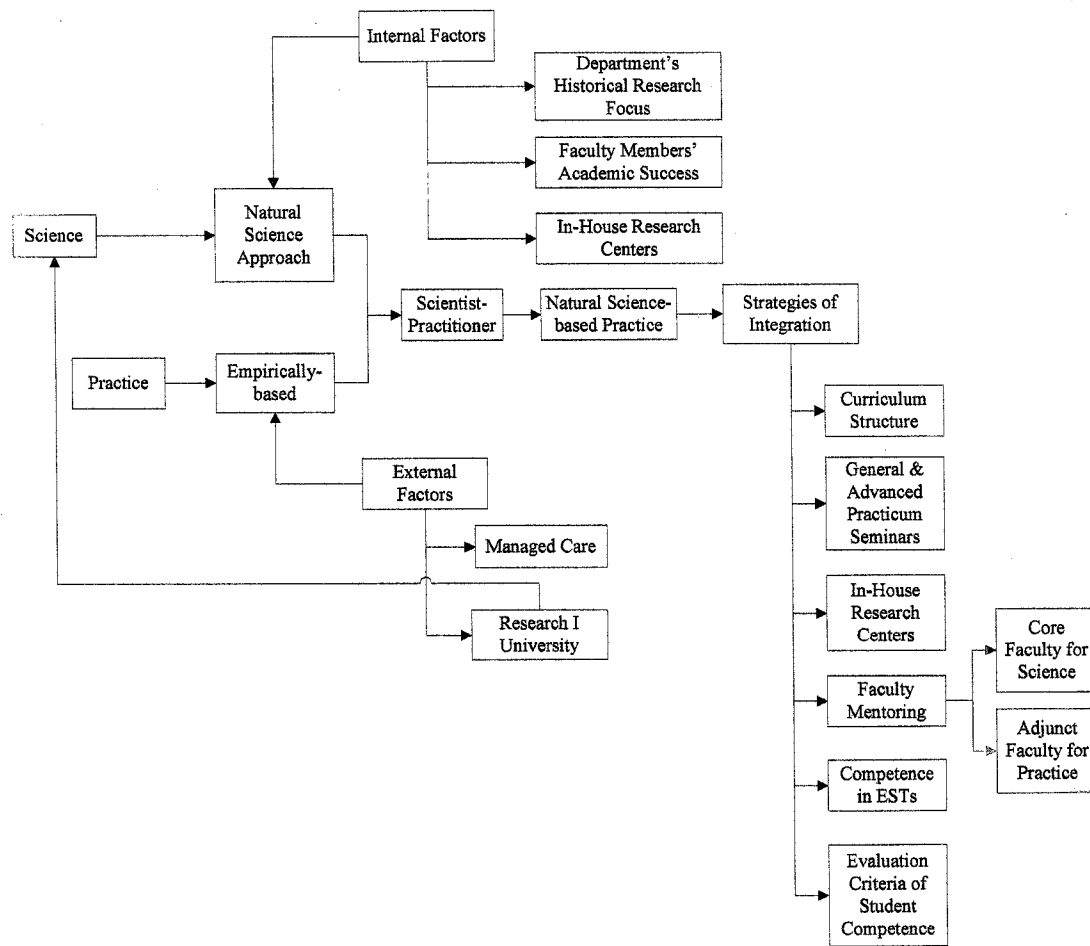
Figure 2. Visual Representation of Case Description for University of Aristotle

University of Plato

The program was nominated as a balanced scientist-practitioner counseling

psychology doctoral program. The data for the case consisted of the program

website information, dissertation abstracts since 1997, and interview with the

current training director. The program refused to provide access to its self-study.

However, the training director emailed me selected sections of the self-study

relating to initial and subsequent employment statistics of the program's graduates.

Concept of Science and Practice

The program's concept of psychological science was derived mainly from

the program's training goals and the kind of research methods that are taught during

research training. The criteria used to evaluate research training through satisfactory

completion of the doctoral portfolio and fulfilling the research assistantship

requirement are also informative in how the program conceptualizes psychological

science. The program's approach to psychotherapy practice involves an emphasis

on training in ESTs and most faculty members subscribe to an integrative

theoretical orientation. I discuss the incompatibility of ESTs with an integrative

theoretical orientation later when I describe the program's concept of

psychotherapy practice.

The first program training goal is to "Educate Counseling Psychologists who can think scientifically in both research and applied settings" (Student Handbook, p.8; Website). The goal is descriptive of science-based practice. The Student Handbook also states that students are expected to "acquire research competence that ensures a broad and sophisticated knowledge of research design and quantitative and/or qualitative methods" (Student Handbook, p.4; Website). During the interview with the current training director, I inquired about the program's approach to science and research and I quote the training director's response (IPlato):

> Sujatha Ramesh (SR): Let me start with exploring how you approach science in your program?
>
> Training Director (TD): Well, that is a very good question. Basically, when we talk about science, I don't know if you found the link to goals for the program but that defines it a little bit more. We are talking about both research and knowledge in general and thinking scientifically even about practice.
>
> SR: So would that be more traditional notions of psychological science...?
>
> TD: A little more broad in terms of different questions one might ask etc.
>
> SR: You mean critical thinking?
>
> TD: Yes. Although we do have a strong emphasis on research, we are also talking about a critical thinking approach.
>
> SR: Given that scenario, what kind of scientific research do you think is going on in the program?

> TD: That is a good question. I would say may be 90% of students and faculty are doing pretty traditional research... But I would also say that more and more students are doing qualitative research and I would say that I have seen it increase even in the last few years (ll.16-32, 39-43, 50-51).

On further inquiring if courses on qualitative research are offered, she responded, "We do but that person who taught left and we hired somebody else who should be able to teach those courses" (IPlato, ll.60-61). However, based on the curriculum, the qualitative research method course is not mandatory but it is taken as an elective (Counseling Psychology Program, p.9; Website). The research foundations coursework consists of a prerequisite graduate level statistics course followed by three courses titled "Quantitative Methods in Educational Research I", "Quantitative Methods in Educational Research II", and "Application of Multivariate Analysis in Educational Research" (Student Handbook, p.7; Website). Because the qualitative research methods course is not mentioned in the mandatory research foundations coursework, students probably take the elective course outside the program.

Based on the program's training goals, information on research training, and the interview with the training director, the program appears to adopt a broad definition of psychological science that encourages critical and scientific thinking as well as methodological diversity while conducting research.

The program adopts the completion of a doctoral portfolio for student evaluation purposes. Instead of a comprehensive examination, the satisfactory

completion of the doctoral portfolio and the oral examination are used to evaluate students (Doctoral Portfolio Guidelines, Introductory page; Website). One of the competency areas includes "Research and Statistics" (Doctoral Portfolio Guidelines, p.8; Website). The quality indicator for this area states, "The doctoral candidate understands quantitative and qualitative research methodologies and a wide range of approaches to data analysis. S/he can apply this knowledge to designing his/her own research or evaluation project and to critically evaluate research produced by others" (Doctoral Portfolio Guidelines, p.8; Website). The portfolio requirements for this competency provide further support for the program's emphasis on methodological diversity and the importance of critical thinking by requiring students "to critically evaluate research" (p.8).

As mentioned previously while describing the previous case, dissertation abstracts provide an overview of the kind of research methods used by students for their dissertation studies. All the 26 dissertation abstracts used quantitative research methods and none employed qualitative research methods for their dissertations (DAPlato, pp.1-38). Although the program is open to qualitative research, students seem to continue conducting dissertation research using quantitative research methods only. Thus, promoting methodological diversity appears to be at a nascent stage of development.

Research proficiency is also assessed through the Research Assistantship requirement, which requires that students make a "major contribution on a study

accepted for presentation at an annual conference of a regional or national organization in education or psychology" (Student Handbook, p.8; Website). In addition, the "presentation/publication must be data-based, and the presentation must be submitted to a conference that employs refereed, blind reviews as part of its screening process" (Student Handbook, p.9; Website). The criteria for research proficiency indicates a strategy for socializing students in the academic world but it does not reveal any clear indicators of how psychological science and research are defined for this purpose.

A review of the available data including information from the interview with the current training director revealed that the program primarily subscribes to the natural science, positivistic approach to psychological science. The approach is evident in the required research-related coursework and the pattern of quantitative research methods used in dissertation research. However, the program supports methodological diversity as an approach to psychological research and the training director acknowledged a recent increase in qualitative research conducted by students. Training in qualitative research methods is, however, limited because relevant coursework is not mandatory.

The concept of psychotherapy practice appears to be defined through an integrative theoretical orientation coupled with a focus on ESTs. According to the program website, "Courses on several forms of practice (e.g., individual, group, supervision) are available, and a variety of theoretical orientations are represented,

although a clear focus on integrative therapy and empirically supported treatments

exists" (Counseling Psychology Program, p.27; Website). The training director

described the psychotherapy practice orientation in the program as follows (IPlato):

> TD: I would say integrative is the word we use rather than eclectic. I
> think we have a couple of faculty who might endorse one perspective
> more but most of us are integrative and I think it has shown to work
> and I think we have a very strong integrative multicultural approach
> (ll.66-69).

Typically, the incorporation of an integrative approach in psychotherapy

training with training in ESTs would be incompatible and potentially problematic.

ESTs impose specific guidelines about how psychotherapy should be conducted for

a specific presenting problem or diagnostic presentation. It is derived from a

medical model approach to intervention and espouses the notion of natural science-

based practice. On the other hand, an integrative theoretical approach to practice

utilizes theoretical concepts from a variety of theoretical orientations and it does not

lend itself to the tight structure of ESTs or necessarily to the medical model

approach. It is possible that the inclusion of ESTs in training is a result of recent

changes in the mental health care delivery system rather than a result of deliberate

reflection using the integrative theoretical approach. In addition, students in

psychotherapy training who perceive this incompatibility might struggle not only in

developing their own theoretical orientations but also struggle with understanding

the rationales used to integrate science and practice.

Thus, the program appears to adopt broad definitions of psychological science and psychotherapy practice. Psychological science is conceptualized through an emphasis on critical thinking and methodological diversity and psychotherapy practice is defined incorporating an integrative theoretical orientation with an emphasis on ESTs. Such broad definitions of psychological science and psychotherapy practice among faculty members could lend itself to varied conceptualizations of the scientist-practitioner among faculty members. Interviews with the rest of the faculty members might have provided more information on these possible individual interpretations of the scientist-practitioner. I did not interview the remaining faculty members due to time constraints and limited resources.

Concept of Scientist-Practitioner

The doctoral program aims at achieving four goals in doctoral training. The first goal relates to the integration of science and practice. This goal attempts to (Counseling Psychology Program; Website):

Educate Counseling Psychologists who can think scientifically in both research and applied settings.

(a) Acquire a wide range of professional and psychological knowledge.

(b) Obtain a wide range of applied skills relevant for the practice of counseling psychology.

(c) Acquire a thorough grounding in the scientific method.

(d) Acquire the skills that will allow trainees to make theoretical and empirical contributions that further the understanding of counseling psychology issues and concerns through data-based and scholarly publications as well as professional presentation.

(e) Have many opportunities to integrate factual knowledge and learning skills in both scientific and practice arenas (p.8).

The above statement describes the scientist-practitioner as a professional who acquires a body of knowledge in psychological science and psychotherapy practice, has skills in psychological research and psychotherapy practice, and has the ability to critically evaluate and conduct research and practice psychotherapy. However, one statement in the website describes science-based practice, a term I used while describing the previous case. According to the program website, "Practica are taught from a multi-theoretical and integrative perspective, making use of scientific knowledge on treatment efficacy" (Counseling Psychology Program, p.28; Website). As stated previously, scientific knowledge on treatment efficacy is limited and an integrative approach is not always conducive to incorporating the available scientific research on treatment efficacy.

The training director's view of the scientist-practitioner is similar. She stated that the program reinforces critical thinking and "thinking scientifically even about practice" (IPlato, ll.20-21), a comment resembling notions of science-based

practice. I quote an excerpt from the interview where she shared her views on the

scientist-practitioner (IPlato):

> SR: So would you consider yourself a scientist-practitioner?
>
> TD: I definitely would be. I am an academic – I teach, I research and
> I always had a private practice from the day I graduated.
>
> SR: And how did you manage that since people tend to go toward
> one or the other?
>
> TD: Because I really really really enjoy both. I have an unusual
> career path and I really enjoy both and I really feel like... I teach
> practicum and feminist therapy. And I feel so strongly that I need to
> do what I am teaching. And I love doing therapy, I don't think I
> would enjoy it as much if I had a full-time practice but I really enjoy
> the balance. And we have got a lot of faculty, not a ton, but we have
> got four faculty who have private practices (ll.178-189).

During the later part of the interview, while discussing the pitfalls in

training, she further described the scientist-practitioner as a professional who

embodies integration by engaging in both activities. She stated, "I was definitely

sort of of the mindset that we need somebody who can do both" (IPlato, ll.244-245).

Thus, she described the importance of critical thinking but, in addition, she also

viewed the scientist-practitioner as an individual who has positive attitudes toward

research and psychotherapy practice and also engages in both activities in his/her

professional career.

The program's training goals and the training director both describe a range

of criteria while defining the scientist-practitioner. According to the program's first

training goal, a scientist-practitioner has the knowledge- and skill-base in research

and practice and also has the ability to consume and conduct research by thinking scientifically. Because the program emphasizes positivistic approach to psychological science, thinking scientifically would entail using notions of natural science approach in research and psychotherapy practice. The training director additionally emphasized the value of having a positive attitude toward research and practice and engaging in both as part of one's professional development. I now describe the various strategies of integration used by the program.

Strategies of Integration

Encouraging discussions on research and psychotherapy practice during coursework, mentoring and role modeling by faculty members, the availability of joint faculty members from the university counseling center, and the successful completion of the doctoral portfolio are the main strategies of integration used by the program.

Incorporation of discussion of practicum experiences in coursework and vice versa is a primary mode of facilitating the integration of science and practice during training. The program website states that all practicum classes provide (Counseling Psychology Program; Website):

> ... students with the opportunity to discuss the practicum experience
> and to integrate it with their learning with other parts of the program.
> One example would be discussions in practicum concerning how

what students are doing with a particular client fits with the theories and techniques presented in A420, a pre-requisite class. (Please note that the opposite also occurs. Specifically, other classes provide opportunities for students to discuss their practicum experiences. One example would be discussions in Advanced Counseling Theories in which students discuss current and former clients in light of the theories and techniques they are learning) (p.28-29).

The training director elaborated on specific modes of integration during coursework and practicum stating (IPlato):

> ... faculty who teach practicum will sometimes bring in research studies, efficacy studies about things. There is something called the Clinician's Research Digest and I know that some faculty have shown that to their students in their practice courses and in the research classes, there is discussion of and encouragement of doing clinical research and that kind of thing. And we have students who do that kind of thing (ll.76-81).

Thus, a deliberate attempt is made to incorporate research and discuss its relevance in practicum as well as generate research questions based on clinical work. The latter is akin to practice-based science. The success of integration would, then, depend on how successfully students learn to incorporate research and practice, both in their research and practice endeavors.

In addition to classroom discussions, mentoring and role-modeling experiences provided by faculty members also facilitate the integration of science and practice. The program website states (Counseling Psychology Program; Website):

> Our faculty are committed to students' personal development as well as their development as professionals. Mentoring is a strong value

among our faculty and we take the time to foster students' growth in terms of professional identification, involvement in professional organizations, and networking with colleagues across the country and internationally (p.2).

The training director endorsed this value although she had some reservations about the kind of mentoring bias that is operational in the program, a theme I discuss in the next subsection on problems in integration. Briefly put, the training director was concerned that students who were mentored by faculty members who had a negative attitude toward psychotherapy practice would adopt the same bias. Or if students were interested in psychotherapy practice, they would feel penalized and silenced by the particular faculty member for evincing such an interest.

On the other hand, the program actively collaborates with the university counseling center and the nature of this collaboration might be conducive to facilitating an integration of science and practice. According to the program website (Counseling Psychology Program; Website):

> The Counseling Center Director (Dr…) has a joint academic appointment with the Department, and most of the psychologists have adjunct faculty appointments. Several of the Counseling Center psychologists teach in the Department, serve on master's and doctoral committees, and conduct research with faculty (p.34).

Joint appointments by university counseling center psychologists, who are actively involved in psychotherapy practice and also actively collaborate in the program in teaching and research, could be viewed as positive role models who navigate both arenas of research and practice successfully. Although the training director did not

specifically mention these joint faculty members during the interview, faculty members who hold joint appointments embody the notion of the scientist-practitioner who engages in research and practice, a quality valued by the current training director.

The kind of careers graduates seek might be partially informed by faculty mentoring experiences. The alumni employment survey statistics provides data in this regard (Training Director, personal communication, July 1, 2004). Postgraduate employment of graduates in the last seven years indicates that 26% account for faculty appointments, 12% for none-tenure track academic appointments, 39% in clinical positions including staff positions in university counseling centers, and 23% in administrative positions in practice settings. Thus, 38% of graduates are in different academic positions while 62% gained employment primarily in clinical settings. Employment patterns of senior alumni (>7 years post graduation) show that 28% are in academic positions and an additional 3% in administrative positions in academic settings. In terms of practice-related employment, 41% are in private practice and an additional 28% in various consultation, in-patient, military institutions, and other administrative positions in practice settings. Overall, the employment patterns of recent and senior alumni show that a greater percentage of alumni are working in practice settings. However, the survey did not reveal how many alumni in academic positions engage in practice and vice versa. Availability of this data would have indicated if graduates engage in science and practice as

their professional careers evolved or if they tended to gravitate toward research or

practice, rather than both.

The final strategy of integration entails the successful completion of the

doctoral portfolio. The requirement is considered a proof of competence in multiple

areas. The training director described the doctoral portfolio as follows (IPlato):

> SR: That is what I am trying to tease apart. How does the portfolio
> fit in to this?

> TD: That is kind of a unique thing. That is our comprehensive
> program and instead of having them sit for an exam or write some
> kind of comprehensive paper like some places do, we have them, it
> is really, it shows, it so hard to explain, I think I will have to email it
> to you. But it is basically, a big notebook that they put together and
> they write eight narratives across eight different areas of research,
> practice, ethics, multicultural etc. And in that they demonstrate, we
> have listed competencies, so basically they write papers and there are
> appendices to those papers. So for example, if it is ethics, there
> might include how they met the competencies and sometimes they
> might include a paper they wrote in ethics. But it is not supposed to
> be just a rehash of what is learned in the program. Instead it is
> supposed to really show integration of what they have learned across
> different topics (ll.97-109).

I have already mentioned the research and statistics component while discussing the

program's concept of psychological science. Another area of competence is

"Counseling Theories and Practice" (Portfolio Guidelines, Introductory Page;

Website). The competency area requires students to demonstrate that they can

defend a personal theory of client problems and mechanisms of change that is

derived from existing theories and integrated with the student's personal theory of

counseling (Portfolio Guidelines, p.3; Website). Although integration of science

and practice is not explicitly stated, meeting the competency requires critical thinking, knowledge of theories and research, and understanding of counseling theories. A defendable personal theory of change also requires an element of integration of science and practice. It is not clear, however, how ESTs are incorporated in this competency area, especially if the student adopts an integrative theoretical approach.

The above strategies are not devoid of problems. During the interview, the training director acknowledged problems that she viewed as barriers to implementing strategies of integration. The next subsection focuses on the problems in integration.

Problems in Integration

Two themes relating to challenges in the implementation of the strategies of integration surfaced during the interview with the training director. The two themes that emerged were implicitness among faculty members about their views on integration of science and practice and faculty bias against psychotherapy practice.

Although the primary goal of facilitating an integration of science and practice is acknowledged by the program faculty, it is unclear as to how much explicit and deliberate attention is given to the goal of integration during doctoral training. In this regard, the training director acknowledged that (IPlato):

SR: And so do you think integration is happening mostly at the coursework level where in the research course there is talk of clinical issues and vice versa?

TD: I think so but you know faculty vary. I think in some [coursework] there is an attempt to do that but I don't think we have honestly said, "let us do this as a program and talked about it" but certainly there is an awareness of it that we are a scientist-practitioner model and our faculty endorse it and so I think there is general awareness and that it is important to do and attend to (ll.83-90).

Such implicit understanding among faculty members could act as barriers to integration because there is no acknowledged strategy to determine how invested faculty members are in specifically addressing integration of science and practice during doctoral training.

It was, therefore, not surprising when the training director further acknowledged that some faculty members have a negative opinion of psychotherapy practice. According to her (IPlato):

SR: And why do you think that is the case [faculty bias] given that a scientist-practitioner model requires an interest and competence in both?

TD: Well, I have very strong feelings on this. I think that a lot of faculty...I think a part of that honestly is some faculty just say that and give lip service to it [psychotherapy practice] and honestly they value science more than anything and they also think that it [research] is the best thing and they want that. Their success depends on how many academics they placed, if that makes sense and so I think... I think it is a faculty bias and many faculty think that research is the best thing and it is harder than practice. I remember sitting in an oral exam once at a dissertation and the faculty asked the student, it was actually a student of mine, what she planned to do and she planned to go into practice and the committee member said

"Uh, what a waste of a great mind". I said, "Really, I could see quite the opposite". So I think some faculty really have this bias that [research] is the best thing and that [research] is what the smarter people do and that research is hard and not everyone can do it and I actually think the opposite from that. Not completely but we as a faculty really need to value practice and part of it is because we have a bunch of researchers training people. I mean if you had a bunch of clinicians training people, you might get the opposite (ll.151-164).

Later, during the interview, she explicitly endorsed faculty bias as a barrier to integration stating (IPlato):

> SR: Do you see a difference between students with you or these faculty [who have a positive attitude toward practice] and those that work with faculty from the old school?
>
> TD: You are not going to associate my name with any of this? Yes, that is true.
>
> SR: Why do you think integrating science and practice has been so difficult for the whole field as such?
>
> TD: I think it goes back to the role model issue we talked about. When our faculty members are hired, they are hired for their interest in research and they are the ones who teach students and so I think it is really hard because you don't have mentors who are doing both. And their mentors in internships are practitioners and they get one or the other all the time. So I think it is really hard because there are not many people who can or want to do both (ll.199-212).

The concerns voiced by the training director prompted me to seek her evaluation of how successful the program has been in implementing the strategies of integration and in providing integrated training. On further inquiry, she stated (IPlato):

SR: So when you look at your program, how would you evaluate your program in terms of integration?

TD: Honestly, we have got great practice training, we have got great science training and I am not really sure that we integrate actually. We do some integration but I don't think it is all weaved well together. I think of it as two overlapping circles then our programs overlap more than most programs but they are not completely overlapping. Does that make sense?

SR: So it sounds like a few of the faculty role model that one can do both and have positive attitudes toward both and also some of the coursework and practicum try to integrate the two during classroom discussions.

TD: So we do but I still think the training in both is somewhat separate (ll.214-227).

Thus, the training director concluded that the program primarily offers parallel training in research and practice although the ideal goal to aspire for is that of integration of research and practice. It is possible that many training directors view integration akin to *parallel* training in research and practice and the parallel view of integration probably led training directors to nominate the program in the balanced category. It is also conceivable that students internalize different notions of science, practice, and integration depending on their individual role modeling experiences. The next subsection describes internal and external factors that impact doctoral training.

Internal and External Factors

The main internal factor that impacts training is the provision of joint faculty appointments of university counseling center staff psychologists. Two external factors also emerged. The first factor relates to competencies valued in the faculty hiring process. The second factor involves the recent increase in research using qualitative research methods in response to larger trends in the field.

The provision of joint faculty appointments in the program for university counseling center psychologists is a major internal factor that probably enhances the integration of science and practice. Such a provision might facilitate positive role modeling experiences for students as they work with professionals who engage in research and practice, rather than gravitating toward one of them.

In terms of external factors, the training director stated that barriers to integration exist because of the kind of hiring policies departments and programs adopt. Because most counseling psychology programs are housed in Research I Universities, including this program, research productivity and scholarly contributions are valued more than clinical expertise and interest in psychotherapy training. In this regard, the training director stated (IPlato):

> SR: What do you think can be done to improve that (integration of science and practice)? If you could make changes, what do you think would be the changes?

TD: That is interesting. We have clinical faculty but they are not tenure track and I think a whole overhaul of the whole system is needed where clinical faculty are also as valued as tenured folks. So a whole system kind of thing or you know, if you are really a scientist-practitioner program then hires need to made not on science but on balance and integration. I don't think that is going happen. We are talking a huge system overhaul. I think just...I don't know what is going to help.

SR: So you say we should recruit folks who are balanced in their approach and reward them for it.

TD: Yes. We just recruited somebody to teach. And it was for practicum. I knew that I needed somebody who can teach practicum and so I was asking candidates "do you like to practice? How do you feel about practice?" I was definitely sort of of the mindset that we need somebody who can do both.

SR: But that is a minority.

TD: Yes, those kind of folks are a minority in the country and even within our own program (ll.229-250).

Consequently, programs tend to hire faculty members who have research expertise and who value research over psychotherapy practice.

The issue of hiring faculty members with an integrative view of science and practice is problematic for programs housed in Research I universities. Academic institutions are primarily focused and dedicated to research production and generation of research grants that enhance the academic prestige and financial health of the institution respectively. An investment in psychotherapy training contributes to neither of these factors. Consequently, programs housed in Research I universities have to grapple with the logistics of adopting a scientist-practitioner training model. University hiring policies will be biased toward research production

and grant generation. The prestige and power gained through such academic success is also likely to foster a bias against psychotherapy practice. And finally, students who expect integrated training might face challenges as they experience the bias of faculty members against psychotherapy practice, both in terms of available resources as well as investment in psychotherapy training.

In terms of external factors, the program is predominantly quantitatively driven in its research. However, qualitative research methods are taught as an elective course outside the program. The move to teach and subscribe to qualitative research methodology appears to be motivated by noticeable trends in the field. I quote a relevant excerpt from the interview (IPlato):

TD: Yeah, I would say 90% or above of our faculty are doing that kind of research honestly. But I would also say that more and more students are doing qualitative research and I would say that I have seen it increase even in the last few years.

SR: And why do you think that is happening?

TD: I think it is a movement in the field to be honest with you. And so it is getting much more attention and press in the field in general (ll.49-56).

The shift toward qualitative research appears similar to University of Aristotle's counseling psychology program's shift toward training in ESTs, as a response to broader trends in the field. Thus, the inclusion of ESTs and increasing methodological diversity are moves that are more externally driven rather than theoretically based. I have not included this theme as a separate external factor

because it did not surface clearly enough as an external factor but the pattern is becoming more evident.

Summary

The program was nominated as a balanced scientist-practitioner program. The program predominantly adopts positivistic notions of psychological science although it is gradually tending toward methodological diversity by offering an elective course in qualitative research methods. Psychotherapy practice is not clearly defined and it is typically described as faculty members adopting an integrative approach with an emphasis on ESTs, a potentially incompatible approach to integration of science and practice. The scientist-practitioner is defined as a professional knowledgeable and skilled in science and practice, as per the program website and student handbook. Developing knowledge- and skill-base is definitional of the scientist-practitioner as a professional who consumes and generates research. The training director defines the scientist-practitioner as a professional who has a positive valence toward science and practice and also engages in both activities. The program implements its strategies of integration through incorporation of coursework and practicum content during didactic and practicum training, providing faculty mentoring to students, encouraging joint faculty appointments, and requiring the completion of the doctoral portfolio.

However, the training director conceded to problems in successfully integrating science and practice in doctoral training citing implicitness among faculty members about their training priorities and faculty bias toward research. She also acknowledged that the program provides training that is akin to parallel training in research and psychotherapy practice rather than integrative training in psychological science and psychotherapy practice. It is possible that the reason the program was nominated in this category was because training directors defined balanced training as parallel and equal training, instead of integrative training.

The provision of joint faculty appointments probably plays a positive role by creating ideal role models for students. On the other hand, the core faculty hiring process values research competence and proof of research productivity over clinical expertise and, thus, compromises integration of science and practice. Valuing research over practice appears symptomatic of Research I Universities that focus on research productivity and do not appreciate the value of psychotherapy training. According to the training director, core faculty members who have a specific bias against psychotherapy practice devalue students' interest in psychotherapy practice. In addition, the program is gradually leaning toward increasing methodological diversity in research training in response to larger but similar trends in the field. The flowchart (Figure 3) below provides a visual representation of the program's case description.
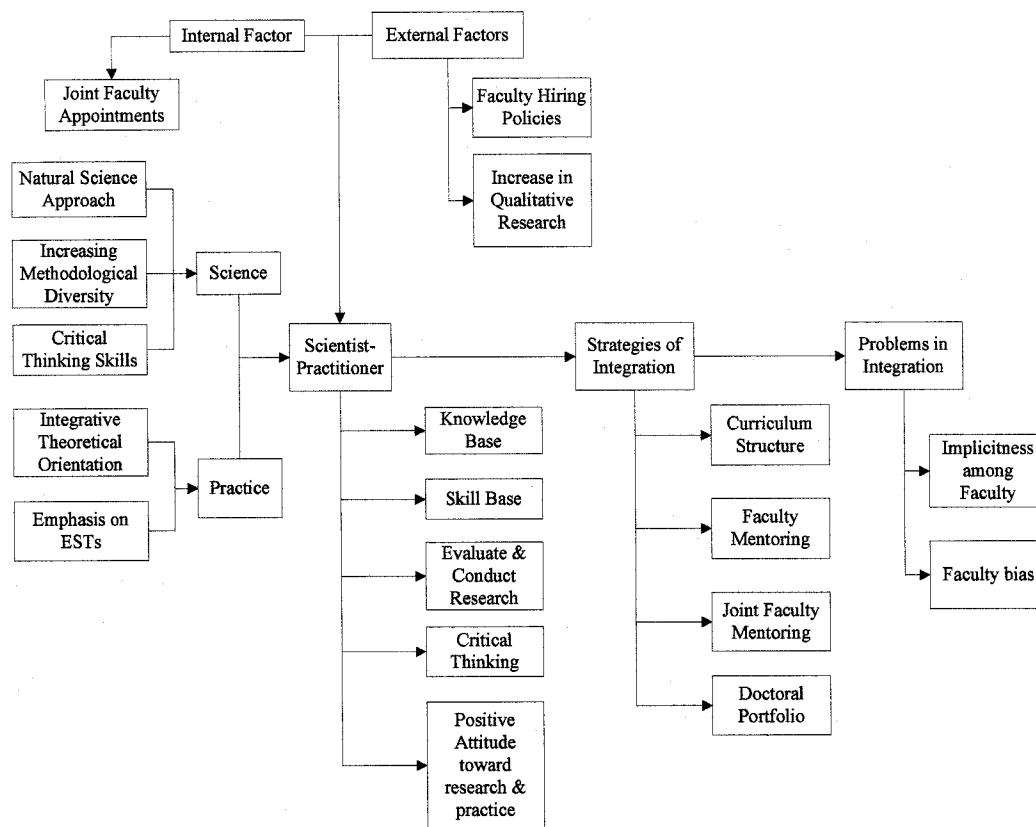
Figure 3. Visual Representation of Case Description for University of Plato

University of Hegel

The program was nominated as a balanced counseling psychology doctoral program. Data sources for the case include information from the program website, the complete self-study, dissertation abstracts since 1997, and interview with the training director. The training director informed me that an electronic copy of the complete self-study was not available and I offered to drive down to the university to photocopy it. During the visit to get a copy of the self-study, I scheduled a time with the training director to conduct a face-to-face interview. Because this interview was conducted in person, it was longer and richer in content and explains the lengthier quotes I include in the case description. The self-study was written in 1998 and since then some of the program statistics have changed and some faculty turnover has taken place.

Concept of Science and Practice

The program adopts a broad definition of psychological science and a cognitive-behavioral approach to psychotherapy practice because most core faculty members subscribe to this theoretical orientation. The training director added that adjunct faculty members and fieldwork supervisors, who are more active in

psychotherapy practice compared to core faculty members, tend to be more eclectic in their theoretical orientations.

Research-related coursework aims at training students in an array of research methods. Methodological diversity is evident in the training objective that, "Students will acquire knowledge and skill in quantitative and qualitative research and evaluation methods" (SSHegel, p.4). Thus, students are required to complete the equivalent of 15 credits of graduate-level coursework in quantitative methods, and a course each in qualitative methods and research methods in counseling psychology (SSHegel, p.4). The Research Methods in counseling psychology course focuses on the "experimental evaluation of treatment outcomes" (SSHegel, p.7), a focus akin to natural science-based practice. One of the training goals of the program is that "Students will acquire the knowledge and skill to conduct independent scholarly inquiry in psychology and to evaluate the processes and outcomes of professional practice in psychology" (SSHegel, p.4). The goal is implemented primarily through coursework and socialization of students in the academic world through faculty mentoring. The comprehensive examination evaluates students' research competence in all these methods (SSHegel, p.4).

The training director endorsed a similar view on research training and reinforced the importance of encouraging methodological diversity, participating in research assistantships, and completing the dissertation. He stated (IHegel):

SR: So when you look at this program, how would you describe the scientist component of it?

TD: Well, it is defined by the research method courses and the statistics and students involved in research projects either through research assistantships and in thesis and dissertations. Those are all the scientist components.

SR: Would you include more recent trends like qualitative research...?

TD: Yeah, I would. Sure.

SR: So you have a broad definition of science?

TD: I would definitely not limit to quantitative. And I would see practice as the practicum, field placements, the internships etc (ll.170-184).

The training director also provided a brief historical perspective on how the program evolved. A major part of the program history related to faculty members resolving differences about organizational affiliations and the relative emphasis on science and practice. I discuss the historical issue in depth in the later subsection on internal and external factors. However, I quote a brief excerpt from the interview where the training director discussed the shift toward research from an emphasis on psychotherapy practice in the program (IHegel):

SR: Basically what I want to do is get some information about the program, how it started. Basically, the training aspects of it. History, how it came about etc.

TD: I am not very knowledgeable about the history, I came here in 1982 but I think it started up in the late 60s, a guy named ... came here, started the counseling program. I think it got APA approval sometime in 1970, pretty early for a program to get approval and it

was very practitioner oriented in the beginning and there were very
few researchers here and then ... came here. He was retiring and he
came here. He was a major figure in counseling and the program
started getting more reputation, national reputation. And it was in the
80s that some big time hires were made. That is when I was hired.
Just kidding (laughs). People with national reputation like ..., ...
came on later. ... was another hire.

SR: Did that change the practitioner focus?

TD: Yeah, over the years. As I said, in the 60s it was very
practitioner oriented through the 70s and then starting in the late 70s,
there were more hires of folks with more of a research background.
Fairly, as the 80s progressed, it became more and more research
oriented and we present ourselves as a program that is balanced. We
try to do a good job in training with practice and research but I think
more of the faculty have a research bent (ll.1-20).

The training director's description of how the program evolved reveals the

importance of faculty recruitment. The nature of the faculty pool in a program

informs the kind of doctoral training provided to students. The change from

practice-oriented faculty, prior to 1980s, to a more research-oriented faculty later on

changed the flavor of the program. The faculty turnover was a consequence of a

conscious shift in the program to affiliate itself more with APA rather than ACA.

Original faculty members affiliated themselves more with the latter while the new

faculty members affiliated themselves with the former. Tension among faculty

members about organizational affiliations is an internal factor that impacted the

evolution of the program. I now discuss the concept of psychotherapy practice

adopted by the program.

Among the four goals of training, the third and fourth goals relate to psychotherapy training. According to the self-study, "The third and fourth goals, which involve training in the specialty of counseling psychology, have as a general outcome competence in the assessment and treatment of psychological problems" (SSHegel, p.3). The goals are achieved through relevant coursework so that students "acquire a thorough knowledge of the theory and method of psychological assessment and intervention, including the knowledge essential for the application of these tools to practice" (SSHegel, p.5). Two courses taken in order to meet this goal focus on the "empirical [*sic*] evaluation of treatment outcomes" (SSHegel, p.8). The first course introduces students to "outcome and process research and survey the literature that establishes empirical [*sic*] support for major psychological treatments" (SSHegel, p.8) and the second course examines in detail "how experimental methods are used in treatment evaluation". The focus of these two courses on how science informs practice is an example of natural science-based practice.

While discussing the historical shift in emphasis from training in psychotherapy practice to research, the training director added that the theoretical orientations of faculty members also shifted because of faculty turnover. He stated (IHegel):

> SR: And when the practitioner bent was operational, was there a
> particular bent in terms of theoretical orientation?

TD: Pretty eclectic and humanistic as the practitioners were.

SR: And how has that changed?

TD: Well, the researchers are more cognitive-behavioral.

SR: How is the practice end of it right now?

TD: Several of our faculty have a private practice on the side but everybody is doing some kind of publishing. Some much more than others ranging anywhere from once every 2-3 years to publishing 5-6 times a year (ll.22-35).

Thus, current faculty members have a more cognitive-behavioral bent in contrast to the eclectic and humanistic orientations previous faculty members subscribed to.

In terms of psychotherapy training, the practicum sequence involves a beginning level master's practicum (mandatory for students without equivalent prior experience) that takes place in the Counseling Training Center housed in the division (SSHegel, p.9). Program faculty members and other faculty associates serve as supervisors (p.9). The self-study states that "models of supervision vary among faculty and sites" (p.10) but it does not elaborate on how the models of supervision differ and how the differences impact psychotherapy training. The training director made the observation that the core faculty members' cognitive-behavioral approach to clinical work might not always be conducive to appreciating clinical reality. In this context, he also stated that field supervisors subscribe to a wider range of theoretical orientations. He stated (IHegel):

SR: Is there any cross-pollination where in the research classes clinical issues are discussed or in practicum research is discussed?

TD: Yeah. I think we are committed to that. Most of us, as faculty, do that. When I teach a research course, I talk about real life situations - people with these kind of problems, how would you study it, which interventions work or don't work. And in practicum I encourage students to read the literature dealing with various kinds of problems. Again, I do think that most people are cognitive-behavioral. In the past, we have had more humanistic.

SR: That is interesting since I noticed your interest in meaning of life issues...

TD: Yeah, I personally am eclectic but not too many are. But I think the practicum supervisors tend to be more eclectic – the real world people are more eclectic!

SR: What an interesting observation! Why do you think researchers are more cognitive-behavioral?

TD: It is a simpler view of life and in the real world you recognize that you need to understand different things and different ways to help people. I think in the real world you have got to be little more flexible and open-minded (ll.185-205).

I sought further clarification from the training director about faculty

member's affinity to the cognitive-behavioral approach and I quote his response

(IHegel):

SR: I think that is where integration issues come up, isn't it? Since it is difficult to scientifically study anything in the realm of humanistic, psychodynamic, existential etc. At least using traditional research methods, I wonder...
TD: Well, for some faculty. While some other faculty are more flexible and open-minded. For example, a lot of my research is humanistic, descriptive. So I don't tend to confine myself to the cognitive-behavioral framework in my research. But as I say my work is more descriptive but I guess most of the research done here is more cognitive-behavioral framework. I think in the 80s they hired more cognitive-behavioral kind of people.

SR: Or may be people who are into research prefer cognitive-behavioral...

TD: I think you are right. That is a good part of it (ll.207-220).

The goals of psychotherapy training, the program's implementation of the goals, and the training director's views on the subject appear to reveal a gap. Most core faculty members subscribe to the cognitive-behavioral approach and a significant part of psychotherapy training involves developing an appreciation for empirical support to psychotherapy practice. On the other hand, the training director's stated that the real world of the clinician is more complicated than how core faculty members view clinical reality. He also observed that adjunct faculty members and fieldwork supervisors are more eclectic in their theoretical orientations. The differences between core faculty members and adjunct faculty members' approach to psychotherapy and supervision raises questions of feasibility about integration of science and practice. Conflicting models of supervision can contribute to confusion among students about how they conceptualize psychological science, psychotherapy practice, and integration. The next subsection describes the concept of the scientist-practitioner.

Concept of Scientist-Practitioner

According to the self-study, based on the program's adoption of the

scientist-practitioner model of training, "Students are taught (a) to employ scientific

knowledge and critical inquiry in their professional practice and (b) to use scientific

methods (that is, conduct research) to better understand and improve professional

practice (SSHegel, p.2). The four goals of the scientist-practitioner training are

(SSHegel):

> The first goal, which involves general training in scientific
> psychology, is intended to insure that professional practice is based
> on current psychological knowledge. The second goal, which
> involves training in empirical [*sic*] foundations, is concerned with
> instilling in students the values and skills of science. The third and
> fourth goals, which involve training in the specialty of counseling
> psychology, have as a general outcome competence in the
> assessment and treatment of psychological problems (p.2).

The training director endorsed these training goals although he described the

program's training as providing parallel training in research and practice with some

integrative aspects in how research is utilized in practice. He stated (IHegel):

> SR: How do you describe the program right now as it is? So you are
> saying it is balanced now?
>
> TD: You mean the doctoral program?
>
> SR: Yeah.
>
> TD: Yeah, we call ourselves research-practitioners, sorry scientist-
> practitioners. Again, these names are silly to me.

SR: I am curious to find out why you find it silly because I am trying to figure out what the scientist-practitioner means?

TD: Right. Well, I think we are committed to training people to be either researchers or practitioners and I think we do both pretty well but clearly as I said a while back, we are research-oriented but that makes sense to me. And it makes sense to me, to try and create a balanced program.

SR: So when you say balanced, you really mean getting adequate research training and adequate practice training and if you choose either part, you are adequately prepared to do that?

TD: Yes. Yes.

SR: Well, how would you view the aspect of integration since that is the buzz word for the model? I am trying to figure that out for my dissertation.

TD: Good luck! I think that integration just means that when you looking at research, you also consider the real world and what it is like for real-life clients and when you are in the practice world, you are able to read the journals and know that a certain intervention has good evidence or other interventions have some problems, that you are discriminating and a critical thinker (ll.115-146).

Thus, the training director defines a balanced scientist-practitioner training program as providing adequate, albeit parallel, training in research and practice. He views integration of science and practice as the ability to think critically so that a professional incorporates research findings in practice and he/she is aware of the clinical context while engaging in research.

The training director was also critical of official training model terms such as *scientist-practitioner* and *practitioner-scholar*. I quote an excerpt (IHegel):

SR: How would you finally describe the training program since you are not very happy about the training terms that are used? Would you reject the term, scientist-practitioner?

TD: I think there are those two components -- research and clinical and just describing where you are regarding those two components. For instance, Psy.D programs can say, well, we are mainly practitioner-oriented people and we don't require any research so using the word "mainly", I think, would help. I would hope that even the Psy.D programs would say that they don't totally disagree with this and they don't disregard all kind of research and that they would read a journal once in a while. So using the word "mainly" would do it. And they are programs like clinical psych programs here that, as described to me by their students, I don't really know, that they have a real small practice focus and a big science focus so then I would call that mainly a research program. I don't see any need for words like scholar, hyphens etc (ll.373-385).

In the self-study, the scientist-practitioner is defined using notions of natural science-based practice with a focus on research informing psychotherapy practice. The training director endorsed this definition but unlike the self-study narrative, he also acknowledged the complexity of the task. He stated that the reality of clinical work might not always be conducive for integration. Most core faculty members approach integration as natural science-based practice where practice is understood using a cognitive-behavioral orientation. However, the training director views such an approach as simplistic and he added that adjunct faculty members and fieldwork supervisors who might be more attuned to clinical reality tend to adopt more complex eclectic approaches in their psychotherapy practice and in psychotherapy training. The training director was also critical of technical training terms used while describing training models. He defines integration or balanced training as

akin to providing parallel training in research and practice, with the added component of critical thinking as facilitating the integration of science and practice. It is noteworthy, however, that the emphasis on natural science-based practice as defining the scientist-practitioner continues to be a consistent theme.

Strategies of Integration

The crux of the different strategies of integration implemented in the program is the "emphasis on empirical [*sic*] data as the basis for professional practice" (Psychology in Education, p.1). Curriculum structure and focus, practicum training, and faculty role modeling are the primary strategies of integration used by the program. The curriculum is designed such that students take research and practice-related courses every semester (Counseling Psychology Ph.D. Program, Curriculum Perspective, p.1). The main focus during coursework is on facilitating students' critical thinking skills while conducting, evaluating, and applying research in psychotherapy practice. For instance, one of the training goals' objectives is that "Students will acquire skill in reading the psychological literature critically and synthesizing the results of library research" (SSHegel, p.4). The objective is met by students satisfactorily completing coursework in the Science and Practice of Counseling Psychology, Research Methods in Counseling Psychology, producing a satisfactory independent critical review of literature, demonstrating competence in

choosing and administering empirically supported treatments in practicum, and

demonstrating similar competence during comprehensive examinations (SSHegel,

pp.4-5). In addition, students are expected to acquire skills related to designing and

conducting original research and acquire skills in reporting such research in a

professional forum (SSHegel, p.5). These skills are evaluated in coursework, an

independent research project that students are encouraged to present or publish, and

the satisfactory completion of a dissertation (SSHegel, p.5).

The curriculum and practicum training also emphasize the importance of

critically evaluating and utilizing research through specific coursework related to

"experimental evaluation of treatment outcomes" (SSHegel, p.7) and these skills are

specifically evaluated in the comprehensive examinations where "knowledge of and

competence in scientific methods" are assessed (p.8). The self-study also states that

(SSHegel):

> ... all doctoral courses, including those with a strongly applied
> focus, emphasize scientific attitudes to some extent, in that students
> are exposed to the research base relevant to the topic at hand.
> Students learn through all of these courses to approach questions
> about human behavior with appropriate skepticism and caution; to
> identify their biases and to reduce the possibility of bias through
> systematic inquiry; and to express their curiosities as research
> questions (p.9).

The doctoral training, thus, aims to train students in conducting, evaluating

and applying research in psychotherapy practice. Curriculum structure, classroom

discussions, and research competency requirements are tools to help students

develop these skills. Similar to other cases described so far, these goals are descriptive of natural science-based practice as definitional of the scientist-practitioner.

Faculty role modeling is another strategy used to implement the integration of science and practice. According to the self-study, "About one-half [of core faculty members] also have active clinical practices. Thus, in their own careers, as well as in their teaching, faculty provide diverse models of science-practice integration in counseling psychology" (SSHegel, p.11). The self-study does not elaborate further on the nature of the diverse models of science-practice integration. The training director also added that adjunct faculty members play a more active role in supervising practicum. According to him (IHegel):

SR: When students go through practicum, internships and things like that who monitors their progress?

TD: We have an instructor. The supervising faculty most of them are adjunct faculty who monitor it.

SR: Is there a difference then in training between full-time faculty and adjunct faculty?

TD: I think, if anything, may be adjunct faculty feel like second class citizens and don't feel like they are faculty but they probably feel many times that they are more competent in practitioner stuff than faculty. But a lot of us as faculty too supervise practicum and the field placement which is the next thing which is outside, we have a faculty instructor who oversees it, the instructor is on faculty but he just oversees it, communicates with the site supervisor and makes sure that everything is going okay and sometimes the instructor will have a few meetings with the students coming off the field into the classroom to talk about their experience but the main work is out

there. It is still a course, faculty are overseeing it and get course credit for it. But during internships, they are much further away and there is much less intervention with us as faculty here which is a problem (ll.338-355).

Thus, he described the training provided by the program as akin to parallel training in research and practice and he described integration as the ability to critically use research in psychotherapy practice. During the latter part of the interview, I summarized his viewpoints and sought further information on the topic of integration. He responded saying (IHegel):

> SR: So, on the whole, it sounds like there are two separate tracks – the research training in the department by full time faculty in terms of coursework, research assistantships, and dissertation, and clinical training during practicum, field placement, and internship mostly outside the department. And integration mostly happens during coursework and faculty discuss things. Is there any other way you would operationalize integration during graduate training?
>
> TD: Again, when we supervise practicum we do look up journals and look up literature on this and that and then some of our research courses we bring up real life examples. But I think there is integration throughout like that. When I supervise practicum and we talk about a client and as we are going, we might integrate knowledge of both literature and experience. It is more of my belief that when treating things like anxiety and depression, there are things that are out there that can help this individual and there are times when I recognize that the research on the subject is not very useful. I think there are lots of relevant things like the stuff that Barlow has done that I will use (ll.357-371).

As mentioned previously, the training director was critical about the various terms used to describe training models and he was also partially critical about the way the task of integration is attempted by most programs.

Internal and External Factors

The training director discussed internal and external factors that impact doctoral training, in depth. He identified three internal factors – the historical faculty conflict due to differing organizational affiliations and training philosophies, faculty bias toward research, and student bias toward practice and confusion about career options. He also identified four external factors that impact doctoral training – the influence of APA, the struggle to engage in research as well as practice following graduation, the training program being housed in the school of education, and the influence of managed care.

The training program instituted significant changes in the 1980s when many existing faculty members retired or were forced to retire. The changes in the program resulted in its changing training focus from being more practice-oriented to becoming more research-oriented, as the new faculty members joined the program. The former faculty members were affiliated with ACA while the new faculty members identified with APA. The training director provided a description of what took place although he was critical of the turf wars and interpersonal conflict that it resulted in (IHegel):

> SR: So was it a conscious policy to shift the emphasis of the program in the 1980s or it just happened that way?
>
> TD: I think the people hiring in the 1980s, it was a good time to hire because they were lots of freezes on and so it was a buyer's market.

So faculty could get some very strong people. The strong people were research-oriented but as they come in, they took more power, they started making more research-oriented decisions about the program. There was a period when there was some conflict because the old guard and the new guard clashed. The new researchers were very APA oriented and invested in keeping APA approval, national reputation etc. The old guard were practitioners, more counselor educators so it was a problem. It was again the new hires wanting national reputation, wanting closer affiliation with APA, seeing the old guard as not as nationally oriented, not trained in research, not caring that much about the APA and the old guard felt that...well, ... University was going through a similar change in terms of becoming a research I institution so the old guard were feeling that they were hired during a different time and the rules had changed. And now they weren't valued as much so it was very hurtful and some of these older people were very resentful to have the younger people, the new kid on the block, come along and in some cases, they were the cause of retirement deals and it was clear that the old folks were no longer wanted so they were resentful understandably.

SR: And they were more inclined toward counselor education...?

TD: Yeah. ACA etc.

SR: Because I noticed there is still a master's counselor education program? So are some of those folks still there?

TD: Well, for a while, we were split as a faculty. Some of the research oriented, APA oriented people felt that our accreditation was in jeopardy because of some of the ACA people. In my opinion, it was a very silly APA-ACA thing.

SR: Why do you say that?

TD: Well, I can appreciate the need for standards. I want some kind of uniformity across the country, kind of psychologists have these skills. I can't argue with that but the competition with ACA and APA is silly. It is just like clinical versus counseling which I think is silly. We as counseling psychologists have spent too much time talking about who we are, identity etc. It is just silly stuff, it is more political and power. I don't think there is any substantive differences between counselor ed, counseling psych, clinical psych. I think as a

profession, mental health professionals got to act together and really need just a major overhaul of what our profession and how it defines itself, it is embarrassing. When an outsider says what is difference between clinical and counseling psych, it makes no sense. We all used the buzz word, developmental versus pathological, that doesn't make sense in the real world.

SR: You don't care for these differences but the turf war was real?

TD: Oh yeah, the turf war was real. Very hurt feelings. I think now ACA requires more supervised hours for their master's students and I remember even some faculty saying "We require as much as APA does of the doctoral students" as if it was impressive. So it is bragging and putting the students through more hours so that they can just say "we are as good as you". It is really immature. But I think things have gotten better in the past 7 years because we decided some years ago to become one faculty again. We don't make such distinctions. We all taught master's level, we all taught doctoral level and it wasn't a problem. Part of the reason is that some of the APA oriented people said the identity is too diluted with people with ACA affiliation and I think we feel strongly about the fact now that we have an APA identity and credentials so that APA is not going to zing us again for that.

SR: And the zinging is more because of the research-practice rift between the affiliated groups?

TD: Well, APA in terms of its criteria for identity had to do with psychologists and member of APA, licensed, and active in conventions and presenting and all those things. And a lot of ACA folks didn't go to APA, weren't members, didn't get licensed as psychologists and so APA did zing us when they came a few years ago. But that problem is largely solved. We are not having that fight anymore.

SR: People have made peace with that...?

TD: A lot of them retired (laughs). So to some extent that is what happened and the people who are left over that are on the other side just got absorbed.

SR: So, the ACA folks teach the master's program and the APA folks teach the doctoral program?

TD: Yeah. Yeah, that is where we are now (ll.37-113).

The training director's description of the historical conflict among faculty members also revealed that as the program attracted more research-oriented faculty, the bias in the program shifted toward research with a concurrent bias against practice. According to the training director (IHegel):

SR: Going back to students who have conflict about their careers, do they ever go to faculty in terms of seeking advice?

TD: I think they are very selective whom they go to. They don't go to some people because they know faculty will be disappointed. Because they do perceive that there is a little bias toward research and they say they are thinking about practice and some of the faculty will say, "we failed with this student". They go to other faculty whom they recognize to be more balanced or more open. I have had some people come to me and say that they are having this conflict and I am open to it.

SR: Why do you think there is this disdain for practice among faculty?

TD: I don't know if I would call it disdain. I think there are some faculty that see it as not as prestigious, I think that is the main reason.

SR: I just wonder where that attitude comes from?

TD: Well, I think there is a medical world that we psychologists have kind of followed. They are has been that notion that medical researchers are at the top of the heap, they are coming with great cures. I have some evidence of that bias which I think we have adopted. First started in clinical and when counseling grew, we adopted it too. And then there is the hierarchy of sciences, hierarchy of soft sciences and that this where the problem of qualitative

research comes in. I think this bias exists among some faculty. Some
faculty are open to both and some faculty are even of the opinion
that qualitative is more useful than quantitative for social sciences.
But there is a good number of people who realize the benefit of both.
They are flexible (ll.305-330).

In contrast to a pattern of core faculty members' bias toward research,

students admitted to the program seemed to vacillate about their research and

practice interests and students who were inclined toward psychotherapy practice as

a career option experience conflict in their doctoral training. In this context, the

training director also described the crossover of students from the clinical

psychology program to the counseling psychology program because the latter was

perceived as being more practice-oriented than the former. Thus, there appeared to

be a tension within the program between core faculty members and students when

students evinced an interest in practice. In contrast, the program was perceived as

more practice-oriented by other students who had transferred from a research-

oriented clinical psychology program. I quote a relevant excerpt from the interview

(IHegel):

SR: How about the student population? What are their attitude and
interests in science and practice?

TD: Yeah, people do try to "talk the talk". I tell them that I am not
just impressed by people talking the talk, you know. But other
faculty are impressed with the talk. Some people come in knowing
exactly what their dissertation is going to be and others think that is
impressive. But I don't. I think first year students should be open and
try different things before they focus. I was just talking to somebody
over at the clinical psych the other day and they have a perception
we are much more practice-oriented over here because they are even

more research-oriented whereby they have clearly, according to some students, a real animosity and hostility toward students who are thinking of practice. They are just downgraded plus their practicum, the students told me that they saw only one client in a semester. And they didn't compete well for internships because the faculty didn't care much about the practice part. So they had this idea that we were very practice oriented.

SR: So does that impact training or lead to clinical versus counseling turf wars?

TD: That part doesn't, I don't think so. That makes some clinical psych people think that "I should have gone over to counseling" but when they come over here I tell them that "don't get the idea that were are all practice oriented and they are all research based"

SR: So do you think people burnt out by publishing and research are trying to find their way here for an easier process?

TD: I don't know about easy. Some of them are real starved for mentoring and seeing "real" people because they feel stuck in a lab. The ones who came here saw this place as having students who are much more well-rounded and liked to talk about client issues and open to different interventions and they were very behavioral over there. Very science only. People who have visited from over there, think of transferring say that [balanced training] is what they are looking for here. But I had to clarify to them that they have this perception that we are very touchy-feely and practice-oriented and we are not. There is some bias toward research over here too, not perhaps as much.

SR: So how do students who talk the talk but don't really mean it cope?

TD: I think they suffer some conflict about it. As a student myself where I was, it was very research oriented and the way I looked at it was I wanted to get... this is a place to get really good research training and get it from here and when I do my practicum and internship, that is where I will get good practice supervision. So I didn't think why don't they offer equal balance over here or why they didn't respect practitioners.

SR: So you had it demarcated as here I get good research training and there I get good practice training.

TD: Yeah, yeah. And I think that is being pretty realistic. And I tell students here that you can get a good strong research background here and you can go into practice later for the rest of your life and you can get supervision in different places, you have workshops, and you are constantly improving your skills. So look at this as an opportunity for 3-4 years where you get really strong research background.

SR: So do they accept that?

TD: I think they do. Most of us who go into the Ph.D program value the Ph.D, that is a valuable degree and the sacrifices are worth that.

SR: So you describe the 3-4 years of research training as a kind of useful sacrifice?

TD: *Uhm*. Yes. They see it as valuable and I do hear them discussing their conflict about whether I should go this way or should I go that way. I feel a push to go this way and I am conflicted in my own mind. But I say prepare yourself for both and if you decide to go on the research route, you haven't stopped learning. As a matter of fact, ... once told me as I was doing my dissertation, "you know, almost all dissertations are crap". Here I am trying to feel good about my dissertation and he is saying this that no matter what you do, it is not going to be very good. He said, of course it is because not all people who do dissertations want to become researchers. Only the ones who do the best dissertations tend to be researchers later on and that is their first shot. They will get better as time goes on so dissertations are not very good. I think he was right. When you go in the academic world, you get better as a teacher and better as a researcher as time goes on (ll.222-290).

The training director's description of conflicting faculty and student bias toward research and practice respectively is evident in his description of clinical psychology students in the university being attracted to the counseling psychology program. These students appear to be disillusioned by the strong research focus in

the clinical psychology program as well as by the faculty's rejection of

psychotherapy practice as an acceptable and respectable goal of training and

professional growth. However, the training director conceded that similar biases are

operational in the counseling psychology program as well, even if the bias was not

as pervasive. As programs strive for APA accreditation and attempt to fulfill

requisite academic demands, faculty members and students in the program are faced

with conflicting biases regarding the relative value of research and practice. I now

discuss external factors that impact training.

The training director stated that APA plays a major role determining a

program's training policies because programs place a premium in getting and

maintaining APA accreditation. He stated (IHegel):

> SR: What do you think are some external factors that might have
> influenced training?
>
> TD: I think APA has much more power over us than anybody else.
> Nobody can really have a non-APA program, really, it is death.
>
> SR: In that case, APA's criteria drive programs' decisions regarding
> training including the criterion that says the program would integrate
> science and practice, whatever that means. Would you agree with
> that?
>
> TD: Yes. Pretty much. I think we do have values of appreciating
> science and practice. I think we would describe ourselves much more
> simply and clearly if it wasn't for the political stuff from APA. We
> don't want to lose our approval so we look at what categories they

are creating these days and try to abide by it. I don't think we are
that influenced by the college of education although many of our
programs have been kicked out.

SR: I know (11.401-416).

Most counseling psychology programs are traditionally housed in schools of

education. However, the fit between counseling psychology programs in schools of

education has not always been good. Although the program is not facing any

significant threat in this regard, the training director acknowledged that tensions

between the two simmer (IHegel):

> TD: I think a lot of counseling psych programs have a certain
> arrogance that they are the best thing in this college and they are.

> SR: Is it justified?

> TD: They are. I think by the number of people that apply and their
> GRE scores, we are much stronger.

> SR: Why do you think this is so?

> TD: Well, I think counseling psychology is extremely popular. A lot
> of people want to become psychologists. Few people want to become
> ed administrators or go back to school and get a Ph.D. in Secondary
> Education. I don't even know what that is. So that might be the
> reason for some resentment toward our field because most deans
> come from the college and they are not counseling psychologists and
> they probably hate us. So, may be some counseling psychology
> programs are worried that they would get kicked out because of the
> dean's resentment. At ..., when I was a student there, the Dean
> would raise the question "why are you doing marriage and family
> counseling, you are in the college of education so I don't
> understand". So they would always go "what are you doing here".
> My attitude was I don't care where we are, I would be just as happy
> in Liberal Arts or anywhere else. I don't feel connected here and
> may be that is some of that tension. We could always make the

argument that, as Krumboltz used to say, we are teachers, we teach people how to live well so...we are not just in the classroom, we are in the school, there is a link there and extend it beyond that. If I were a dean, I would say counseling programs belong here (ll.418-443).

Thus, although the fit between the school of education and the counseling psychology program is not ideal, the program is not currently threatened by being housed in the school of education.

The training director also believes that full-time practitioners gradually lose interest in keeping up to date with research while academicians struggle to balance tenure demands with maintaining a private practice. Consequently, the goal of integrating science and practice in terms of investing time in both activities eventually gets compromised after graduation. Such compromises might not bode well in the quality of role modeling experiences students might receive. Thus, programs can provide training in research and psychotherapy practice and hope that the program graduates continue to integrate the two aspects as their careers evolve. According to the training director (IHegel):

> SR: Does that actually happen in reality? Sounds more like what should be the case than what is the case?
>
> TD: Well, to some extent. I think some practitioners are good consumers of research and know how to discriminate between good and bad research to some extent. It falls downward in full-time private practice when you get lazy about reading journals and going to conferences and then as far as our academic graduates go, they still try to have some practice outside but the truth is that they are trying to get tenure somewhere then it is hard to practice on the side. So, there are some people who are totally balanced but our job is to make sure that they graduate with at least minimal competencies in

both areas and if you call that scientist-practitioner or whatever, that is fine. These other terms, I don't know what they mean. A pure practitioner is fine. A pure researcher is fine but some of the other terms professional-practitioner-scholar… (ll.148-160).

Finally, managed care emerged as a factor that is currently influencing doctoral training. The training director conceded that the program has been slow to cater to the changing market demands as a result of managed care (IHegel):

> SR: Shifting gears, what do you think about things like managed care? Do you think it impacts training?
>
> TD: I don't think we are keeping up with that as much as we should. Students have criticized us for that, saying we should be training them in brief therapy since that is what is going on out there. We are still living in the past. We have been a little slow to adopt to the managed care stuff. I think we should be more attuned to it, we shouldn't take our direction from managed care but we should know what the real world is like and certainly brief therapy is a reality and when I do practicum, you got to deal with the real world so when I teach them, I tell them to do their paperwork really fast, on the run, because that is what you would have to do in the real world (ll.445-455).

In summary, the program's history reveals a significant shift, in the 1980s, from a practice focus to an emphasis on research as newer faculty members affiliated with APA replaced older faculty members affiliated with ACA. The shift in focus has brought to the forefront biases among faculty members and students about the relative value and emphasis on science and practice respectively. Faculty members tend to value research while students tend to be interested in practice or they vacillate about their professional interests. In addition to internal factors that possibly impact faculty mentoring of research and psychotherapy practice, external

factors such as the role of APA, the program's housing in the school of education, academicians struggling to maintain a private practice in addition to seeking tenure and clinicians trying to engage in research in clinical settings, and the influence of managed care play important roles in doctoral training.

Summary

The program was nominated as a balanced scientist-practitioner program. The program encourages methodological diversity and emphasizes the importance of developing critical thinking skills in research and psychotherapy training. Most core faculty members subscribe to a cognitive-behavioral orientation in psychotherapy practice and use different models of supervision in psychotherapy training. The training director added that adjunct faculty members and fieldwork supervisors tend to be more eclectic in their orientations possibly because they have a better appreciation for the complexity of clinical work.

The scientist-practitioner is defined in terms of the oft-repeated theme of natural science-based practice. The self-study repeatedly emphasizes the importance of helping students to learn think critically and develop empirical support for practice. Although the training director agreed with the definition, he was critical of terms such as scientist-practitioner and the approach to the task of integration. He agrees with the goal of helping students become critical thinkers as they engage in

science and practice. However, he describes balanced training as akin to parallel training in research and practice. According to the training director, the integrative aspect involves students developing an appreciation for the complex nature of clinical work and learning to incorporate research findings while engaging in practice.

The curriculum structure, faculty members focusing on integration during coursework, clinical supervision, and faculty mentoring are the main strategies of integration adopted by the program. The training director acknowledged that faculty bias against psychotherapy practice sometimes limits the amount of integration taking place during coursework. He also added that core faculty members tended to adopt less complex views of psychotherapy practice whereas adjunct faculty members and fieldwork supervisors are more attuned to clinical complexity and tended to adopt more eclectic theoretical orientations.

The historical shift from practice to science and faculty and student bias have led to simmering conflicts about the relative value of science and practice within the program. External factors such as the powerful role played by APA for purposes of maintaining accreditation, the uncomfortable fit of the program within the school of education, the struggle of core faculty members and practitioners (typically adjunct faculty members and fieldwork supervisors) to balance their research and practice foci, and the influence of managed care also play critical roles

in training. The flowchart (Figure 4) below provides a visual representation of the

program's case description.
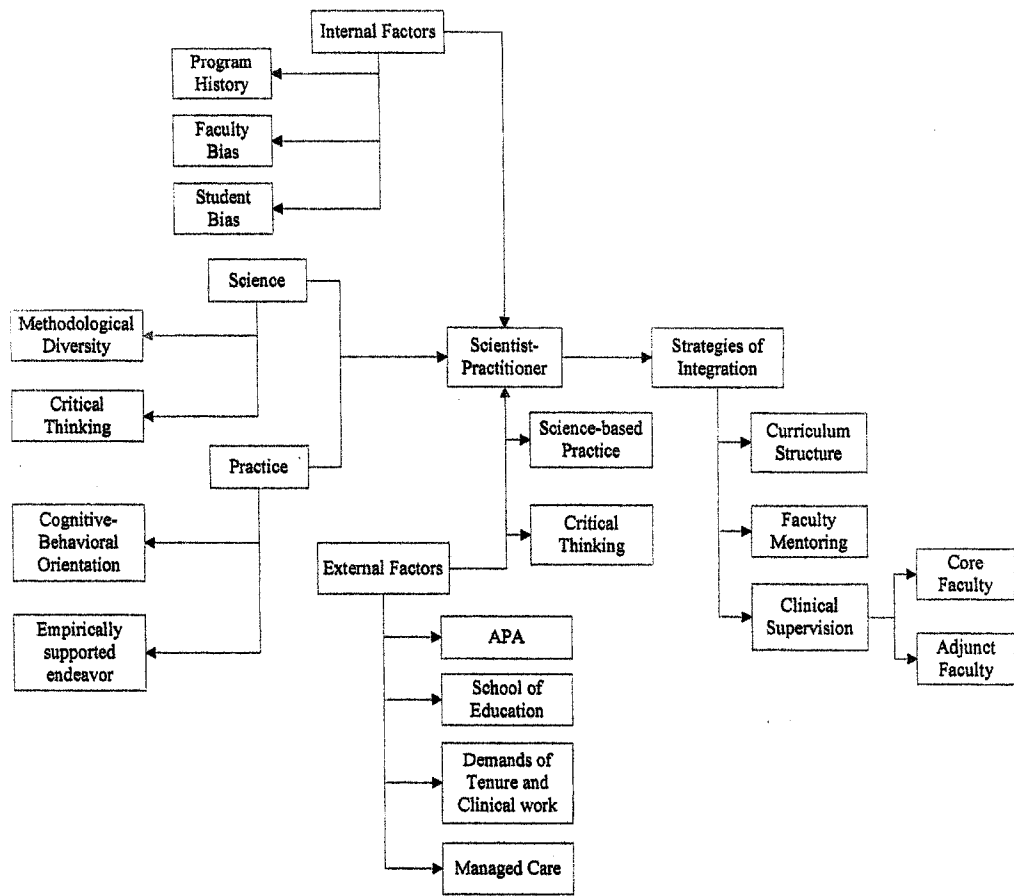
Figure 4. Visual Representation of Case Description for University of Hegel.

University of Heidegger

The counseling psychology doctoral program is relatively unique as compared to the other programs in the collective case study because it is one of the programs currently being phased out in the country. However, both Dr.Stone and Dr.Goodyear nominated this program in the balanced category and, hence, it was included in the study. The case study description is based on program website information, the complete self-study, dissertation abstracts since 1997, and interview with the training director. Upon my request following the interview, the training director emailed me additional data about the history of the program.

Concept of Science and Practice

The program has undergone major changes over the decades. Two phases could be broadly delineated in the last two decades based on faculty orientation toward science or practice. Until 1986, the program's faculty members were predominantly practice-oriented with an existential orientation in psychotherapy practice. The faculty members were also not inclined toward scientific endeavors. According to the training director, "The earlier group had bordered on being "antiscience". With new faculty who understood/appreciated empirical [*sic*] research, the tenor of the place changed" (Training Director, personal

communication, July 7, 2004). In 1986, there was a major turnover in faculty and the new faculty members tended toward a more moderate view of science and practice and the program gradually evolved to become an accredited doctoral program.

In the last couple of years, the program began to be phased out "in the context of broad programmatic and structural changes within the School of Education" (SSHeidegger, Preface). The phasing out process has not directly impacted how psychological science and psychotherapy practice training is operationalized in the program; instead, it has challenged the program and its students as they are making adjustments to major changes resulting from the phasing out process. I discuss the impact of phasing out on the program's training later in the subsection on internal and external factors.

The concept of psychological science is broadly defined in the program. In terms of research, the program subscribes to methodological diversity and the mission statement states that students are trained to be "prepared to make scholarly contributions to psychology's knowledge base, having an appreciation for and competence in diverse methods of inquiry,..." (SSHeidegger, p.7). The second training goal of the program is "To develop broadly competent, critically thoughtful psychological scientists who have the knowledge of and the ability to apply basic and advanced research methods" (p.8). Coursework in research includes statistics, measurement, research methods, including a qualitative research course (p.8). With

the exception of University of Hegel, this is the only program where qualitative

research method course is mandatory for students to complete. The training director

also confirmed that the program adopts methodological diversity as part of research

training (IHeidegger):

> SR: I mean how is science defined in this model?
>
> TD: *Aah.* I would say most of us adopt the traditional notions of
> positivistic, quantitative approach. Now, broader definitions are
> becoming more common.
>
> SR: So do you think in the program a broader definition is
> operational?
>
> TD: Oh yeah (ll.44-51).

Dissertation abstracts since 1997 indicate that most students conduct research using

quantitative research methods. Out of the 13 abstracts available, 10 abstracts

described studies using quantitative research methods. In addition, one dissertation

used a qualitative research method while two dissertations were theoretical in

nature.

Thus, psychological science is conceptualized in terms of methodological

diversity with the goal of training students to think critically in order to make

scholarly contributions and meaningfully evaluate research.

The goal of psychotherapy training is to inculcate a certain attitude toward

practice rather than train students in various theoretical orientations. According to

the training director (IHeidegger):

SR: How do you define the practice component?

TD: I don't think there is any one way to do practice in the scientist-practitioner. I think that is where scientific skepticism and that sort of thing helps, it is the attitudinal, critical thinking kind of thing that helps (ll.59-63).

Psychotherapy training takes place through coursework and practicum training and it is evaluated in qualifying examinations, practicum, and internship evaluations (SSHeidegger, p.9). Practicum training includes a beginning-level counseling skills laboratory course (SSHeidegger, p.16). According to the self-study, the course is "grounded in the assumptions that there is both (1) a "common clinical wisdom" that guides practice and (2) common factors (such as certain relationship qualities; client expectations; and so on) that transcend particular theory" (SSHeidegger, p.16). Following this course, the first practicum is taught at a community mental health facility where one of the core faculty members teaches and supervises practicum students. Thus, the site is considered analogous to an in-house clinic (SSHeidegger, p.16). Following the first practicum, students complete their first field placement at an appropriate site in the local community. Then, students take the second practicum which is taught by a faculty member who conducts research in assessment-related topics and supervises practicum students. He is identified as an ideal scientist-practitioner who integrates research with practice in practicum and provides role modeling as a scientist-practitioner to students (SSHeidegger, p.17). The second practicum and the second field placement

both emphasize assessment training. Practicum and field placement experiences finally culminate in students applying for pre-doctoral internships.

Thus, the program adopts a broad definition of psychological science and psychotherapy practice. The self-study as well as the training director both emphasized the importance of developing an attitude of scientific skepticism and critical thinking skills while engaging in research and psychotherapy practice. In addition to these attitudinal and cognitive components, methodological diversity in research training and the appreciation for clinical wisdom and assessment training are also focused upon during doctoral training.

Concept of Scientist-Practitioner

The self-study acknowledges the fundamental tenet for this dissertation study of the scientist-practitioner training model, "that the large majority of counseling psychology programs claim adherence to this model suggests that there are multiple understanding of it" (SSHeidegger, p.7). According to the self-study, the program's definition of the scientist-practitioner is drawn from Pepinsky and Pepinsky (1954) which states that a scientist-practitioner is someone who is prepared to be a (SSHeidegger):

> (a) critical and skeptical consumer of current and future theory and research in applied psychology; (b) professional who is able (upon review of theory and research) to tailor, implement, and evaluate

clinical applications of such theory and research; and, (c) professional who is able to formulate and conduct meaningful research in areas pertinent to the science and practice of counseling psychology (p.7).

The training director viewed the concept of scientist-practitioner as having multiple

definitions (IHeidegger):

> SR: Let me start with asking you how you would describe the scientist-practitioner program.
>
> TD: How you would describe the scientist-practitioner. There are multiple definitions of the scientist-practitioner. One version has to do with doing practice and doing research. I think there are two other notions of the scientist-practitioner – one will be that people, the graduates, are good consumers of research, to use critical thinking so that as they enter practice, they are able to use their judgment well. I think the whole notion of skepticism defines science and as a practitioner if they adopt that skepticism, I think it helps to question, "where are the data"? I think the other sense of it is that the way of thinking as a scientist that gets translated into the practitioner side. So you get hypothesis testing, significance testing, so you gradually test all sorts of hypotheses about your clients and gradually build a theory. So those are two main ways that scientist-practitioner applies. I think there is another sense that they want to see data and a lot of that is through stat [statistical] method courses, how to make sense of the literature, and also there is also the notion that simply taking stat [statistical] courses changes our view of problems. To some extent that models how faculty model their thinking in their courses and how they link it to existing literature to find answers. (ll.1-19).

The qualities attributed to the scientist-practitioner in the self-study, thus,

include the ability to consume and conduct research and also apply research in

psychotherapy practice. The training director elaborated on these qualities by

stating that a scientist-practitioner could be defined using three broad concepts.

First, a scientist-practitioner could be defined as a professional who engages in both science and practice. Second, a scientist-practitioner could be defined as embodying the qualities of scientific skepticism and critical thinking. Finally, the scientist-practitioner applies research in psychotherapy practice using the notion of science-based practice. In this instance, psychological science entails adopting a positivistic stance and utilizing statistical tools in clinical endeavors. Thus, both the self-study and the training director adopt the notion of integration akin to the theme of natural science-based practice.

Strategies of Integration

The three main strategies of integrating science and practice is developing the ability to critically think through problems, have an attitude of scientific skepticism, and develop the ability to apply research in psychotherapy practice. According to the training director (IHeidegger):

> SR: So it sounds like there are two things – one is critical thinking in science and practice and the other is more like an application of research methodology...

> TD: There is a bridge there. The problem I think is that scientist-practitioner programs struggle with how do we do it. But I think some programs struggle more but I think the majority of programs teach science and translate that in practice so that the graduates they turn out do think like that and certainly when we do practicum, for the few of us who do, we try to do that. So there are two definitions...

SR: So it is a way of thinking…

TD: It is a way of thinking in terms of critical thinking while looking at the literature, while solving problems, being skeptical. I certainly hope we do that here with our students (ll.21-33).

The primary modes of inculcating such attitudes such as scientific skepticism and ability to think critically takes place through faculty modeling and discussion of research and clinical data in coursework and practicum. According to the training director (IHeidegger):

SR: Talking about integration, one of things you said because programs are sequential, it is hard for integration to happen. How does this program attempt integration?

TD: Strategies?

SR: Yeah.

TD: I think, I would like to think that faculty model that with their thinking in everything that they do. In coursework, looking at the literature, answering students' questions, practicum, where they talk about what the literature tells you and what the data tell you. So it is always going back to the thinking that way, as a source of authority, that people begin to pick up on that. I don't know if we always succeed though.

SR: What do you think are other possible strategies other than a way of thinking communicated in classes?

TD: The other strategies would be to have all faculty take turn as practicum supervisors and to know more about who is supervising in their field placements. Clinical psych [psychology] farms all their students to sites where the supervisors are the program graduates so they have more control over what is happening there. So it is much more tightly monitored. So there is more control over what they are modeling and how they are shaping the students during their clinical training. Also, those supervisors are paid a small reimbursement for

their services which we don't do. Ultimately, students anyway go to internships where there is very little control from the department but by then one hopes to have achieved all this.

SR: Would you adopt the same model in terms of supervision?

TD: Oh yeah, without a doubt if we had the resources (ll.76-87, 99-114).

The goals of inculcating scientific skepticism, developing critical thinking skills, and incorporating research in practice are achieved through faculty modeling these ways of thinking and through the interweaving of research and clinical issues in didactic coursework and practicum training. I discuss the lack of resources in depth later in the subsection on internal and external factors.

In order to get a better understanding of how interweaving of research and clinical issues takes place, I examined course syllabi. For example, the syllabus for "Theories of Counseling Psychology II" states that the course aims "to develop a contextual and critical understanding of major contemporary models of psychotherapy" (Theories of Counseling Psychology II Syllabus, p.2; SSHeidegger). Understanding psychotherapy theories also involves students writing a research proposal, an example of integrating science and practice. In contrast, the research course on "Multiple Regression" aims to develop students' statistical skills in order to carry out quantitative research (Multiple Regression Syllabus, p.1; SSHeidegger) but the course objective does not mention utilizing research and statistics in practice contexts. Thus, the interweaving of research and practice does not appear to be consistent through all coursework. One possible explanation could

be that faculty members outside the counseling psychology program teach most

research methodology courses and these faculty members might not necessarily

subscribe to the goal of integration.

During the interview, the training director also discussed some of the

difficulties inherent in successfully implementing the strategies of integration.

Problems in Integration

I asked the training director if different notions of science and practice

manifest in different interpretations and strategies of integration. His response

focused on some of the challenges relating to integration that were both program-

specific and also related to issues external to the program. I discuss the latter in the

next subsection on internal and external factors. While discussing the various

manifestations of the scientist-practitioner model, he stated (IHeidegger):

> SR: Do you think programs that adopt different definitions of
> science or varied definitions of practice will be different in terms of
> the products, their graduates?
>
> TD: I would think so although...oh yeah, I would definitely think so.
> I would think of the three things I talked about. I am not sure how
> good a job we do here. The thinking, the attitude, and skepticism.
> [In] Many programs the science loads heavily in the scientist-
> practitioner than the seeing the clients part. In most counseling
> psychology programs, there is the notion that doing research is
> followed by clinical training and it happens in a sequential manner
> and this is where integration becomes a challenge (ll.65-74).

In addition to the problems of sequential training, another issue that emerged was that core faculty members tend to be tacit about their individual training approaches to research and psychotherapy practice. According to the training director (IHeidegger):

> SR: Why do you question and wonder if it is always possible [for mentoring to be successful]?
>
> TD: We have never really talked about this actually in the program. Each of us teaches our classes and there is a tacit, unspoken contract that we are doing the right thing but it has never been discussed.
>
> SR: Is that because everybody is busy doing their part of the load?
>
> TD: I think so (11.89-97).

The program is similar to some of the other programs described so far, in terms of the emerging theme of faculty members choosing to remain tacit about their training philosophies. The implicitness among faculty members is, however, viewed as problematic. Implicitness among faculty members is viewed as problematic because faculty members might not be aware of other faculty members' training philosophy, training strategies, and biases. Instead, the lack of awareness is expressed in faculty members remaining silent about these issues. Thus, faculty members remaining tacit might actually disguise ignorance about other faculty members' approach to training. It might also serve in avoiding possible interpersonal conflict that might arise from articulating conflicting training philosophies and biases. Faculty members might remain tacit in order to preserve

academic freedom in teaching as well. I discuss the theme of implicitness among

faculty members in greater detail in the next subsection on internal and external

factors.

Following the discussion on the challenges in doctoral training, I sought the

training director's view on what solutions could be instituted. I quote an excerpt

from the interview (IHeidegger):

> SR: What is your overall opinion about the goal of integrating
> science and practice? Is it working? What is your take on it?
>
> TD: I think it is hard to argue that the original thinkers hadn't gotten
> it. There is certain broad level of agreement but because it is kind of
> projective, each person takes their own version of it. One reason this
> model has persisted is that it is subject to multiple interpretations, a
> whole bunch of us could be scientist-practitioners and we will look
> very different.
>
> SR: Well, it brings me back to my reason for choosing this
> dissertation since in the literature it is talked about as a single entity
> as though there is only one interpretation of it.
>
> TD: I think we have two issues – one is very abstract in terms how
> you think about it and then next level that is further out is how do
> you go from this abstract level and operationalize it.
>
> SR: Yet, there isn't a complete agreement on the strategies…I
> wonder because we came up with ESTs as manuals on how to do
> therapy but we never came up with a manual about how to
> implement this model.
>
> TD: That is really a cool idea, I never thought about it. Sometimes I
> feel that APA can play a bigger role. If they were to say during a site
> visit, we want you to do this or that, it would happen immediately. If
> they were to say, all faculty take turns teaching practicum, it would
> be happening now. The one thing in the equation I left out earlier
> was about whether students go into Psy.D programs or Ph.D.

programs is about Holland codes that could be used in selecting students into programs. The whole P-E code. I would think scientist-practitioner programs will get a lot more I types and practitioner programs get more E types. So let me back up to the question of how do we train scientist-practitioners – one is student selection, it is something we have talked about for years but we have never gotten around to doing it, it is pre-testing the students with things like a Strong, just anything that is a quick measure of that. I think we do some of that in terms of selecting students who have some evidence of being interested in research – past research. Behaviorally, they have shown indications of interest.

SR: If you could, would you do things differently in terms of this training model?

TD: What I would want more is that as faculty we talk about this specifically rather than leave it as an implicit goal. Also, we need to pay more attention to practice in terms of the scientific data-based stuff during practicum etc. One thing that would definitely help is... in a lot of programs, all faculty are required to supervise practicum so that everyone gets a chance to do it and it forces you to stay in that camp. Here, it was more of ... and ... do it and we all have our stuff. We never thought of structuring differently.

SR: Do you think being tenure-track makes one less inclined to do anything that won't help with tenure?

TD: Well, that is true... it was just one of those things of department culture and we never talked about it. As a training director, it is hard to juggle all of it, the administrative stuff. So there were lots of forces that were in the equation. In retrospect, to answer your question, forcing faculty to do science-practice integration themselves helps. So force everyone to take turns teaching practicum (ll.216-248, 197-214).

The training director suggested various changes that could be instituted in order to further facilitate the integration of science and practice in doctoral training. He suggested that doctoral program applicants be screened using vocational tests in order to identify students who have an interest in research and practice. During

psychotherapy training, he suggested that all core faculty members take turns supervising practicum so that they are attuned to psychotherapy and integrative components. More incorporation of research in psychotherapy training would also assist in facilitating integration. Finally, he stated that if APA made changes in training policies (e.g. requiring all faculty members to take turns supervising practicum students), these policies would get instituted in programs more easily because programs are keen to maintain APA accreditation.

Internal and External Factors

Three main internal factors that impact training were identified. These factors were program's housing, phasing out of the program, and less than ideal communication among faculty members. In terms of external factors, the training director identified the influence of state psychology boards, licensure, and internship hours as major influential factors.

The training director described the program's struggle with the school of education as follows (IHeidegger):

SR: Why do you think resources are a problem?

TD: Well, we are in schools of education and there is a problem of fit, especially in graduate schools of education where we hardly have any undergraduate courses. So I think the three factors of being in a graduate school, not having money for supervision, and being in a

private university that has its own culture create problems of
resources. So those three things explain why it is tough (ll.116-122).

The problem of fit has played a critical role in precipitating the phasing-out of the

program because the major programmatic and structural changes could not preserve

the program in the school of education.

Although the phasing out of the program has not entailed significant

changes in how the scientist-practitioner training model is interpreted and

implemented, it has shifted the focus of the program toward urban education in

order to reflect the changing emphasis of the school of education (SSHeidegger,

p.6). Consequently, more recent cohorts are increasingly focusing on "work with

children in urban contexts; several are picking up a school counseling credential as

a tool that will give them credibility in school settings" (SSHeidegger, p.6).

Another consequence of the phasing out has been the challenge of having

adequate resources, especially in terms of faculty-student research collaboration.

According to the training director (IHeidegger):

> SR: How does the program attempt to meet the research part of
> training?
>
> TD: We have lost a few faculty for some time – ..., ..., and ... not
> getting tenure etc. We used to have a research practicum requirement
> of 45 hours of research with a faculty but that has kind of fallen apart
> recently with all the changes. In the past, faculty had active research
> groups where students actively participated but now that isn't
> working anymore. So, we lost faculty, we lost administrative

support, we have been moved around within the school, there is no
place for everybody.

SR: Any other factors you can think of?

TD: I think the issues we have with School of Ed [Education] is a
big one and I am not sure we will be able to resolve it as a field.
Stanford struggled with it and failed (ll.150-162).

The lack of adequate communication among faculty members was identified

as another internal problem in the program. The decision of faculty members to

remain tacit about their respective training philosophies is one instance of poor

communication. In addition, the training director acknowledged (IHeidegger):

SR: What about internal factors within the program?

TD: I think, we as a faculty, have had our share our problems.
Communication has been an issue. We don't always see eye to eye
and that impacts how we train. Secondarily, students have suffered
in the sense, students were attracted to faculty interests. For instance,
… and … had lots of students interested in multicultural so …
leaving and with … becoming a clinical faculty was tough. Faculty
size is an issue in terms of faculty-student ratio. So we try to get by.
Research by student-faculty collaboration still happens though
(ll.164-171).

The challenges resulting from the phasing out are program-specific but the implicit

agreement among faculty members to remain tacit about their training philosophies

and biases seems to surface as a more common issue among different programs.

With regard to external factors, I could not successfully transcribe the

portion on state psychology boards and licensure. I quote the training director's

response about external factors impacting doctoral training (IHeidgger):

SR: What are the other external factors that impact training? Do you think APA impacts things in terms of accreditation criteria?

TD: The other thing that impacts is the internship. Students are always struggling for more hours and so that tips the balance because of them doing things based on their perception. So it is very difficult to get students to do anything other than practicum and field placement because students need to do this many practicums and field placements to get internships and if you try to tell them that you are supposed to do this research or present [in conferences], it is really internship as the external factor is even bigger in some ways than APA and licensure. Internship competition has a lot to do with how much students are able to have time for science-related activities. They only have so many hours a week.

SR: So the number of hours required keeps increasing in terms of what students believe is most important?

TD: It is crazy. But I think that has calmed down a little bit (ll.124-141).

However, unlike a few training directors I interviewed, the influence of managed care on training was not seen as a major component. According to the training director (IHeidegger):

SR: How about managed care impacting training?

TD: Yeah, managed care comes in to the equation. The way I would see it as we have been doing the things they have wanted all along. We have espoused brief therapy all along so it is not new to us. It is just bigger now. I am not sure how else it really changes things. We do talk in ethics classes about insurance, brief therapy etc (ll.143-148).

Thus, the training director identified the pressure to accumulate sufficient clinical hours in order to successfully compete in the pre-doctoral internship match process

led many students to focus more on practicum training and less on engaging in research endeavors.

Summary

The program adopts broad definitions of psychological science and psychotherapy practice. In research training, methodological diversity is actively encouraged and the course in qualitative research methods is mandatory for students to complete. Psychotherapy practice is defined typically in terms of inculcating personal qualities of scientific skepticism and critical thinking, qualities valued in research as well.

The scientist-practitioner is defined as an individual who has the ability to evaluate, conduct, and utilize research both in research and practice contexts. For this purpose, the program adopts the definition of scientist-practitioner proposed by Pepinsky & Pepinsky (1954). The self-study as well as the training director acknowledged that there are multiple interpretations of the scientist-practitioner model. However, the training director's description of the scientist-practitioner described a professional who has an attitude of scientific skepticism, engaged in natural science-based practice, and utilized skills learned in research methods in practice contexts as well.

The program adopts multiple strategies of integration with a focus on facilitating critical thinking skills and developing an attitude of scientific skepticism in research and practice. The curriculum structure, faculty mentoring, active supervision provided by a couple of core faculty members during practicum training are some of the strategies of integration. The training director also acknowledged that APA could play a more proactive role in facilitating the implementation of strategies of integration. Finally, according to the training director, better communication between faculty members and a more equitable participation of other core faculty members in practicum supervision would also assist in training. The flowchart below (Figure 5) provides a visual representation of the case description.
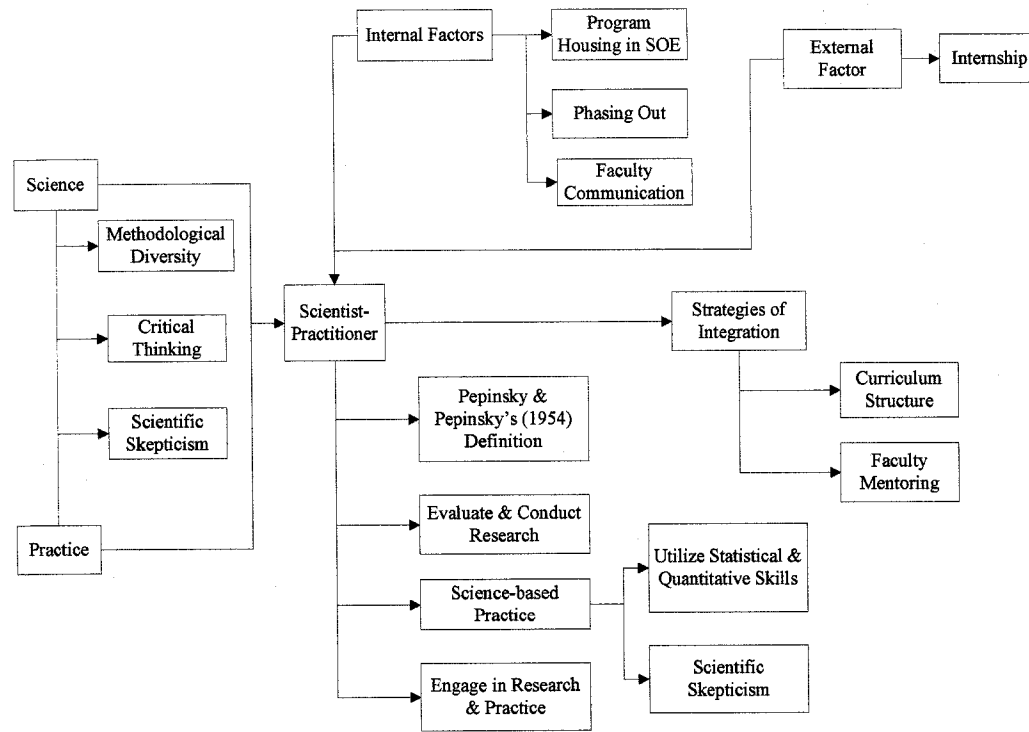
Figure 5. Visual Representation of Case Description for University of Heidegger.

University of Socrates

The program was nominated in the balanced category. Data sources used for developing the case description include information from the program website, narrative portion of the self-study, annual report of year 2003-2004, dissertation abstracts since 1997, and interview with the training director.

Concept of Science and Practice

The concept of psychological science adopted by the program is primarily derived from the training director's definition of psychological science. The program appears to adopt broad definitions of psychological science and psychotherapy practice. Methodological diversity in research is encouraged and faculty members adopt a variety of theoretical orientations in psychotherapy practice.

The self-study and website information focus on the ways research training takes place rather than the conceptual definition of psychological science. According to the training director (ISocrates):

> SR: In terms of the science component of the model, would you define it more in traditional natural science modes or would it be different?

TD: Definitely broader than that. We certainly think that discovery oriented research and qualitative research which is really uncovering, you know understanding human experiences particularly related to clinical issues is important. Certainly. Our program has evolved over the last 25 years but definitely in the last 10 years we have seen more non-traditional discovery oriented designs (ll.16-23).

Thus, the program adopts a broad definition of psychological science that includes research training in quantitative and qualitative research methods.

Research training takes place through three modes – completion of research methodology and techniques of data analysis coursework, participating in research teams/research assistantships, and demonstration of research competence in a research tool beyond the required coursework (SSSocrates, p.12). Research methodology courses include introductory research methodology, statistical methods (bivariate regression, significance tests), research principles and methods in counseling, regression analysis for counseling research, and an elective course in psychological measurement, research design, or a statistics course (Coursework Requirements, p.2; Website). However, qualitative research courses are not mandatory. The self-study and the program website provide no information about where students take the qualitative research course. The self-study states that research methods are critically examined, especially in the clinical context (SSSocrates):

... in the intervention domain, for example, students in their second year critique existing psychotherapy outcomes and process studies, examine alternate quantitative and qualitative methodologies relevant to the conduct of such studies, and drawing on current

clinical practice, design a comparative treatment study for a specific client population (p.21).

In addition, some faculty members and graduate students are increasingly leaning toward qualitative research. For example, one faculty member's recent publication is about experiences of psychotherapists and another study uses the narrative/constructionist approach to understand a specific kind of psychotherapy. (Faculty and Staff, p.4; Website). A review of the 12 dissertation abstracts indicates that 10 abstracts used quantitative methods while one used a qualitative approach and another a mixed-method approach, indicating that quantitative research is the predominant type of research conducted in the program (DASocrates, pp.1-26).

Participating in faculty research teams and working as research assistants are valued experiences in the program. The training director stated that, "With respect to scholarship, we are active researchers, nationally and internationally recognized. We offer research assistantships to all incoming doctoral students, and the mentorship that takes place in these research teams is invaluable" (A Message from the Training Director, p.1; Website). Being part of such a research team exposes students to various stages of research from conceptualization to publication/presentation and also facilitates the evolution of their individual research interests (SSSocrates, p.22). In addition to research teams, a range of co-curricular activities such as professional development activities, colloquia, special seminars and other related activities promote co-authoring and convention

attendance in order to "promote the identification, creation, evaluation, and dissemination of new ideas, programs, and findings" (SSSocrates, p.23).

The demonstration of competence in a research tool is the last requirement in research training prior to embarking on the dissertation. The demonstration of competence entails either completing additional research-related coursework or creating an individualized plan with the training director. The former requires students to take coursework beyond the required research coursework and the latter requires a clear plan of the competence to be acquired and the method of acquiring it. This plan has to be approved by the training director before the student completes the requirement. However, the requirement does not provide any additional information about the conceptual definition of psychological science. An examination of the strategies of research training indicates that the program encourages methodological diversity although most students continue to use quantitative research methods for their dissertation studies. The training program also emphasizes the development of critical thinking by requiring students to critique and design research.

The program's approach to psychotherapy training is also broad-based. Faculty members subscribe to a variety of theoretical orientations including "cognitive-behavioral, psychodynamic, systems, gestalt, humanistic, developmental, feminist, and interpersonal points of view" (Frequently Asked Questions, p.2; Website). The training director endorsed this view but she also

acknowledged that discussions among faculty members about theoretical

orientations and philosophy of practice training remain tacit and implicit. She stated

that (ISocrates):

> SR: Regarding the practice part of it, I want to know the kind of
> theoretical orientations that is typical in the program?
>
> TD: Well, we don't sit around talking about theory and orientations.
> So I am not sure about our three new assistant professors because I
> haven't heard a lot from the students about their supervision with
> them although I think one of them is very cognitive-behavioral and
> the other two might be more interpersonal. I am not sure. But I think
> we, as a faculty, have a broad theoretical view. But what is more
> important to us is that our philosophy of training is that we
> encourage our students to learn as much about various orientations
> and develop… (ll.38-47).

In addition to the diversity of theoretical orientations that are operational

among faculty members, core faculty members also play a critical role in

psychotherapy training. In this context, the program website states (Message from

the Training Director; Website):

> With respect to clinical training, not only do we personally supervise
> students' first practica (in vivo and on video), but most of us are
> practicing psychologists ourselves – therapists in private practice and
> consultants to community agencies. Thus, we bring not only
> expertise but also an understanding of the health care system to our
> work with students (p.1).

Thus, the program adopts a broad definition of psychological science and

psychotherapy practice. Methodological diversity in research and faculty members

subscribing to a variety of theoretical orientations could lead to differing notions of

the scientist-practitioner model among faculty members. The breadth of science and

practice viewpoints among faculty members is similar to one of the previous cases,

University of Plato, whose program faculty members also subscribe to a broad

definition of science and practice. Therefore, varying interpretations of the scientist-

practitioner among different faculty members is a distinct possibility.

Concept of Scientist-Practitioner

The program defines the scientist-practitioner model as a model

(SSSocrates):

> ... in which training is undertaken in both intervention methods and
> scientific inquiry, and in which the practice of the profession
> involves both being informed by and contributing to scientific
> knowledge. In our program, questions of science and practice are
> viewed as complementary and interdependent (p.4).

Thus, the program defines the scientist-practitioner as an individual who has the

requisite skills, awareness, and knowledge for engaging in psychotherapy practice,

skilled in the interface between science, theory, and practice, and has the ability to

evaluate and design research (SSSocrates, p.6).

The training director further elaborated on the nature of science and practice as complementary and interdependent by stating (ISocrates):

> SR: How would you define the scientist-practitioner model as such?
>
> TD: Well, I think it is more than just a person doing research and seeing clients. That is the way some people see the model as can you both be a practitioner and a researcher. But what we try to do is try to say that we are trying to blur the boundaries between science and practice so that a practitioner uses scientific, logical reasoning and develops their own hypotheses, tries to disconfirm those hypotheses but also tries to integrate the literature into their treatment, using evidence-based intervention, not just interventions but also in understanding clients from an empirical basis. For example, if there are attachment issues, then they read the literature on attachment not necessarily just the research on attachment-based therapy. So, you know, doing that and then research really being very clinically meaningful and some of the designs coming out of clinical questions and answering clinical questions that are meaningful and enhancing practice with meaningful information. I don't know if that is the answer you wanted.
>
> SR: So when you look into the integration of science and practice, you think through the notion of blurring the boundaries, critical thinking, and being aware.
>
> TD: Yes. And not feeling like when you are doing research, you are not considering theory or considering clinical practice. And when you are doing clinical practice, you are looking into research. And when you are developing theory, you need to consider research. That is what I mean by that (ll.1-14, 90-96).

Thus, the self-study describes the scientist-practitioner akin to science-based practice wherein the individual utilizes research in practice and conducts research.

The training director defined the integration of science and practice by a scientist-

practitioner more inclusively as a "blurring of boundaries" that includes both science-based practice and practice-based science.

Strategies of Integration

The program utilizes multiple strategies to implement the integration of science and practice, "through coursework in basic psychological foundations, research methods, developmental and intervention theory and assessment, and by practice opportunities in both research and clinical activities via assistantships, professional developmental activities, practica, specialized coursework, and independent study" (SSSocrates, p.4). Specifically, the consultation project, interweaving coursework with practica, faculty mentoring, and research and practice assistantships all play critical roles in facilitating the integration of science and practice.

The importance of integrating science and practice is evident even prior to the start of doctoral training. According to the program website, "We are looking for students who have research experience, experience in an applied setting, ..." (Admissions Information, p.1; Website). Thus, the program seeks students who have prior experience in research as well as practice.

Coursework and practica are deliberately interwoven. According to the self-study, "the sequencing of both course work and practica is organized so that the

student is involved in either observational or supervised direct counseling practice during each year in the program" (SSSocrates, p.27). Practice-related coursework include four domains – group, career, intervention, and assessment (SSSocrates, p.20). The self-study further elaborated that, "the review and critique of these domains emphasizes scientific merit, attention to diverse applications, and an awareness of the need to balance experimental rigor with the applied demands of practice" (SSSocrates, p.20). Similarly, as mentioned previously, students "critique existing psychotherapy outcome and process studies, examine alternate quantitative and qualitative methodologies relevant to the conduct of such studies, and drawing on current clinical practice, design a comparative treatment study for a specific client population" (SSSocrates, p.21). Such endeavors attempt to incorporate clinical experiences and realities of clinical work with theory and science and vice versa.

Practicum training appears attuned to the scientific aspect of the field. For example, "Students are encouraged in practica to generate researchable questions from their clinical work" (SSSocrates, p.21). In addition, the self-study states that (SSSocrates):

> ... while students are in their first counseling practicum, they are also enrolled in the year-long seminar on counseling theory, research, and practice. This seminar, which serves as the prototype for the recent Division 17 Project to Integrate Science and Practice, provides a structure opportunity (a) to integrate theory, research, and practice (including historical, sociological, and political factors influencing the emergence of theoretical and research paradigms),

(b) to study alternative methods of inquiry for counseling research (from comparative efficacy research to qualitative methods), and (c) to review and analyze existing psychotherapy research from the perspectives of conceptual and methodological rigor as well as relevance to practice (p.27).

The training director endorsed these strategies and termed the integration of science and practice as a "blurring of the boundaries". She stated (ISocrates):

SR: In terms of the program, where are the places where integration takes place?

TD: Throughout. Even in the research groups that students are encouraged to be in during their first year, we talk about issues related to clients we see, people that we know and but I think that probably it is most prominent in second year during practicum and the doctoral seminar which is theory, research, and practice and blurring the boundaries between all of that.

SR: How exactly does blurring the boundaries happen?

TD: Well, what I mean is we talk about not keeping them as separate things but that the research needs to be informed by clinical practice so for example, we talk to students about... Once I gave a final exam and it was about a group therapy proposal that people had to write. Somebody wrote a proposal for treating people for anxiety, giving a pre-test and have people that were low anxiety and high anxiety in two groups. It looked like a great design but why would you do a group for anxiety for someone who has low anxiety. It was like, it didn't even occur to them that it didn't make sense clinically.

SR: A lot of it is coursework, the practicum, and the consultation project...?

TD: Yes. And in practicum certainly when the students are presenting a case, they have to go through the literature and see what is the support for this direction with your client (ll.53-69, ll.77-80).

Thus, "blurring of boundaries" can be understood as the need for students to become aware of the clinical relevance of research and practice that is informed by research. Thus, the program attempts a more bilateral integration of science and practice by encouraging both these aspects of integration.

Supervision plays an important role in psychotherapy training. In the program, faculty members supervise beginning-level practice training while third and fourth year graduate students work in the community to gain clinical experience. During the early phase of psychotherapy training (SSSocrates):

> ... supervisors in the initial (second year) doctoral practicum are the same faculty who teach many of the core courses in counseling psychology. These faculty supervisors are licensed psychologists. This involvement of faculty in theoretical, empirical, and applied training provides innumerable opportunities to relate theoretical concepts and empirical [*sic*] paradigms to applied problems and to use actual samples of client behavior to illustrate theoretical issues and to generate researchable questions (p.27).

The training director while describing how she would approach an issue that has not been adequately studied in research provided an example of her approach to psychotherapy training. She stated (ISocrates):

> SR: What about areas where there doesn't seem to be much support in research?
>
> TD: Well, maybe to recognize that. A lot of the multicultural stuff is still evolving, the research and the theory, and when students present theory and we say what is multicultural and they usually say that there has been a study on this but then I say let us look at the tenet of the theory. They support use with non-White, western middle class

male and heterosexual. So they need to think outside the box about
what kind of research would be needed (ll.82-88).

Her example identifies the importance of critical thinking in research and practice, a skill considered as a requisite for integration of science and practice.

During advanced training, field supervisors and adjunct faculty members tend to take over the task of supervision (Message from the Training Director, p.2; Website). According to the self-study (SSSocrates):

> The core faculty of the Ph.D. Program in Counseling Psychology are the nine faculty members who comprise the Department of Counseling Psychology (8.25 FTE). Adjunct faculty – primarily those involved in advanced practicum supervision and those who teach specialized courses – serve to complement the core faculty (p.29).

Unlike the previous two programs (University of Aristotle and University of Plato), the core faculty members in the program play a relatively more active role in providing psychotherapy training. However, adjunct faculty members play a critical role in providing clinical supervision as well. Assistantships for students are considered another resource in facilitating integration.

The availability of assistantships is closely linked with mentoring because it facilitates faculty mentoring. With regard to research training, "… assistantship/fellowship opportunities provide for early and constant exposure to and experience in the scientific role of the psychologist. As a result, a healthy portion of our graduates who have been, and continue to be, involved in empirical [sic] efforts and publications" (Frequently Asked Questions, p.4; Website). In

psychotherapy training, faculty members also model to students by providing

various co-curricular activities and "continuing education" opportunities to

students. According to the self-study, "As a faculty, we model pursuing these

activities for professional renewal, and provide mentoring and advice about

opportunities that students might pursue" (SSSocrates, p.23). Faculty members,

thus, model academic and clinical growth by providing opportunities for

collaborative research and participating in "continuing education" and other related

activities.

The completion of a consultation project serves as another strategy of

integration. Following the first year coursework on intervention theories, "Further

examination of intervention theories occurs next, where empirical [*sic*] literature

concerning intervention process and outcome is extensively reviewed, and a

resulting consultation project is executed in which empirically supported methods

are identified for use for specific situations and problems" (SSSocrates, p.15). The

consultation project involves students approaching various local community

agencies that might be facing problems with interventions. Students are expected to

work in these agencies as consultants and develop their individual projects aimed at

helping the agency. The training director described the consultation project as

follows (ISocrates):

> TD: We also have a consultation project where we send them out to
> agencies and they read the literature about some clinical problem
> that is going on, develop an assessment tool, or develop a workshop

or do a needs assessment and interview other clinicians about what
they are doing to deal with this problem. So they see how research
can actually be used in a clinical setting... (ll.70-75).

The exercise of students immersed in a clinical setting with the goal of providing

consultations using a scientific approach provides an opportunity for integrating

science and practice. From the above description of the strategies of integration, it

appears that the program makes specific, concerted efforts for integrating science

and practice. However, the task of integration is not completely devoid of problems.

Problems in Integration

Alumni employment patterns indicate that a greater proportion of graduates

of the program tend to gravitate toward practice-oriented jobs. The description of

graduates' employment patterns, based on a recent alumni survey, revealed

(Frequently Asked Questions; Website):

> Most of our graduates work in clinical settings, but quite a few have
> taken academic positions. In a recent alumni survey, we estimated
> that about almost half our alumni teach either full- or part-time and
> about 50% do full-time or part-time independent practice. About
> 60% are regularly involved in developing innovative programs and
> services. Some are in nontraditional jobs, such as consultants to
> police departments (p.3).

For example, according to the annual report 203-2004, two graduates work in a

community mental health center, one each in a private general hospital and state or

county hospital, and finally, one graduate works in a 4-year college (Annual Report

2003-2004).

Because the scientist-practitioner is viewed as an individual who is

knowledgeable and skilled in evaluating research and practice, graduate

employment settings and employment patterns might not necessarily indicate the

success or failure of the training model. However, I sought the training director's

view on why graduates tend to seek practice-oriented jobs following graduation.

According to the training director (ISocrates):

> SR: How successful is the program in training scientist-
> practitioners?
>
> TD: I think we are very successful. In fact, we do alumni surveys
> every 3 years for our self-study for APA and the students say they
> get a fantastic research background. It doesn't mean they go and do
> research but they are very attuned to it. For example, I had a
> conversation with a student who recently became alumnus. She
> works in the Department of Probation and she was telling me about
> one of the high profile evidence-based family therapy with juvenile
> delinquents. But she doesn't feel that the research really mirrors
> what goes on in clinical practice because it is one size fits all. So,
> you know, students learn to think critically about what they are
> doing and to consider the research but also to consider the limitations
> of the research. That is the experience of students who have never
> been particularly research oriented. They go look for jobs and they
> decide they want to be an academic or they get a job like one person
> got a job in a research consulting firm in psychology. So they learn
> the skills and a lot of them are very academically oriented when they
> start out, but they realize that it is a whole different mindset for
> being a researcher than being a clinician. As a clinician, very often
> you can leave your job at the door and it gets very seductive doing
> clinical work and there is such an incredible range in terms of
> practicum and internships. Students get a lot of immediate

gratification from that but gratification from research is harder and takes longer.

SR: So practice is more immediate and seductive in terms of its gratification?

TD: Yeah (ll.105-127).

If psychotherapy practice was viewed as more seductive and conducive for immediate gratification and graduates are gravitating toward practice jobs, I further inquired how she evaluates the model per se (ISocrates):

SR: How would you evaluate this model on the whole? There is a continuing debate about how well the model has worked or not. What are your thoughts on this?

TD: Oh boy! That is a wonderful question. I think because of managed care and the difficulties of actually practicing in a setting, people are very concerned about a lot of issues that are peripheral to theory and research such as risk management and seeing many people in a short period of time. They don't have the leeway and they don't create the leeway, even in private practice, people might go to workshops and when they are being paid by the hour, they are not going to take three hours of their work to read a journal. So it is kind of the way it is set up.

SR: So it is the job market and the expectations...?

TD: Yeah, but I think if people work in agencies in which there is a commitment to evidence-based work and empirical supported work, then that will happen. In fact, there is one placement we have that closed and the director of that program is a graduate of our program from 20 years ago. It is a community agency for kids and adolescents and they are really trying to make it psychology-heavy and doing a lot of assessments and looking for the evidence in outcomes-based treatment. But that is not always the case, especially when these are multidisciplinary settings where there are psychiatrists, social workers, and nurses. There is always politics and things that take up

time. Doing research in a clinical setting is extremely difficult (ll.129-150).

The training director's view that psychotherapy practice is more seductive than research and conducting research in clinical settings is challenging led me to seek her opinion on how the model implementation could be improved. She responded by stating (ISocrates):

> SR: But, on the other hand, I wonder if that is what is actually needed for this model to work [conducting research in practice settings]?
>
> TD: Absolutely. I have a small grant in a community agency involving the therapist and learning about what is going on, there is no deception, there is no hidden hypothesis. It is a discovery-oriented study, they are very involved – not in the planning of it but in participating, in revision, feedback on what we are finding.
>
> SR: What do you think can be done to facilitate this model further?
>
> TD: I think have clinicians come and talk to researchers and researchers talk to clinicians and getting some of the outcome studies out of the lab and doing more effectiveness studies, insisting that credentialing and continuing ed be not just clinically-based workshops but it has some research. I think it is a shame in our field because a lot of people see it as an art and whereas in other fields like medicine or dentistry, they really can't avoid reading the literature otherwise their clients are going to have serious health risks. They have to do it.
>
> SR: I agree, I wouldn't want to go to a dentist who thinks it is an art.
>
> TD: Right. You would go to someone who is up to date on avoiding pain and doing the root canal right! So, somehow we seem to think that just talking to people about one's problems will work. Even though the relationship is critically important and all the non-specifics are important, I think it sometimes gives people a false

sense that just by having a good relationship, you will be able to figure out what to do (ll.152-176).

Her evaluation of the scientist-practitioner model appeared to point out the gap between what the training model aims to achieve and the reality of what students get from training as well as the constraints they face in practice settings. The training model, as defined by the program, emphasizes knowledge, skills, critical thinking, and competency in both research and practice. It expects students to be competent consumers and producers of research. However, many graduates seem to narrow their focus on acquiring clinical skills wherein psychotherapy practice is typically viewed as an art at the cost of science and research. In addition, students might be seduced by the advantages of engaging in psychotherapy practice during clinical training and, therefore, gravitate toward practice-oriented jobs following graduation. The ideal goals of the training model and the reality of job market demands appear to partially conflict in successfully integrating science and practice.

Internal and External Factors

The main internal factor influencing training in the program is that most of the faculty members are practicing psychologists (A Message from the Training Director, p.1; Website). Because core faculty members play an active role in psychotherapy training, their clinical expertise and understanding of the health care

system coupled with their academic roles could play a facilitative role in implementing the task of integration.

In terms of external factors, the training director identified the constraints of working in managed care settings as limiting resources for psychologists to remain active in research. She also stated that the communication gap between researchers and clinicians, who tend to work in different settings, as a barrier to integration. However, these external factors related to vocational realities and they do not directly impact doctoral training per se.

Summary

The program adopts a broad definition of psychological science and psychotherapy practice. Methodological diversity in research is encouraged and faculty members subscribe to a variety of theoretical orientations in psychotherapy practice. The scientist-practitioner is defined as an individual who has the knowledge- and skill-base in research and practice and who thinks critically in both arenas. The training director defined integration as "blurring the boundaries" or the ability to critically think and carry out science-based practice as well as practice-based science. However, she also identified some problems while integrating science and practice. She stated that the seductiveness and immediate gratification of clinical work tended to draw students away from research. The tendency to view

psychotherapy more as an art and less as a science tends to limit the incorporation of research in psychotherapy practice. In addition, she views practice settings as not being conducive to research, which limits the possibility of integrating science and practice following graduation. The flowchart (Figure 6) below provides a visual representation of the case description.
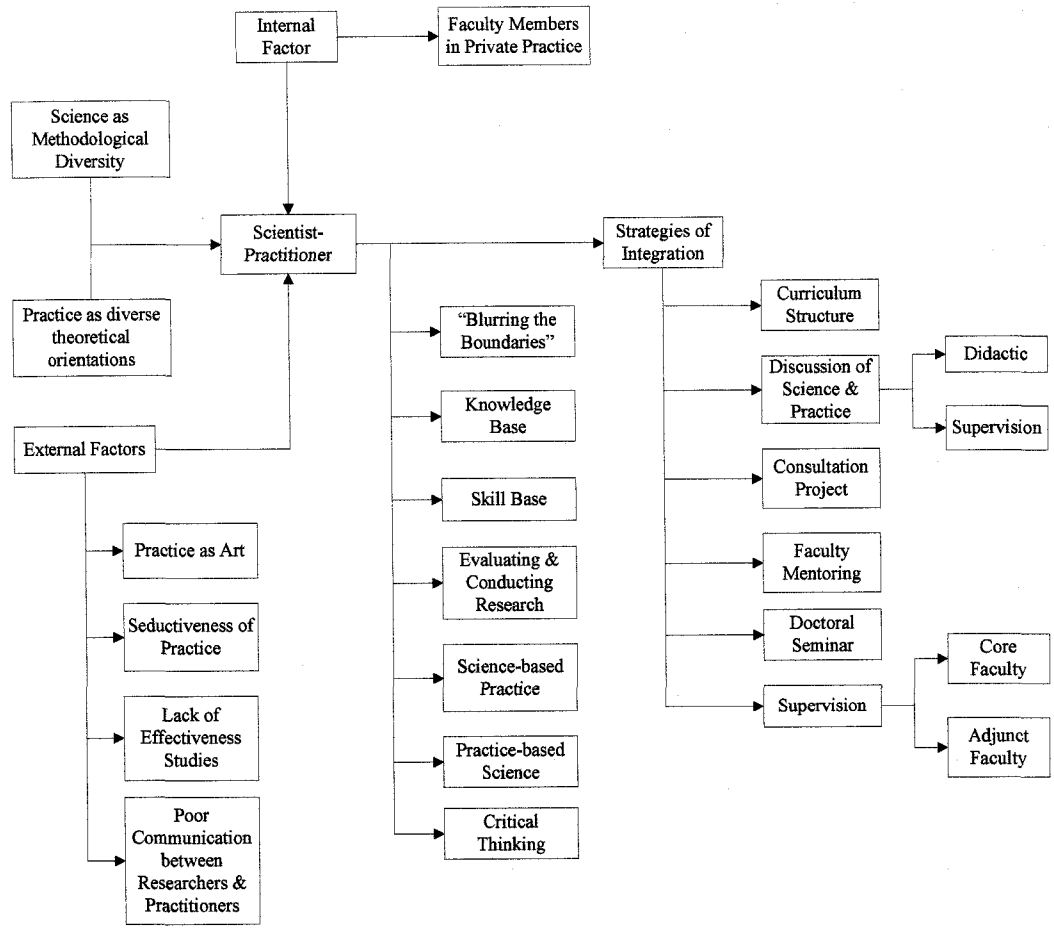
Figure 6. Visual Representation of Case Description for University of Socrates.

University of Hume

The program was nominated four times as a practice-oriented counseling psychology doctoral program. Unlike other programs in the collective case study, the program adopts the scientist-professional training model. However, the difference between scientist-professional and scientist-practitioner training models was not considered wide enough to exclude the program from the collective case study. The data for the program consisted of the narrative portion of the self-study, program website information, dissertation abstracts since 1997, and an interview with the training director.

Concept of Science and Practice

The counseling psychology doctoral program adopts broad definitions of science and practice. Research methodology coursework, pre-dissertation research, faculty modeling, and an emphasis on applied research are some of the methods used to train students in research. Methodological diversity is encouraged in research training.

During the interview, the training director defined psychological science very broadly. According to her (IHume):

SR: And, when you say scientific stance, how would you describe it?

TD: I would have to think about that. We are generally referring to any research as being science.

SR: As I was going through the self-study, I noticed that one of the goals described things like hypothesis testing and it sounded much more like traditional psychological science.

TD: And yet it is not necessarily so.

SR: Yes, it also had information about qualitative research...

TD: It is not just your empirical [*sic*]. It is quite a wide variety (ll.13-24).

Defining science as "any research being science" (IHume, l.15) was difficult to understand. However, further inquiry appeared to indicate that the program is open to methodological diversity. An examination of dissertation abstracts since 1997 revealed that the six available abstracts describe dissertations completed using quantitative research methods only (DAHume, pp.1-9). The training director stated that the qualitative research course is an elective that is taken toward the end of didactic training. Students, however, have advanced to the stage of writing a dissertation proposal by the time the course is offered and, hence, design quantitative research-based dissertation studies. The program recently decided to schedule the qualitative research course during the second year of didactic training so that students have a practical opportunity to pursue qualitative research-driven dissertations, if they chose to. The training director described the process of research training as follows (IHume):

SR: And what kind of research do they tend to gravitate towards? Is it more traditional quantitative kind of things or is it much more determined by topics? How does that work?

TD: I think, I suppose it is a little bit of both. ... State University is historically a black state university and the graduate program has very diverse faculty, less so with students but a lot of the students come in with interests that are related to diversity so they tend to gravitate towards those topics and yet, there is I would say, they initially do more quantitative research and then once they take the qualitative class and they get excited about qualitative. And so a number of them that are late in the dissertation [process] and we do require that they finish their dissertation proposal prior to applying for internship so those that are post-decision on internship then end up spending the spring and summer before they leave on internship involved in qualitative research and they are excited about it. And going, "Gosh, I wish I had done this sooner". And I am going but I wanted to get this [internship match] done too.

SR: So in many ways, dissertations could adopt quantitative designs, qualitative designs, and any kind of methodology is acceptable?

TD: Yes.

SR: Is there any particular pattern you do notice?

TD: Most of the dissertations end up to be quantitative not qualitative and I think part of that is a function of – in the past, they haven't taken qualitative research and so they were in their third year and it was an elective and now we have made a change in the curriculum and they will be introduced to qualitative during their second year in the program.

SR: Would it still be an elective or would it be a mandatory course?

TD: It will be an elective still.

SR: Is there a reason for the class being elective rather than being mandatory?

TD: It is just a matter of the faculty feeling guilty that we already require so much based on what accreditation says we need to have

that this [elective course] at least gives them some option and even
though this semester I am finishing the qualitative class and they
could have taken another course and they were eleven students and I
was going why are you all here? The last time I taught this class they
were three students in it. So it is really become much more popular.
Right now, the other course, they have one out of two courses that
are required for them. They could have taken a Consultation and
Program Evaluation course and they elected to take Qualitative
instead which I thought was pretty surprising.

SR: So they are gravitating toward qualitative research gradually?

TD: *Uhm* (ll.84-142).

Thus, students are gradually gravitating toward using qualitative research methods

in their dissertation research although the predominant trend is to conduct

quantitative research.

Research training typically consists of research-related coursework, actively

participating in faculty research teams, engaging in a pre-dissertation research

experience before completing the dissertation. According to the self-study

(SSHume):

> Upon completion of the first three doctoral required research and
> statistics courses, students enroll in PSY 763 Qualitative Research
> with Diverse Populations and/or PSY 753 Consultation and Program
> Evaluation to fulfill their research requirements. During PSY 763, a
> class research project dedicated to a topic related to a special
> population is designed and conducted through qualitative data
> analysis. In PSY 753, consultation and program evaluations are
> conducted throughout metropolitan ... County under the supervision
> of the course faculty (p.9).

In addition to completion of research-related coursework, students are encouraged

to actively participate in faculty research teams and conduct pre-dissertation

research. Many of the pre-dissertation projects result in presentations at national

and regional conferences (SSHume, p.7). In addition, applied research is

encouraged with the goal of integrating science and practice. I discuss the role of

applied research in greater depth in the subsection on strategies of integration.

The training director described the faculty research teams as being diverse in

the kind of team activity offered. According to her (IHume):

SR: So when students get involved in research, do you find that students get involved at the presentation, publication level in terms of science rather than being involved in research seminars that are much more discussion focused.

TD: They tend to… they start with a hesitant stance and some come in with master's programs with publications and they are going full time. But some come in and they haven't had that experience, we don't require a thesis for them to be admitted so this is frequently other than course papers or may be a final project, this is their first research orientation. So some of them will come in and they gravitate more toward the discussion and then because the research team format is across the years, they may start in a hesitant stance but the more advanced students drag them kicking and screaming sometimes into more of the data collection, the writing, the research. So by the time they are into their third year, they are advocating to becoming involved in things and even at the second year. And so we are having to say, let us look at what you can realistically accomplish given your load because they get very excited about it (ll.84-97).

Participating in faculty research teams also facilitates meeting the requirement for

conducting pre-dissertation research. The program further encourages student

participation in research by providing research assistantships. According to the self-

study, "Faculty are encouraged to include assistantships for doctoral students in all

grants written within the area" (SSHume, p.14). Thus, the program is open to

research using a variety of research methods and attempts to facilitate student

participation in research throughout their tenure in doctoral training.

A noteworthy observation relates to the diversity of faculty members in the

program. The historical merger of universities led to merger of psychology

programs and resulted in clinical and counseling psychology faculty members

functioning within a single program. I discuss this issue in greater depth later in the

subsection on internal and external factors. However, the merger influenced the

kind of research conducted within the program. According to the training director,

the clinical psychology faculty members tend to focus on psychopathology and tend

to adopt quantitative research methods in comparison to counseling psychology

faculty members who differ by focusing on a wider range of research areas and who

tend toward methodological diversity. The training director described the process in

the following manner (IHume):

> SR: Are the clinical psychology faculty more quantitatively
> oriented?
>
> TD: Yes. [One of the clinical psychology faculty members] She
> actually has two Ph.D. So there is maybe... the concepts they are
> interested in researching tend to be more clinical populations, more
> clinical issues. Whereas I mean, I am interested in regrets and
> decision-making. Another one of our counseling faculty is a career
> person and she has interests in all these career issues and life-
> developmental adjustments and things related to it. And another
> counseling psychologist is into teaching psychology issues. It is a
> real different flavor in that respect.

SR: So it is not like schizophrenia or bipolar disorder kind of stuff?

TD: Right. Whereas one of the clinical people, she has a study that is very much looking at that and I did some research couple of years ago collaborating with one of them and three of the doctoral students looking at complementary and alternative medicines and HIV patients. And it was like, "OK, I feel like a duck out of water on this one" which are very, very different populations and ways of thinking about things. They are talking very clear protocols that have to be followed working with medications and treatments. And I thought this isn't something I have done (ll.398-415).

The program's concept of psychotherapy practice could be described as broad and core faculty members subscribe to a variety of theoretical orientations. Practice-related coursework, graduated practicum experiences, and the pre-doctoral internship are some of the modes of psychotherapy training. The training director described faculty members' theoretical orientation as being diverse although many appeared to share a dynamic orientation (IHume):

SR: How is the practice part of it? Is there a particular theoretical orientation...?

TD: I would have to say most of the students or may be it is a statement on master's training, because our students all come in post-master's, they seem to come in either being Rogerian or from a cognitive behavioral standpoint. Now, we do have a faculty member who is cognitive behavioral and we have another one who will define himself as phenomenological, probably little more existential than Rogerian. But much of the practicum training that is coordinated by faculty, the class portion of the practicum versus when they are on site, much of that supervision is either interpersonal or object relations and some existential. Some are hard core and stick with the cognitive behavioral but they tend to move more toward a dynamic frame (ll.26-35).

Prior to starting the practicum sequence, the students are expected to complete two courses on Change Processes and Psychopathology in addition to an internal pre-practicum experience. Students are also exposed to ESTs and they evaluate the effectiveness and efficacy of treatment interventions (SSHume, p.8). Following the completion of these requirements, students complete a minimum of four semesters of practicum prior to internship (SSHume, p.8). The first half of the sequence is described as internal practicum experience and core faculty members supervise internal practicum. The second half is described as external practicum experience and field supervisors are primarily responsible for supervision.

Thus, a variety of theoretical orientations are represented among faculty members although the dynamic orientation appears dominant and students are also exposed to the rationales and utilization of ESTs. Similar to University of Plato doctoral program, the potential incompatibility of dynamic/integrative therapies and ESTs remains unexamined.

Concept of Scientist-Professional Model

Unlike other cases described so far, the program adopted the scientist-professional training model. The self-study described the scientist-professional training model in the following manner (SSHume):

We believe that our Concentration's approach to graduate education and training is best described as reflecting a *"scientist-professional"* model of training. Housed in a diverse urban setting, we educate graduates to practice professional activities, irrespective of settings, with a scientific attitude. We believe that our clinical work (broadly defined) should be informed by knowledge procured through science and our science should be informed by the needs and lessons of the clinic (broadly defined). The Concentration is sequential and cumulative in design, emphasizing the role of lifelong professional learning in general practice and as health service providers within a variety of settings [italics in original] (p.4).

During the interview, the training director offered to send me additional documents that would provide more information on how this model differs from the scientist-practitioner model but I did not receive these documents after multiple requests. Her description of the model was very similar to the theme of science-based practice as the primary descriptor of the model. According to her (IHume):

SR: I wanted to know more about why the program is called scientist-professional and how it is different from scientist-practitioner.

TD: I actually have a document that I can send you about that. I will make a note of that. Basically, we train people to go into a wide range of areas not just faculty positions, not just practice positions. Also as a faculty, we are clinical psychologists, counseling psychologists, some of us are human developmentalists as well as [we subscribe to] different ranges of theoretical orientations. It is mostly a philosophy that we embrace. We want our students to be consumers of research and would also like them to be producers and they seem to do an excellent job of that. But the emphasis is that regardless of what profession they go into, that they approach it from a scientific stance (ll.1-11).

The difference between the scientist-practitioner model and the scientist-practitioner model was difficult to decipher. For instance, the Student Handbook describes the goal of the scientist-professional model as, "The integration of

research and practice is a central theme of counseling psychology. Problems in

professional practice stimulate the need for systematic inquiry through research, the

results of which then lead to modification of both theory and practice" (Student

Handbook, 2003; Website). This description is very similar to how the scientist-

practitioner model is typically described. The only difference appears to be a greater

emphasis on psychotherapy training as per the description provided in the self-study

(SSHume):

To facilitate the development of future Counseling Psychologists who possess knowledge of the science of Psychology and Counseling Psychology as a profession from a diversity of foci.

Objectives:
- To develop the capacity to apply data collection and hypothesis testing to the diagnostic and treatment planning process in clinical work, psychological assessment, and supervision.
- To develop theoretical knowledge and understanding of intermediate to advanced clinical skills.
- To develop theoretical knowledge and understanding of beginning to intermediate psychological assessment procedures to further the psychotherapeutic process.
- To develop beginning and intermediate skills in assessing and implementing basic services that incorporate preventative and developmental interventions.
- To developing theoretical knowledge and understanding of systems and organizations.
- To develop beginning to intermediate skills required to provide consultation and outreach services.
- To develop the knowledge, understanding and application of beginning and intermediate supervisory skills for providing clinical supervision [bold in original] (p.4-5).

The training director also added that the model differs from the scientist-practitioner

model due to the program being housed in this particular university. According to

her (IHume):

> SR: Right. End of the day, if you were to distinguish between your
> program and traditional scientist-practitioner program, what would
> you say is the major difference? Because to me what you are
> describing sounds a lot of like a traditional scientist-practitioner
> program.
>
> TD: I think it is. It is probably... I think ...University is unique in
> that where other programs that call themselves scientist-practitioner
> programs have focused very much on getting things published,
> because of the historical roots of ...University, the focus here has
> been on grant work and so...
>
> SR: Sorry, on what?
>
> TD: On grants. And so unlike traditional counseling psychology
> programs that have traditionally not gotten much of grant money, we
> tended to over the years focus more on grants and not on getting
> published research out.
>
> SR: That is interesting because most programs that get lots of grants
> are also very focused on getting publications.
>
> TD: Right. And that has not been the emphasis within the entire
> university here.
>
> SR: Why is that?
>
> TD: I haven't a clue. I think part of it is that when you are coming
> out of a ... background, you get a different pool of money federally
> than you do if you are in some of the other universities and so it has
> not been a demand within that grant structure.
>
> SR: So have many of the grants been less about active research and
> more about service delivery or program evaluation kind of things?

TD: Much of it is. Much of it is. A lot of it is program evaluation kind of grants (ll.206-234).

Thus, the training director described the university and the program's focus in areas such as service delivery and program evaluation, led the program to adopt the scientist-professional model rather than the scientist-practitioner model of training.

Strategies of Integration

The main strategies of integration used by the program are curriculum structure, classroom discussion related to integration of science and practice, and encouraging students to engage in applied research. The training director mentioned that students are informed about the importance of research in training during the admissions process itself. According to her (IHume):

> SR: Now when you say that irrespective of what students go out and what kind of employment they get, they need to have a scientific stance, how do you approach that during training? This notion of being scientific...
>
> TD: Sure. At the time we interview them before they are admitted, we let them know that they are expected to be involved in research, they are supposed to be involved in research teams. And, that some of the research teams while they are faculty sponsored, they are more topical than anything and they might be teams that do nothing but discuss the area or it might be some that are very actively research production teams in different areas and that they are expected to be involved in whatever level they are comfortable with, to stretch and grow and develop along the way, try out and sample the different teams, and we also speak with them from the application point about the fact that the students are very active in research production

independent of the faculty so that they know that... but the students are occasionally gracious enough to ask the faculty to collaborate and not just do all on their own but that they are very prolific and that is a value of the students in the program and part of being actively involved in the graduate program is not only being in research teams and independent research experiences and go into conferences and doing all of that but its part of being in the program and having to match so if their values are not for those things then may be we are not a good match for them. So, we start at that point.

SR: So even while selecting students you check that.

TD: Exactly.

SR: It is an interesting thing because some of the literature I read talks about the discordance between students' interests and program philosophy. It talks about the fact that many students are more interested in clinical work solely and kind of talk the talk of being interested in science just to get into the program...

TD: And we will tell them as early as the application process that this [research] is what we believe is important and that integration of science is important and if they really want to be just be practitioners, they should and that is not to say anything negative about being a practitioner, but they should go someplace else and that we are not a match and we often tell them that if their interest is in child [research interests focusing on children], they should go someplace else (ll.41-73).

The training director's description of the strategies is akin to science-based practice with a focus on producing and consuming research.

The curriculum structure is such that students take research-related and practice-related coursework every semester (Student Handbook, p.13; Website). This structure is designed to facilitate an integration of science and practice. In addition, I sought the training director's views on how integration takes place during coursework. She stated (IHume):

SR: I see. Now that they participate in research teams and they go through different course work in terms of learning methodology and things like that and they have the practicum part of for the practice component. How do they integrate the two then?

TD: I think because of all of the classes, they take the theory courses that they take, I shouldn't call them theory courses, content courses would be a better name for them. In all of them content classes, they are reading the science, the published science and they are encouraged to also discuss not only that but also the application of that in terms of what is happening with the clinical work.

SR: So it happens at the coursework level.

TD: Yes. It happens in the coursework level (ll.144-156).

It is also mandatory for students to participate in a pre-dissertation research experience (Student Handbook, p.18; Website). As I described earlier while describing the program's research training, students participate at varying levels in faculty research teams where faculty members mentor students in the research process. Many students succeed in making presentations in regional and national conferences as an outcome of participating in these research teams (SSHume, p.7). While participating in research teams, "Students are encouraged to formulate research projects around their applied interest to reinforce the interconnection of science and practice" (SSHume, p.10).

Thus, the program attempts to integrate science and practice by encouraging students to participate in research teams that culminate frequently in applied research and the curriculum structure and classroom discussion focus on the integrative aspects of science and practice as well.

In terms of postgraduate employment, majority of graduates tend to seek

practice-oriented positions. According to the training director (IHume):

> SR: So when you look at the graduates from your program typically
> what kind of jobs do they seem to be taking? Is it more tenure-track
> kind of things or is much more of clinical work, practice-oriented...?
>
> TD: It is a wide range. I would say that probably, and I hate to give
> percentages because I don't have the numbers right in front of me.
> But my sense is that it is probably about 60% in practice positions
> clearly. The other 40% probably, the majority of those are going to
> faculty or administrative positions. We have a few that are doing
> things like coordinating missionary services in Africa – some very
> non-traditional jobs. We have one that is a FBI agent.
>
> SR: Wow!
>
> TD: I mean they have taken it in different directions. We had a
> number of students who have gone through the program who have an
> interest in forensics and so they have tended to go into the prison
> system whether it is the federal level or the state level (ll.190-204).

Similar to programs described so far, graduates tend to seek practice-related

employment more frequently than academic or research-oriented employment.

Based on the overall description so far, the strategies of integration adopted by the

program do not appear to differ significantly from other scientist-practitioner

programs in the collective case study.

Problems in Integration

The training director also acknowledged that although the strategies of integrations adopted by the program are successful, problems in integration continue to be a challenge. The training director acknowledged differing attitudes about research and psychotherapy practice among faculty members and students. This theme is very similar to the faculty and student bias that other programs also encounter. Tenure-track faculty members seem to be so consumed by research that, consequently, psychotherapy training is undermined. Students, on the other hand, tend to be more inclined toward psychotherapy practice rather than research. Such a clash in priorities and interests makes integration of science and practice challenging. I quote an excerpt where the training director describes this challenge (IHume):

> SR: End of the day, when you look at the task of integrating science and practice, why do you think it is such a difficult goal for many programs? Where do you think the struggle come in?
>
> TD: I think that science isn't as sexy as practice is. That students get an impression of what it is to be a psychologist and it is a practice concept that they can help and it plays into their own need for power and the belief that they can change the world and it also plays into them feeling good about themselves and helping, whatever that means. And I think that they get that image early on that is even if you look at undergraduate curriculum and abnormal psychology being the more popular class.
>
> SR: Yeah, nobody typically gets excited about the experimental psych class.

TD: Exactly. Unless you have had a experience in research class or research format and the person who is teaching it is excited about it, they could teach it in a way that is interesting and exciting and you can see where you can really make a difference by being involved in research, that wasn't where you went.

SR: You are talking about this at the undergraduate level?

TD: Yes. But I think it extends. Because they come in with that bias and it just stays. From my experience, when I first came here I ended up teaching the research courses because the faculty that had been here were like "hey, we don't want to teach those" and the students coming in, you know, biting their nails and for me it was to get them excited, desensitize them and teach them about the fact that they could have passion for research just like they can have passion for practice.

SR: And do you think this is not happening on a larger scale?

TD: Right. Exactly. Especially in institutions were faculty are more focused on their own publication record.

SR: So the more research oriented a program becomes, the less research oriented the students are? That is an irony, isn't it?

TD: Yes, it is. I think because the faculty may be very passionate about their own research and if they don't take the time to inculcate that with their own students... you know. When I was a doctoral student, there was a faculty member in my program that was very very well known nationally and he was furious because I didn't want to do research with him and finally he called me in and said that he was very glad that I didn't. Because if I had done research with him, I would have done his research and I would not have developed my own thinking and my own passion for different areas and as a consequence would not have probably done what I did. And I thought that it was an incredible awareness on his part and probably gave me far more credit than I deserved but... (laughs).

SR: So you are saying that when programs are much more science-focused or publication focused, especially in terms of faculty, that it

is so time and energy consuming that it doesn't pass on as a positive attitude toward research to students?

TD: I think so. Because the student ends up, either they end up surely adopting the research of that faculty member and that approach to research and they don't expand beyond that or they externalize as being "this is something I am going to do within this time frame of my career but that is it". So they don't internalize the fact that this might be something they might really be interested in and grow from that point (ll.432-484).

The notion that science and research are not as attractive, rewarding, and interesting as psychotherapy practice for students is a theme that has surfaced in multiple cases. In contrast, the related theme that has surfaced is that many core faculty members seem to adopt a negative attitude about psychotherapy practice as a less worthwhile professional endeavor in comparison to conducting research. The gap between faculty and students interests creates the potential for conflict in training priorities and might work as a barrier to integrating science and practice. I now discuss some of the internal and external factors that the training director described as influencing doctoral training.

Internal and External Factors

The training director identified one single internal factor relating to not having an internal clinic for psychotherapy training and multiple external factors such as the historical merger of universities, the prevailing attitude in the university community about mental health, the fit with the school of education, the influential

role of APA, and the influence of managed care as impacting doctoral training within the program.

Currently, the program does not support an internal clinic for the purpose of psychotherapy training. The training director identified the internal clinic as a resource she would like to have in order to enhance psychotherapy training. The reasons for not supporting such a clinic are linked to the attitude university officials and administrators seem to have toward mental health and illness. According to the training director (IHume):

> SR: That is an interesting viewpoint. Never thought about it that way. Under ideal circumstances, would you approach this task of integration in any different way or would you continue with the present strategies?
>
> TD: We have been given a lot of administrative support to do our research as faculty and that includes course release beyond what anyone else at the university gets. So that has been very nice. Ideally, if we had our own clinic where we could, I am not going to say teach empirically supported treatments, but where we could have more access to the clients that our students work with and first-hand knowledge, I should say, of those clients and being able to therefore to integrate more of what is coming out of research rather than having it one step removed. That would be my ideal (ll.486-496).

While discussing the kind of faculty research being conducted, the training director described the historical merger of two universities that led to the creation of the current educational institution. In the process of merger, the clinical psychology program from one university was merged with the counseling psychology program in the other university. Such a merger led to multiple outcomes. A racial dynamic

came into play because one university was historically black while the other was

not. Currently, this dynamic is evident in the commitment the program has toward

promoting cultural diversity among faculty and students. In addition, the merger

also led to diversification in faculty research interests ranging from severe mental

illness to mental health and wellness-related research. The training described the

history as follows (IHume):

> SR: I also wanted to know more about when the programs started,
> you said you had mixed clinical and counseling faculty. How did the
> clinical psychology faculty get here and do you see any similarities
> or differences between the two faculty that impacts training?
>
> TD: Initially, when the program was founded and everything is
> historical here, when the program was founded there was … State
> University which was historically a black University and there was
> the University of … at …. and they merged the two of them. And the
> University of … at … was a white institution. They merged the two.
> The clinical psychologists were employed at the U of … school. The
> counseling psychologists were employed at the …SU school. That is
> how they ended up with a combined program.
>
> SR: Is there some sort of racial dynamic because of that?
>
> TD: There was at that point but what has happened since then is that
> really all of the faculty involved then, the original group have all
> retired and the subsequent faculty that have come in, we have
> maintained the integration of both clinical and counseling to the
> point that now our ads when we have positions read clinical or
> counseling. We just try and make sure that there is at least 50%
> counseling psychologists. There is a difference certainly in terms of
> their interests. Philosophically, their students have to match. In terms
> of interests, one of the faculty that is clinical is very interested in
> more depression in minorities and more heavily looking at
> psychometric properties and various tests. Another clinical faculty
> member's interest is clearly having to do with AIDS and HIV,
> multicultural interests. She is also a help trainer for APA.

SR: Given that you talked a lot about the history of the university
and the merger of departments, there seems to be race variable in
there, do you think that in some ways plays into science and practice
etc or is that just part of history?

TD: I think it plays into the kinds of research that get conducted, in
terms of programs to be evaluated. It certainly plays into some of the
practice settings some of our students go to as well as the fact that ...
is very interested in having our students there for practicum because
they have lots of diversity among their staff (ll.375-396; 526-533).

Another aspect of the program history relates to the prevailing attitude of

denial about mental health issues in the university. It appears as though university

officials are willing to support the counseling psychology program but they are not

willing to provide extensive support to the program. Their ambivalence is evident in

the university's lack of support for a full-fledged university counseling center as

well as not supporting an internal clinic in the counseling psychology program. The

training director described the attitude as follows (IHume):

SR: And why is having a department clinic not that typical now? Is it
funding, administrative?

TD: I think it is, you are going to love this, I am going back to
history. Historically, in the United States, African-Americans have
not sought psychological services so we do have a counseling center
on campus but it is totally, how do I say this, there is one person who
has a Ph.D. in teaching and learning or something but it is run by
master's level people, it is basically deals with disciplinary problems

and deals with students when they want to drop out of the university…

SR: So it is more like student conduct kind of things?

TD: Yes. So it is not a focus on this campus for there being any kind of mental health concerns so a lot of what our students will do during their first year of practicum is educating the university population or the student body during outreach presentations as to what are normal psychological concerns. As a consequence of that [negative attitude toward mental health and illness], you keep your mental health in the church, in your immediate family and things like that. There hasn't been, I believe, a support in the higher levels in the University with our needing a counseling clinic. Our department was supportive of having a department clinic and we have talked about doing grant writing to try and find startup money for that. And it has been more of an issue of not having enough time with re-accreditation and things like that to make that happen.

SR: So people in the department agree that it is needed? It is not an attitude problem?

TD: Yeah. It is not at the department level. I don't know what kind of resistance we will get up the administrative food chain. And the state of … is not financially the wealthiest state so that also becomes an issue when we start talking about allocation of funds, I think we really have to be looking at external grant money (ll.498-524).

The training director also identified the program's fit with the school of

education as an issue that impacts training. According to her (IHume):

SR: I see. That is interesting, that never would have occurred to me in terms of grants. So when you look historically at the university, the school of education, how would you describe the department's residence in the school of education? How do they fit within that structure?

TD: (Laughs). That is what we talked about with Rod Goodyear at AERA. There are four departments here in the College of Education and we are the largest. The other departments are all, even though it

is the College of Education and you did think that Teacher Education would be housed here, the educational core is a major outside the College of Education. That is where they live so to speak. So, the programs are all graduate programs except for the department of psychology and so in addition to the graduate programs, we have over 400 undergraduate majors. So we have a lot of other faculties, other departments might have as many as, anywhere from 6-10 faculty, we have at this point 27 lines now in psychology. So it is a big department.

SR: So within that there is clinical, counseling, school – all the different specialties?

TD: Not clinical. We don't have clinical. Counseling psychology, pre K-12, counseling which is just a master's program, and then in addition to the counseling psych master's and doctoral training, there is also school psych which is master's educational specialist and Ph.D.

SR: How do you fit in within the philosophy of the College of Education since programs sometimes struggle with that? Since we tend to focus more on psychology and less on education and there are problems of fit.

TD: Right. [Laughs]. And there was a question there?! The program, our dean died in December and he had a very hard time understanding counseling psychology. He understood school psychology of course because it had school in the title and he understood pre K-12 counseling but he didn't understand the difference between school psychology and school counseling and he didn't understand counseling psychology other than he thought we were primarily practitioners and when the president of the university made his statements 5 years ago that he wanted to move up in standing in terms of research university status, suddenly, we became a valuable commodity because we produced research at a higher levels than anyone else did so he didn't want us to go away. But he didn't know what we were doing but also when we decided we will apply for APA accreditation and we were granted our initial accreditation, he definitely liked the bragging rights that went with that and so in that respect since Colleges of Education traditionally are not the premier colleges on campuses and that gave him some status so in that respect we are a petite program, we are an expensive

program and only one person out of our faculty has any experience
as a classroom teacher and so a lot of what our relationship been, it is
a long winded answer to your question, though… a lot of the
relationship has been building one with the dean's office and letting
them know what we can do and can't do and how there are areas that
the college of education gets involved in that may be appropriate for
counseling psych to be involved in. They just don't think about it
that there are couple of different drives going on. One having to do
with more online classes and there are something there. The
department of psychology doesn't let us service classes for
undergraduates in other areas that the undergraduate faculty are very
involved in. But in terms of our area, there is a professional school
and while we don't work with children, there are frequently issues
related to family systems or to program development, program
evaluation, faculty staffing issues in-group dynamic kind of things
that we can be beneficial and contribute.

SR: So it sounds more like organizational behavior, personnel
management kind of thing?

TD: Right. Right.

SR: And so it is in a consulting kind of position is how you fit in
with the larger school?

TD: *Uhm* (ll.236-290).

Another influential external factor relates to the role of APA. The program

seems to constantly balance the priorities of the university and the student body

with the accreditation demands made by APA. According to the training director

(IHume):

SR: That is interesting. If you look at the whole scientist-practitioner
history and how these things take place, what do you think are
external versus internal factors that might influence training. For
example, APA comes up with something that influences training
philosophy, curriculum etc.

TD: APA is certainly a factor that gets considered. A large factor for us is looking at the philosophy of the institution so that we don't go too far from that. That is part of what attracts students to our program so we are very aware of how that influences everything. We attempt to integrate what APA asks for. If at all possible within our existing structure because one of the things we did about 7 years ago was, we took the entire graduate training in the department and we evaluated it. We dropped majors, very productive majors because we can't… we don't have the resources to meet the need and we actually cut the student body by about 75% at the graduate level (ll.292-304).

Managed care also plays a major role in training due to state licensing laws

that encourage master's level practitioners and the program only admits students

who have completed their master's degrees. The training described the challenge as

follows (IHume):

SR: Any other external factors that might influence how programs are run, the policies and things like that? Maybe managed care, licensing requirements and things like that?

TD: Licensing in … tracks right along with APA says and so that doesn't become an issue. Probably the biggest additional factor for us is we don't have an internal clinic and so what is happening is with managed care is our students, probably half of our students end up doing their practicum at …University through their student counseling services or at … through adult psychiatry or adolescent psychiatry or they go into the prison system where managed care isn't such an issue or they go into community mental health where they already want them to, if at all possible, to have master's level licensing so that they can claim reimbursement. So, that becomes a concern where we will tell students that in this state because there is master's level licensing, you can take the triple P, they use the same thing, it is just a different cutoff. You can take it, you can get the master's level license here so that you can work in a practicum site and they get reimbursed but it does open door to the Pandora's box to them deciding that they want to do some practice…

SR: And not finish their Ph.D.?

TD: Right or even do a concurrently. And we don't want our students to necessarily to be doing that [engaging in private practice at the master's level] so we have them file employment forms and tell us what their activities are and providing documentation about licensing and hours to supervisors and all that kind of stuff. It just kind of grows and grows like a big balloon (ll.352-373).

Thus, the program attempts to maintain a fit with the school of education and balance the needs of the university with the demands placed by APA for accreditation purposes.

Summary

The program was nominated as a practice-oriented counseling psychology program and the program subscribes to the scientist-professional model of training. This model of training does not appear to be substantively different from the scientist-practitioner model of training except for the self-study's explicit statement about training students as health care service providers. The greater emphasis on service delivery probably led many training directors to nominate the program as a practice-oriented counseling psychology program. However, the program description does not support its nomination as a practice-oriented program. The program does not appear to differ significantly from other programs in the collective case study, which were not nominated as practice-oriented. The program defines psychological science and psychotherapy practice broadly and encourages

methodological diversity in research training and subscribes to dynamically orientated psychotherapy training.

The scientist-professional model of training espouses the importance of integrating science and practice in doctoral training including the importance of approaching practice with a scientific stance. However, the model also emphasizes the training as preparing professionals in the practice arena. Curriculum structure, classroom discussion of science and practice, students participating in pre-dissertation research with a focus on applied research are some of the strategies used to integrate science and practice.

The training director also acknowledged that the absence of support for an internal clinic limits the possibilities of integration and explained the lack of support as a result of the university's attitude toward mental health-related issues. She also identified various internal and external factors influencing doctoral training. She believes that tenure-track faculty members and academic institutions' primary focus on research tends to overwhelm students with pressure to engage in research. In contrast, students tend to view psychotherapy practice activities as attractive and rewarding. The conflict between faculty and student attitudes makes integration of science and practice challenging. In addition, problems with arriving at a comfortable fit between the program and the school of education, the influential role of APA, and the demands of managed care also influence doctoral training. The flowchart (Figure 7) below provides a visual representation of the case description.
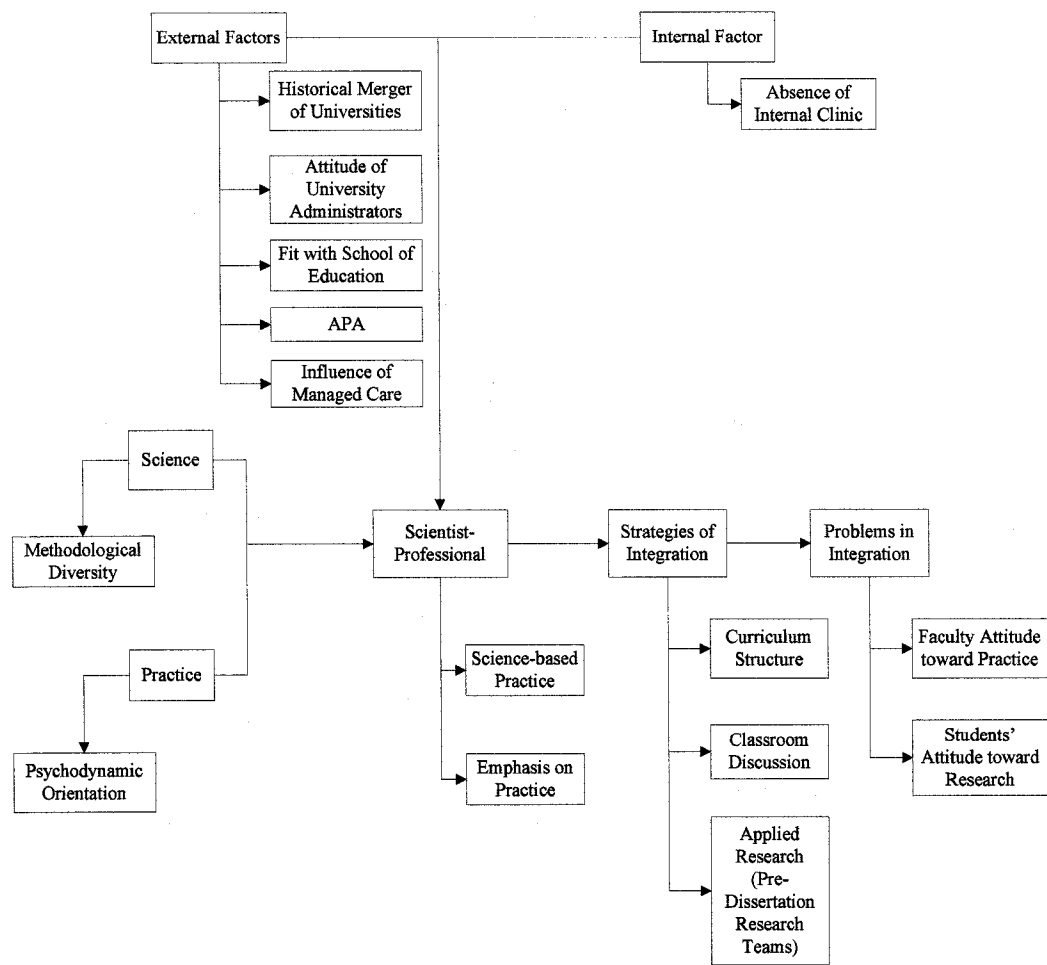
Figure 7. Visual Representation of Case Description for University of Hume.

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In order to conserve the length of this chapter, I provided detailed case descriptions of six out of the eight cases in the collective case study. The next chapter on Discussion focuses on the comparative case analysis and training alternatives I suggest for the specialty to consider in order to facilitate integration of science and practice.

Chapter 5

DISCUSSION

The review of the literature in chapter two outlined the various conceptual and functional problems relating to the scientist-practitioner training model. The ambiguity in the conceptualization of scientist-practitioner model (Zachar & Leong, 2000) allows for variations in the interpretation and programmatic implementation of the model (Peterson, 2000; Stoltenberg, et al. 2000). The theoretical literature identifies ambiguities in several areas: (a) the relative emphasis placed on science or practice (Neimeyer & Diamond, 2001), (b) the appropriate definition of psychological science and the scientific method (Hoshmand & Polkinghorne, 1992; Howard, 1985, 1993; Kanfer, 1990; Klien, 1995; Linden & Wen, 1990; Page, 1996; Polkinghorne, 1984; Rychlak, 1998; Ussher, 1991), and (c) the functional challenges in integrating science and practice in training programs (Bernstein & Kerr, 1993; Drabick & Goldfried, 2000; Frank, 1984; Goldfried, 1984; Halgin & Murphy, 1995, p.441; Hayes, et al. 1999, pp.11-12; Hoshmand, 1991; Sprinthall, 1990).

Comparative Case Analysis

The purpose of the comparative case analysis was to understand how programs in the collective case study differ in their interpretation and implementation of the scientist-practitioner training model. For this purpose, I used the training programs in the collective case study as an evidentiary base in order to understand the differences in the interpretation and implementation of the scientist-practitioner training model. Having described six cases in detail, I now analyze all the eight cases (including University of Husserl and University of Descartes) in the collective case study by using the method of constant comparison. As mentioned earlier, I did not provide detailed case descriptions of Universities of Husserl and Descartes in order to manage the length of the previous chapter. However, data from these two cases are incorporated in the comparative case analysis and I include relevant quotes from these two cases as well. I used the theoretical underpinnings of theories of action as a template to conduct the comparative case analysis and incorporated findings from the review of the academic literature relating to the scientist-practitioner model, which I previously discussed in chapter two.

There are two kinds of theories of action – espoused theory and theory-in-use. Espoused theories are described as "those that an individual claims to follow" (Argyris, Putnam, & Smith, 1985, p.81) and theories-in-use are "those that can be inferred from action" (p.82) and frequently there is a discrepancy between the two

theories. Individuals and institutions are typically aware of their espoused theories in terms of their expressed motives for a decision or a program philosophy respectively. However, neither individuals not institutions are typically aware of their theories-in-use because these theories often remain "tacit cognitive maps by which human beings design action" (p.82). The tacit mode extends to organizations including educational institutions. Although individuals and organizations struggle to describe their theories-in-use by virtue of the theories being tacit, individual behavior and program implementation are typically informed by the theories-in-use rather than espoused theories.

My goal in the comparative case analysis was to distinguish between the espoused theories and theories-in-use in the eight programs that constituted the collective case study. Such a distinction would help in understanding why the eight training programs in the collective case study that attempt the task of integrating science and practice differ in their interpretation and implementation of the scientist-practitioner model.

Espoused theories are derived from formal official documents from the eight cases – self-studies, program websites, program handbooks, and dissertation abstracts. Formal documents provide information on what training goals programs say they aim to achieve and how they propose to achieve the training goals through their actual implementation of strategies. Theories-in-use are derived from interviews with the training directors and my analysis of gaps between what I

perceived the programs' "formal goals and strategies" were and what I encountered as the "actual implementation of these goals". Training directors' views and my analysis are both equally susceptible to merely describing and identifying espoused theories. However, training directors frequently reiterated the program's espoused theories as well as identified various problems in implementing the goal of integration. Differentiating between the training directors' espoused theories and their identification of problems in the implementation of the task of integration facilitated my identifying the programs' theories-in-use. While conducting the analysis, I keenly and consciously attempted to differentiate between what the formal text content stated or espoused theories and action or actual implementation of strategies that represented theories-in-use.

I use the thematic structure I used in the case descriptions. I begin with an analysis of the concept of psychological science and psychotherapy practice followed by an analysis of the concept of scientist-practitioner. Analysis of concepts of psychological science, psychotherapy practice, and the scientist-practitioner model adopted by the eight training programs facilitate developing an understanding of the different interpretations of the scientist-practitioner training model. Analysis of research training, psychotherapy training, and the strategies of integration and their implementation by the eight training programs facilitate developing an understanding of the different ways the scientist-practitioner training model is implemented in practice. As I analyze the programs' espoused theories and

theories-in-use, I include programs' conceptual definitions and their training strategies in order to describe the differences in the interpretation and implementation of the scientist-practitioner model. I start with the analysis of the concept of psychological science in the eight programs that constituted the collective case study.

Espoused Theories of Psychological Science

The espoused theories of psychological science are based on how different programs define psychological science and the different strategies they describe for conducting research training. The term *psychological science* is a broad term and I use the term specifically to describe and analyze how programs conceptually approach the task of generating knowledge and the methods they value for knowledge generation. Thus, the philosophy of science which programs adopt, the research methods they teach, and the strategies of research training espoused in the programs constitute psychological science in the comparative case analysis. Data from self-studies, program websites, and program handbooks were used to glean programs' espoused theories of psychological science.

There are primarily three approaches to defining psychological science and training in psychological research. First, the natural science approach defines psychological science by adopting natural science methodologies using the tenets of

positivism and trains students in quantitative research methods. Second, the human science approach defines psychological science by adopting human science methodologies using tenets of constructivism and trains students in qualitative research methods. Third, the approach of methodological diversity acknowledges the validity of different definitions of psychological science and uses different methods in research, both quantitative and qualitative, and students are trained in diverse research methods. Methodological diversity is also an outcome of constructivism. I discuss each approach briefly in order to lay the context for the programs' espoused theories of psychological science.

The field of psychology has broadly taken up three different positions regarding the nature of a methodology for social sciences. One position has been that social sciences adopt the methodology of natural sciences while the other position has been that social sciences need to develop methodologies that are more attuned to the human subject and experience. The latter position has typically espoused the notion that human sciences are closer to the discipline of history rather than physical sciences (Howard, 1986). Psychology has tended to adopt the former position and adopted natural sciences methodologies as the appropriate approach to scientific endeavors in psychological research. According to Polkinghorne (1984):

> The original question concerning the nature of a methodology for the human sciences was put forth in clear form by Mill: Should human science adopt the methodology of the physical sciences? Mill took the affirmative side of the question, while Dilthey took the negative side. Those who have stood with Mill have won the debate, and their

position has been adopted as the standard methodology for the human sciences by university departments, textbooks, and journals. There are still a few supporters for Dilthey's side of the debate, but they argue from a minority position and can hope only that the victorious side will pay them some attention and respond to their critiques (p.59).

The natural science approach in psychological science has a long history in the philosophy of science and I will not provide a detailed account of its history. However, the main tenet of the natural science approach is the "claim that the laws of nature are general, [they] dictate the phenomena of the universe and are 'necessary and constant' [and this approach] ushers in a naturalistic idea of scientific knowledge and how to acquire it" (Hollis, 1996, p.361). When this tenet is extended to understanding human behavior and the social world, psychological science would then strive to identify laws of human behavior that are universally generalizable. Thus, "a so-called law of nature is simply a well enough confirmed hypothesis and the only test of a hypothesis is its predictive success" (p.364). Various terms have been used to describe the natural science approach in psychology and I use the term *positivism* to denote natural science approach and research methodologies. Polkinghorne (1991) differentiates between mathematical and linguistic positivism. I focus on the former. Mathematical positivism "holds that regularities in reality are mathematical in form" and "new knowledge is gained by devising hypothetical logical relations among the categories of reality and then testing the hypotheses by observation to see if the proposed relations hold" (p.172). Research methods are, therefore, quantitatively and mathematically driven. Most

doctoral programs in counseling psychology train students in quantitative research methods and statistical data analysis.

The natural science approach to psychological science was prevalent even prior to the inception of the scientist-practitioner model in 1949. As early as 1945, Thorne (1945) described American psychology as "dominated by an experimentalism interested more in the discovery of general laws rather than the study of individual cases" (p.2). Six decades after the inception of the scientist-practitioner model, the hegemony of natural science approaches continues. Until the 1980s, most counseling psychology research used quantitative research methods in their research (Polkinghorne, 1991, p.165). In the last two decades, there has been a significant shift in the discipline of counseling psychology as it gradually attempted to embrace alternative approaches to psychological research. Because the professional identity of counseling psychology is linked with education and psychology, programs tend to be either housed in schools of education or in departments of psychology. Programs in schools of education have been relatively more open to using qualitative research methods than programs housed in departments of psychology (Polkinghorne, 1991, p.167). Academic psychology has traditionally equated scientific rigor with research using the natural science approach and counseling psychology's stronger identification with psychology, rather than education, has led to a greater resistance in the discipline in adopting human science approaches (p.167).

The human science approach, in stark contrast to the natural science approach, conceptualizes the researcher, the research subject, and the subject under study in very different terms. The human science approach does not subscribe to the view that absolute certain knowledge of reality can be gained. Instead it relies on making knowledge claims "through innate and universal reasonableness, through a universal trial-and-error learning, and through the use of pluralistic epistemologies" (Polkinghorne, 1984, p.244). This approach to knowledge generation relies on ordinary language systems rather than logical mathematical systems. Qualitative research methods using the human science approach "mimic the constructive processes that humans ordinarily use to understand their experience" (Polkinghorne, 1991, p.178). Although the discipline of counseling psychology has resisted use of qualitative research, these research procedures have significantly increased in use in the last two decades. Very few programs of psychology train students primarily in qualitative research though. The few exceptions are Duquesne University (p.168) and West Georgia State University.

In the past few decades, the hegemony of the natural science approach to psychological research has come under increasing criticism. As a response to these questions and debates about the nature of psychological science, many programs began to espouse the importance of methodological diversity in research training. According to Heppner, et al. (2000), "As a whole, methodological pluralism, enhanced sophistication of both qualitative and quantitative methods, and multi-

study articles have significantly enhanced the knowledge bases within counseling literature in the last two decades (p.32).

Thus, the third approach to psychological science incorporates diverse approaches to psychological science and research, both natural science and human science approaches, and is termed as methodological pluralism or methodological diversity. This approach acknowledges that there is no single appropriate approach to defining psychological science or conducting research and, hence, supports research training in diverse research methods, both quantitative and qualitative. The rise of constructivism, a philosophy of science, questions the possibility of gaining knowledge independent of human knowing. Because any approach to knowledge generation can only produce limited understanding of reality, diverse research methods are argued as justified in producing knowledge of equal scientific legitimacy. According to Polkinghorne (1991), "because all analytics construe experience in a partial way, the use of a number of organizing systems provides a more extensive understanding than does any one alone" (p.175). During the Third National Conference of Counseling Psychology held in 1987, conference participants suggested that the trend toward methodological diversity in research training is a positive and necessary one and the trend should be supported by universities, journal editors, and by the discipline as a whole (Gelso, et al. 1988, p.395).

The human science approach and methodological diversity are relatively recent developments in the history of the discipline. Consequently, the evolving debate about the nature of appropriate scientific method has also led to confusion among academic researchers regarding the epistemologies and methodologies of psychological science. According to Hoshmand (1991), "the most fundamental problem in current discourse about scientist-practitioner training for psychology is the lack of a shared definition of psychological science. There are different assumptions held about what it means to be scientific" (p.432). The field of psychology has struggled and debated over what constitutes psychological science and these debates continue until the present day. According to Page (1996), "the term *science* does not describe a single doctrine, domain of knowledge, or methodology. In contrast, it describes something that is at best multifaceted" [italics in original] (p.103). Consequently, psychologists vary in their philosophies of science resulting in an "abundance of theories and minimal consensual knowledge" (p.105).

The debates relating to the appropriate scientific method in psychological science is also evident in the programs examined in the collective case study. Among the eight cases, University of Aristotle and University of Husserl explicitly adopt the natural science approach to studying human behavior. Research training in these two programs involves completing core courses in quantitative research methods and statistical data analysis and use faculty research teams to encourage

students to conduct quantitative research. For example, the second goal of training for University Husserl involves training students to "demonstrate competence in the areas of research design, implementation, and evaluation" (SSHusserl, p.7). Research training in the program involves completing relevant coursework and participating in faculty research teams in order to develop the required knowledge base, the ability to critique research, and conduct independent research (SSHusserl, p.7). The coursework on research methods and techniques of data analysis are quantitative in orientation and there is no mention of students taking qualitative research courses (SSHusserl, p.14). In both these programs, all available dissertation abstracts since 1997 describe dissertation studies using quantitative research methods only. Thus, both programs espouse the natural science approach to psychological science and provide research training in quantitative research and statistical data analysis only.

On the other hand, the remaining six cases in the collective case study espouse the importance of increasing methodological diversity in research training. Research training in the six programs includes completing relevant coursework in research design and data analysis, mostly quantitative in approach, and participating in research teams at a pre-dissertation level. Coursework also includes the completion of a single course in qualitative research, although only two programs (University of Heidegger and Hegel) mandate the completion of this course. The remaining four programs offer the course on qualitative research methods as an

elective course. I now discuss the theories-in-use of psychological science based on the eight programs in the collective case study.

Theories-in-use of Psychological Science

The previous subsection on espoused theories of psychological science pointed out that all programs, with the exception of Universities of Aristotle and Husserl, espoused the importance of methodological diversity in research training. However, a closer inspection of how the six programs approach the task of increasing methodological diversity reveals a gap between the espoused theory and the programs' theories-in-use.

As mentioned previously, Universities of Aristotle and Husserl espouse the natural science approach to psychological science and offer research training in quantitative research methods only. The two programs have faculty research teams where faculty members conduct quantitative research and mentor students in developing expertise in quantitative research methods and statistical data analysis. The dissertation abstracts describe dissertation research conducted using quantitative research methods only. Thus, in both programs there is congruence between the espoused theory of psychological science and the kind of research training provided.

The remaining six programs espouse methodological diversity in research training. Methodological diversity is defined as teaching courses and conducting research using quantitative and qualitative research methods. Thus, the programs espouse the legitimacy and value of knowledge generation using diverse research methods. A closer examination of the nature of research training reveals that the six programs that espouse methodological diversity emphasize quantitative research methods in research training and research-related coursework focuses on quantitative methods and statistical data analysis. All the training directors interviewed described their respective programs as being primarily quantitative in research orientation and most dissertation abstracts of the selected training programs describe research using only quantitative research methods. For example, the training director of the University of Heidegger program described core faculty members as adopting mostly "traditional notions of positivistic, quantitative approach" although he acknowledged, "broader definitions are becoming more common" (IHeidegger, ll.45-46).

The six programs, however, do offer students a single course in qualitative research methods. The course is typically offered as an elective (except for University of Hegel and Heidegger). University of Descartes requires students intending to conduct a qualitative method-driven dissertation to complete the course on qualitative research and the course is elective for the remaining students in the program. The training director of University of Hume's counseling psychology

program acknowledged that the qualitative course was typically offered when students were at an advanced stage of completing coursework and they had already completed their dissertation proposal. Thus, it was not feasible for students to explore the option of a qualitative dissertation. Recently this course is being offered during the second year of doctoral training to give students the option of using qualitative research methods for their dissertation studies. The course, however, remains an elective course.

I believe that developing research competence in quantitative or qualitative research methods is a challenging process for most students and completing one graduate-level course, mandatory or elective, is not sufficient for this purpose. Thus, although programs espouse the importance of methodological diversity, programs do not effectively translate this policy by providing adequate research training in diverse research methods. Research training usually entails completing multiple courses in quantitative research designs and statistical data analysis. The single course in qualitative research methods is mandatory for students to complete in two programs (Universities of Hegel and Heidegger) and it is an elective course in four programs in the collective study. This pattern reveals a gap between programs' espousal of methodological diversity and programs' research training implementation that clearly values a single approach to science – positivistic, quantitative research. This gap reveals a theory-in-use where programs value natural science approach to psychological science and positivistic research, in spite

of espousing the importance of methodological diversity in research training. I elaborate on the theory-in-use in greater depth now.

The tendency to emphasize quantitative research in spite of espousing methodological diversity can be explained in various ways. First, programs' espousal of methodological diversity is more a response to external pressures rather than an outcome of core faculty members truly valuing methodological diversity. Second, the definition and criteria used for scientific rigor are based on natural science methodologies and this definition and criteria are deeply entrenched in the academic discipline, leading to the hegemony of the natural science approach in psychology. Third, the academy and core faculty members associate success in conducting positivistic research with prestige, power, and peer acceptance in the academy. Consequently, core faculty members resist embracing qualitative research methods and methodological diversity while conducting research. I discuss each of these explanations in greater depth now.

As mentioned in the review of literature in chapter two, critiques of natural science methodologies in psychology have grown stronger in the past two decades (Hoshmand & Polkinghorne, 1992; Howard, 1985, 1993; Kanfer, 1990; Klien, 1995; Linden & Wen, 1990; Page, 1996; Polkinghorne, 1984; Rychlak, 1998; Ussher, 1991). Interviews with training directors indicate that the decision to include a qualitative research course is relatively recent (typically from the 1980s) and the decision was taken more in response to recent external trends in the field

where methodological diversity was being widely propagated. Thus, it appears as though programs espouse methodological diversity in response to external trends and pressures rather than as an outcome of espousing diverse research approaches as legitimate ways to knowledge generation. The training director of University of Plato's program described the trend as follows (IPlato):

> SR: I am defining traditional as more quantitative, natural science, statistics kind of things.
>
> TD: Yeah, I would say 90% or above of our faculty are doing that kind of research honestly. But I would also say that more and more students are doing qualitative research and I would say that I have seen it increase even in the last few years.
>
> SR: And why do you think that is happening?
>
> TD: I think it is a movement in the field to be honest with you. And so it is getting much more attention and press in the field in general (ll.46-56).

Similarly, the University of Socrates training director responded by stating (ISocrates):

> SR: In terms of the science component of the model, would you define it more in traditional natural science modes or would it be different?
>
> TD: Definitely broader than that. We certainly think that discovery oriented research and qualitative research which is really uncovering, you know understanding human experiences particularly related to clinical issues. Certainly. Our program has evolved over the last 25

years but definitely in the last 10 years we have seen more non-traditional discovery oriented designs.

SR: And the reason for this shift...?

TD: This is where the field is going. I think so. Also, there has been a big interest in multicultural which lends itself very well to qualitative research and there is so much to learn about people. Experiences that we don't even have constructs for. Also, because qualitative research mirrors and reflects the clinician's thinking process. And that attracts students (ll.16-31).

The gap between espoused theory and theory-in-use exists as programs implicitly make value judgments about what constitutes legitimate scientific knowledge, which is knowledge generated using natural science methodologies. I use the term *preference* while discussing a program's espousal of a certain concept or strategy related to the scientist-practitioner model. On the other hand, I use the term *bias* while pointing out the gap between a program's espoused theory and theory-in-use because this gap represents the tacit approach of how program implementation takes place. The bias favoring positivistic research as representing legitimate psychological science is evident in how training directors equate the term *empirical* with positivistic psychological research. I believe that programs include a single course in qualitative research but they probably do not consider it empirical and respectable enough while describing sound research. Such a bias is symptomatic of the positivistic stance that is deeply entrenched in the discipline and continues to dominate the kind of research conducted by core faculty members and students. Relevant quotes from interview transcripts reveals this bias toward

positivistic research. The training director of the program at University of Hume

espoused methodological diversity but used the term empirical to imply traditional

quantitative research, indicating a value that quantitative research is superior or

more legitimate than other research approaches (IHume):

> SR: And, when you say scientific stance, how would you describe it?

> TD: I would have to think about that. We are generally referring to any research as being science.

> SR: As I was going through the self-study, I noticed that one of the goals described things like hypothesis testing and it sounded much more like traditional psychological science.

> TD: And yet it is not necessarily so.

> SR: Yes, it also had information about qualitative research...

> TD: It is not just your empirical [*sic*]. It is quite a wide variety (ll.13-24).

> Similarly, the training director of University of Hegel's counseling

psychology program stated (IHegel):

> TD: Well, I think there is a medical world that we psychologists have kind of followed. They has been that notion that medical researchers are at the top of the heap, they are coming with great cures. I have some evidence of that bias which I think we have adopted. First started in clinical and when counseling grew, we adopted it too. And then there is the hierarchy of sciences, hierarchy of soft sciences and that this where the problem of qualitative research comes in. I think this bias exists among some faculty (ll.322-327).

The hierarchy of sciences as described by the University of Hegel training director

is also evident in how core faculty members evaluate the scientific legitimacy of

qualitative research. In this context, the training director at University of Descartes

described the qualitative research conducted by students and supervised by core

faculty members in the program in the following manner (IDescartes):

> SR: You mentioned that the educational psychology department is
> very positivistic, do they in some ways inform the kind of science
> that is practiced in the counseling psych program?
>
> TD: How they effect us? It is kind of weird. I am the only, with a
> couple of recent retirees, I am the only qualitative researcher in the
> faculty and although our brand new hire is going to take advantage
> of his one course release and sit in on my qualitative class, he wants
> to become a multimethod researcher and I am so excited because we
> really need someone else to get in there and advise students. Well, I
> have found...it is kind of a difficult situation here for me as a
> qualitative researcher, as a well known qualitative researcher that
> students who come here do want to do qualitative research but I
> can't certainly work with them all and recently a couple of my other
> colleagues, quantitative folks, have chaired qualitative dissertations
> and they have been horrible. And they have no idea about rigor in
> qualitative research so they will let someone do a thesis and
> interview 5 people. I am like "no, how are you going to get any kind
> of saturation or redundancy from that" and when I say that, they look
> at me like I have green skin or something. And so, they don't
> understand and they haven't taken the steps to read. You know they
> could just read my handbook of counseling psych chapter and they
> would know a bunch of stuff that they don't know now. I need to
> talk with my chair and see if we can influence some awareness here
> (ll.92-111).

Most core faculty members, thus, resist learning about qualitative research

and core faculty members who mentor dissertation research using qualitative

methods frequently adopt positivistic criteria of scientific rigor to evaluate

qualitative research. The resistance against learning and embracing qualitative

research methods is possibly due to the association of prestige and power with

conducting positivistic, quantitative research. The training director of University of

Husserl's counseling psychology program described the association of positivistic

research with power and prestige. I quote a relevant excerpt from the interview

(IHusserl):

> TD: I think we are probably fairly mathematically oriented although
> over the time I have been here, we have been doing more qualitative
> type research. But really, the measurement and statistics people in
> our program loom very, very large for various reasons. One is they
> are the folks who publish and I think they are the largest educational
> testing group in the world. So, they have a tremendous amount of
> prestige, nationally and internationally, for their work. On top of
> that, they have a very large foundation that is used to support many
> of our students. They get special grad assistantships, half-time
> positions and they can go to choose to work whomever they want or
> whatever they want as long as it is related to developing their
> professional careers. 95% of the time that is research related. That is
> part of it. The other part of it is that they have grants built for faculty
> as long as their research is related to measurement and statistics in
> some way. So, in order to get $20-50,000 is really pretty easy, it
> takes a few pages and a couple of days. So what that means is that
> faculty do research in areas that qualify them for that kind of funding
> (ll.147-159).

The training directors' statements describe a distinct hierarchical value

placed on positivistic research as the most legitimate and acceptable approach to

psychological research. Alternate approaches to psychological science and research

are acknowledged but they are viewed as less empirical and having less scientific

rigor. Conducting positivistic research also provides status and power in academic

institutions. Consequently, many core faculty members resist exploring alternate

philosophies of psychological science and resist accepting diverse research

methods. They also prefer to adopt the criteria of scientific rigor based solely on

assumptions of positivistic science even while evaluating research methods that are not based on positivistic assumptions of science.

According to Polkinghorne (1991), academic psychology has limited itself to equating scientific rigor with research approaches "that use numerical data and statistical analysis and base their designs on the experimental method" (p.167). Consequently, methodological diversity in research is implemented in a manner where non-positivistic research is marginalized in terms of its value and focus in research training. Research training in the programs, therefore, tacitly reinforces the value placed on positivistic research. I believe such tacit reinforcement of value placed on a particular approach in psychological science and knowledge generation to be a theory-in-use.

The academic literature offers an explanation to understand the hegemony of positivistic bent in psychological research that explains programs' theories-in-use regarding research training. Historically, the discipline of psychology made a deliberate attempt to establish itself as a scientific discipline and consequently chose to adopt the methodology of natural sciences for this purpose. I discussed this issue in the previous subsection as well. John (1998) provides an explanation for the hegemony of natural science approaches in psychology even as alternative philosophies of social science like the human science approach have distinctly emerged as being more appropriate for understanding human behavior. According to John (1998):

The positivistic program had been driven by the assumption that there is a kind of knowledge that is conclusive and incontrovertible and that science has a method for unfailingly producing it. Ultimately the philosophy of science was to prove unequal to the task of providing a rational reconstruction of any method for producing knowledge of this description (Chalmer, 1990) but, confident in their conviction that there must be such a method, psychologists sought uncritically to emulate those science which, by common consent, were the most scientific, and so presumably embodied the method, even though it was not possible to say exactly what it was. Various incidental features of scientific practice in the physical sciences were mistakenly assumed to be essential and thus came to be emphasized as appropriate, and even imperative, for the conduct of scientific inquiry in psychology.... Any number of these particularities, such as quantification, operationalism, and experimentation, in this way became incorporated in scientist-practitioner discourse and employed as metonyms for science, or signifiers of scientificity. A particular emphasis was laid on empirical evidence as an ostensibly unassailable and decisive arbiter of contested knowledge claims, rather as if the evidentiary value of any set of empirical data and the conclusions which are, or might properly be, drawn from it could ever be problematic (pp.25-26).

I believe the above quote eloquently explains why training directors tend to equate positivistic research with the term empirical. The espousal of methodological diversity in research training and theories-in-use reinforcing positivistic research are also indicative of confusion about how the discipline defines the nature of psychological science. According to Wittgenstein (1953), "in psychology there are experimental methods and *conceptual confusion*.... The existence of the experimental method makes us think we have the means of solving the problems which trouble us; though problem and method pass one another by" [italics in original] (p.232). Thus, according to Klien (1995), "By adopting positivism as its

official paradigm, American psychology has become fixated in the regressive

ideological assumptions of Cartesian metaphysics" (p.306).

In spite of simmering confusion about how psychological science should be

defined, academic institutions legitimized natural science methodologies and, thus,

provided greater legitimacy to the discipline's espousing a particular view of

psychological science and research. Hoshmand & Polkinghorne (1992) described

the discipline's commitment to positivistic science at an institutional level as

follows:

> A science-based profession is in a better position to assert its
> legitimacy (Goldfried, 1984). Academic psychology and university
> training programs for the practice of psychology generally share the
> same foundational assumptions. Theory and research are expected to
> be the primary means of producing such knowledge base that is then
> translated into techniques used by practitioners. Other institutional
> structures such as accreditation and licensing bodies also support the
> dominant model of knowledge by requiring a core curriculum
> intended to impart theory-tested knowledge and hypothetico-
> deductive methods of scientific inquiry (p.56).

In a similar vein, Heppner, et al. (1992) stated that programs adopted natural

science methodologies in order to "compete in academic environments that lean

toward natural science, faculty have tended to emulate basic research, resulting in

research that is less naturalistic and less transferable to practice" (p.109).

Although positivistic science might be of value in natural sciences and

accepted in academic institutions, adopting this particular philosophy of science in

human sciences has proven to be problematic (Hoshmand & Polkinghorne, 1992;

Howard, 1985; Kanfer, 1990; Klein, 1995; Rychlak, 1998). According to

Hoshmand (1991):

> There are many in the profession who do not perceive themselves as extremists in the positivistic tradition but remain highly skeptical toward suggestion of alternative models of knowledge for the discipline. This lack of unity in the definition of our science and the choice of scientific method creates an ambiguous context for discussions about scientific training (p.432-433).

The creation of this ambiguous context for discussing scientific training has

probably also created the possibility for alternate research methodologies to

develop, even as academic institutions and faculty members are resistant to change.

In a Delphi poll conducted by Neimeyer & Diamond (2001) the single greatest

increases were predicted "in relation to the development of 'descriptive and

qualitative sophistication' (M=4.43) in research methodology, followed closed by

'attention to methodological diversity and triangulation' (M=4.35)" (p.58). The

Delphi poll, thus, shows that members of the discipline are in a state of flux

regarding research training. On one hand, there is a deeply entrenched value and

prestige placed on quantitative research. On the other hand, there is growing

acknowledgement of the conceptual limitations of the positivistic approach to

psychological science for purposes of understanding human behavior and

experience. This acknowledgement has probably led qualitative research methods to

gain in prominence in the academy.

A few training directors also acknowledged that students seemed to evince a greater interest in qualitative research because they chose to complete the elective course and a few students attempted qualitative research-driven dissertations. It is possible that students graduating from these programs adopt the natural science approach to human behavior and research because that is the predominant message communicated during doctoral training and they are biased against qualitative research as they tacitly internalize the program's bias toward quantitative research. Or, they remain intrigued and confused by what they learned in the single course in qualitative research that was distinctly different from the other courses in research methods. How the next generation of core faculty members resolves the conceptual confusion with regard to the nature of psychological science would determine the kind of research training provided in the future and possibly influence a change in programs' theories-in-use of psychological science.

Espoused Theories of Psychotherapy Practice

The evolution of modern psychotherapy practice can be traced from the dominance of Freudian psychoanalysis in the early part of the nineteenth century to the growth of different theoretical orientations such as psychodynamic orientations, Rogers' client-centered therapy, behavior therapies, and cognitive-behavioral therapies. In the last three decades or so, integrative therapy or eclectic therapy has

become more common. Eclectic or integrative approaches synthesize diverse

elements into flexible multifaceted orientations (Garfield & Bergin, 1986, p.7).

However, the main tenet of the eclectic approach is the lack of strict allegiance to

any single theoretical system (p.8). Thus, practitioners vary widely with regard to

their theoretical orientations in psychotherapy practice. I do not undertake providing

a detailed overview of the evolution of modern psychotherapy practice because it is

not directly pertinent to my dissertation study relating to doctoral training using the

scientist-practitioner model.

With regard to psychotherapy research, Eysenck's critical review of existing

research in 1952 questioned the efficacy of psychotherapy per se (Garfield &

Bergin, p.5). Following his critical review of the existing literature, there was a

surge in psychotherapy research. Numerous psychotherapy process and outcome

studies have examined various aspects of psychotherapy and an extensive academic

literature exists on the subject of psychotherapy research. In chapter two, I reviewed

the academic literature on a specific aspect of psychotherapy research concerning

the prevalence of natural science research methodologies used in psychotherapy

research and the lack of clinical relevance of positivistic psychotherapy research.

This particular issue surfaced frequently with regard to integration of science and

practice using the scientist-practitioner model. Critiques of research methodologies

used in psychotherapy research have focused on lack of clinical relevance of

positivistic psychotherapy research. In addition, practitioners deem such research as not clinically relevant.

The academic literature suggested using alternate research methods such as qualitative research methods and more sophisticated quantitative research methods so that psychotherapy research is more clinically relevant for the practitioner (Goldfried & Wolfe, 1996; Hayes, et al. 1999, p.15; Snyder & Ingram, 2000, p.723; Stricker, 1975). Implementing methodological diversity in doctoral research training is one way to remedy the dominance of positivistic psychotherapy research but as the theories-in-use of psychological science indicate, programs resist adopting methodological diversity. Thus, the hegemony of natural science methodologies continues and concerns about lack of clinically relevant research remain, for the most part, unaddressed.

Because the focus of the dissertation study is on doctoral training of counseling psychologists using the scientist-practitioner model, I focus my discussion on issues related to psychotherapy training and clinical supervision. The practice of psychotherapy is not the sole domain of any specific mental health profession. Psychiatrists, applied psychologists, social workers, and masters' level practitioners practice psychotherapy after receiving "initial and basic training in diverse settings with different disciplinary and value emphases" (Garfield & Bergin, 1986, p.11). Surprisingly, the criteria of successful psychotherapy training are not based on competence in psychotherapy (p.11). Typically, academic and intellectual

criteria are used that "do not necessarily bear a direct relationship to skills in psychotherapy practice (p.11). Counseling psychology training programs that provide psychotherapy training also adopt similar academic and intellectual criteria to evaluate competence in psychotherapy practice (p.11).

Thus, a range of theoretical orientations in psychotherapy practice, including eclectic or integrative orientations, is currently operational. In addition, the criteria for successful psychotherapy training does not appear to relate to skills required in psychotherapy practice. The range of supervision models adopted by multiple supervisors during doctoral training in psychotherapy practice also adds to the diversity of psychotherapy training approaches. As a result of diversity in the practice and training of psychotherapy practice, it is difficult to evaluate the adequacy of psychotherapy training. The statement below is applicable to all programs in the collective case study as well. According to Page (1996):

> The diversity of approaches to training psychologists leads to fundamental differences in opinion about the core skills of clinical psychologists. For some, the core skills are techniques (e.g. knowing the treatments within the dominant paradigm); for others, the core skills are methodologies (e.g. knowing how to select and reject theories and treatments). Interestingly, staff from radically different philosophies of science can coexist within the same department, teaching the same students two philosophically incompatible approaches to scientific practice, and at the end of the day, agree that they are teaching according to a scientist-practitioner model (p.105).

However, supervision during psychotherapy training is a consistent strategy used by training programs. Numerous models of supervision are currently

operational, which can be broadly categorized into two categories. The first category includes supervision models that extrapolate "counseling theory to the supervisory experience" (Holloway, 1987). Such models of supervision include psychodynamic supervision, rational-emotive theory supervision, and behavioral supervision (Goodyear, Bradley, & Bartlett, 1983). The second category includes developmental supervision models that "apply theories of psychosocial development" and 18 developmental models of supervision were identified as of 1987 (Holloway, 1987). Thus, supervisors could approach psychotherapy supervision using a multitude of supervision models.

Two espoused theories of psychotherapy practice emerge from the collective case study. First, all programs espouse natural science-based practice as the scientific approach to psychotherapy practice. Core faculty members encourage establishing scientific basis for psychotherapy practice using positivistic notions of psychological science. Second, strategies of psychotherapy training mainly include exposing students to multiple theoretical orientations with an equal emphasis placed on training students in the use of ESTs. The latter fits the first espoused theory of natural science-based practice.

Psychotherapy training involves students completing relevant coursework, practica, and the pre-doctoral internship. This psychotherapy training format is typically known as the "tripartite model" (Binder, 1993). All training programs in the collective case study adopt the tripartite model. According to Binder (1993),

such a curriculum structure is a positive trend because "training programs that are characterized by a combination of structured didactic and experiential components designed to teach specific procedures and skills in a progression from simple to more complex performances tend to be more effective" (p.302).

Training programs, however, do not articulate the conceptual rationales for how they conduct psychotherapy training. It is not surprising that conceptual rationales are not clearly articulated because a clear consensus about how psychotherapy training should take place does not emerge in the academic literature either (Binder, 1993).

Psychotherapy training can be delineated into its didactic and clinical components. Didactic psychotherapy training includes coursework related to psychotherapy. However, individual core faculty members probably differ not only in their theoretical orientations but also in their specific approach to teaching psychotherapy during didactic training. According to Page (1996):

> Some will argue that since, for example, cognitive-behavioral therapy (CBT) is the dominant paradigm in clinical psychology, a scientist-practitioner model of training should provide a solid foundation in the theory and techniques of CBT only.... Still others will argue that the only way to steer a path through the proliferation of theories and techniques in clinical psychology is to teach students to begin with the client's problem and examine the empirical evidence for theories and treatments. Alternatively, others will argue that the only way to navigate through the vast array of theories and associated treatment is to teach students to adopt a theoretical orientation, test it, and reject it in favour of an alternative approach when it is falsified (p.105).

The above statement holds true for the specialty of counseling psychology and extends to the programs in the collective case study as well.

The clinical component includes practicum training where students learn psychotherapy skills primarily through clinical supervision. The supervisory process primarily entails learning through role modeling and through apprenticeship with the supervisor. Students in all the eight programs engage in the supervisory process with multiple supervisors. Core faculty and adjunct faculty members conduct supervision during practica. Typically, core faculty members supervise the beginning-level practicum and adjunct faculty members and field supervisors supervise advanced practica and field placements. Universities of Hume and Plato did not make such explicit distinctions among supervisors although students receive supervision by core and adjunct faculty members in these programs as well.

Core faculty members frequently supervise beginning level-practicum emphasize the importance of establishing a scientific basis for psychotherapy practice during supervision. The scientific basis for psychotherapy practice is typically taught using four approaches. These include reinforcing positivistic thinking in psychotherapy practice (e.g. hypothesis testing, collecting data), utilizing positivistic research to inform psychotherapy practice (e.g. efficacy studies, evidence-based interventions), supervision using the cognitive-behavioral orientation in psychotherapy practice (although other theoretical orientations are

also used), and didactic and practicum training in the use of ESTs. I discuss these four approaches in greater depth now.

Scientific thinking in psychotherapy practice is defined using positivistic assumptions of psychological science. For example, the training director of the University of Heidegger program defined the scientist-practitioner as a professional who thinks like a scientist in psychotherapy practice (IHeidegger):

> TD: I think the whole notion of skepticism defines science and as a practitioner if they adopt that skepticism, I think it helps to question "where are the data?" I think the other sense of it is that the way of thinking as a scientist that gets translated into the practitioner side. So you get hypothesis testing, significance testing, so you gradually test all sorts of hypotheses about your clients and gradually build a theory. So those two main ways that scientist-practitioner applies. I think there is another sense that they want to see data and a lot of that is through stat [statistics] method courses, how to make sense of the literature, and there is also the notion that simply taking stat [statistics] courses changes our view of problems.
>
> I think the majority of programs teach science and translate that in practice so that when they graduate, they turn out and do think like that and certainly when we do practicum, for the few of us who do, we try to do that. I think the majority of programs teach science and translate that [thinking scientifically] in practice so that the graduate they turn out does think like that [like a scientist] and certainly when we do practicum, for the few of us who do, we try to do that (ll. 8-16; 25-28).

Similarly, the training director of the University of Socrates program described positivistic thinking in psychotherapy practice as (ISocrates):

> ... a practitioner [who] uses scientific, logical reasoning and develops their own hypotheses, tries to disconfirm those hypotheses but also tries to integrate the literature into their treatment, using

evidence-based intervention, not just interventions but also in understanding clients from an empirical basis (ll.6-9).

The notion of applying positivistic thinking in psychotherapy practice is one of the training objectives of the University of Hume's training program as well. According to the self-study, the training goal is "to develop the capacity to apply data collection and hypothesis testing to the diagnostic and treatment planning process in clinical work, psychological assessment, and supervision" (SSHume, p.4).

The second approach utilizes positivistic research-based knowledge in psychotherapy practice. For example, among the five goals of the practicum seminars, one goal is to "(a) to teach students to integrate scientific and scholarly literature with their current practice experiences" (SSAristotle, p.12). The University of Hegel training director described one of his supervisory approaches as, "in practicum I encourage students to read the literature dealing with various kinds of problems" (ll.190-191). Similarly, the University of Socrates training director provided the following example and stated, "For example, if there are attachment issues, then they read the literature on attachment not necessarily just the research on attachment-based therapy" (ISocrates, ll.9-11). Finally, the University of Hume training director stated (IHume):

> In all the content classes, they are reading the science, the published science and they are encouraged to also discuss not only that [research] but also the application of that [research] in terms of what is happening with the clinical work (ll.149-152).

Thus, scientific knowledge base, which is positivistic research-based knowledge, is used to justify psychotherapy practice.

The third approach relates to the predominant theoretical orientation adopted by core faculty members. Most core faculty members adopt the cognitive-behavioral orientation in psychotherapy practice. For example, the training director at University of Hegel described the core faculty members' theoretical orientations as follows (IHegel):

> SR: And when the practitioner bent was operational, was there a particular bent in terms of theoretical orientation?
>
> TD: Pretty eclectic and humanistic as the practitioners were.
>
> SR: And how has that changed?
>
> TD: Well, the researchers are more cognitive-behavioral (ll.22-29).

Similarly, the training director at the University of Husserl described core faculty members' theoretical orientations in psychotherapy practice as follows (IHusserl):

> SR: In terms of the practice component, theoretical orientation kind of things, how would you describe the spread in the department?
>
> TD: I think that…if I have to pick one philosophy, it would be cognitive-behavioral. That, of course, is not an adequate representation of what everybody does. Frankly, each of us adopts different approaches. Like in my area, of course, we do a lot of cognitive-behavioral stuff because of working in patient consultations in hospitals, given the medical procedures and stuff like that. But I also use a lot of attachment-based conceptualizations, family systems-related stuff. So I know some of the faculty use psychodynamic concepts in their conceptualizations, interpersonal approaches in their clinical work (ll.174-183).

Core faculty members' favoring cognitive-behavioral orientation is congruent with the importance core faculty members place on ESTs. Except for specific brief dynamic therapies, most ESTs are based on cognitive-behavioral theoretical orientation (Chambless, et al. 1996).

Finally, core faculty members and program objectives in all the programs espouse the importance of didactic and practicum training in ESTs. Emphasis on training in ESTs appears to be a result of changing job market needs, resulting from the advent of managed care. More importantly, core faculty members view ESTs as psychotherapy that has a positivistic scientific basis. University of Descartes' training program director stated that core faculty members emphasized the need for psychological science to inform psychotherapy practice during supervision, although she did not subscribe to an absolute reliance on ESTs. According to her (IDescartes):

> SR: How about the practice component? ESTs, theoretical orientation etc.
>
> TD: We do teach ESTs and predominantly that they get... well, they get a little introduction in the foundations in the counseling psych class and they get some exposure in the practicum because both of us who are practicum instructors are aware of ESTs. I am personally do not overwhelm them with it, I use it to help them understand that we support our work with research, but I don't think ESTs is necessarily the way to go but I will say something like this in the practicum, "What will you do with this depressed client?" and we will have a conversation about it and the students will go real humanistic on me and I will go, "What is the best known EST for depression?" and the student will not remember and I will say CBT and let us talk about

that. So they are getting some awareness from the beginning and then they take a course on research in counseling psychology and that is where they get the heavy duty focus on process and outcome research and ESTs (ll.144-157).

The University of Husserl program training director described the emphasis placed on training in ESTs as a way of utilizing scientific knowledge in psychotherapy practice. I quote a relevant excerpt from the interview (IHusserl):

TD: One is clearly we have an emphasis on empirically or evidence-based treatments. So in our pre-practicum, in our practicum, in our advanced practicum, in our theories courses, we are always urging students to look at the data, see what the data is telling you about these particular issues, with this particular type of client or both. So, for example, in the advanced practicum when they do their case presentation, they also have to talk about the empirical [sic] research that supports what they are doing with the client (ll.195-200).

I discuss the role of adjunct faculty members and field supervisors later in the subsection on the theories-in-use of the scientist-practitioner model because adjunct faculty members do not constitute the core membership of a training program.

The second espoused theory of psychotherapy practice relates to strategies of psychotherapy training. Most programs espouse the importance of students being exposed and knowledgeable of different theoretical orientations as well as becoming competent in the use of ESTs. According to the training director of the program at University of Husserl (IHusserl):

SR: In terms of the practice component, theoretical orientation kind of things, how would you describe the spread in the department?

TD: I think that…if I have to pick one philosophy, it would be cognitive-behavioral. That, of course, is not an adequate representation of what everybody does. Frankly, each of us adopts different approaches. Like in my area, of course, we do a lot of cognitive-behavioral stuff because of working in patient consultations in hospitals, given the medical procedures and stuff like that. But I also use a lot of attachment-based conceptualizations, family systems-related stuff. So I know some of the faculty use psychodynamic concepts in their conceptualizations, interpersonal approaches in their clinical work.

I think we do a pretty thorough job of integrating the two. I think there are two main components to that. One is clearly we have an emphasis on empirically or evidence-based treatments. So in our pre-practicum, in our practicum, in our advanced practicum, in our theories courses, we are always urging students to look at the data, see what the data is telling you about these particular issues, with this particular type of client or both. So, for example, in the advanced practicum when they do their case presentation, they also have to talk about the empirical research that supports what they are doing with the client (ll.174-183; 195-200).

Similarly, according to the program website of the University of Plato program, "Courses on several forms of practice (e.g., individual, group, supervision) are available, and a variety of theoretical orientations are represented, although a clear focus on integrative therapy and empirically supported treatments exists" (Counseling Psychology Program, p.27; Website).

Thus, programs' espoused theories of psychotherapy practice can be described as espousing the importance of educating students in diverse theoretical orientations in psychotherapy and also training them in the use of ESTs. Core faculty members typically supervise beginning level practica and they emphasize the importance of establishing a scientific basis for psychotherapy practice.

However, core faculty members' criteria for establishing scientific basis for psychotherapy practice are mostly limited to positivistic notions of psychological science. The next subsection analyzes programs' theories-in-use in psychotherapy practice.

Theories-in-use of Psychotherapy Practice

All the programs in the collective case study espoused the importance of establishing scientific basis for psychotherapy practice. As mentioned previously, core faculty members use positivistic notions of psychological science to establish the scientific basis for psychotherapy practice. Consequently, programs in the collective case study fail to use the human science approach to establish scientific basis for psychotherapy practice. Second, they also fail to address the concerns voiced in the academic literature about the lack of clinical relevance of positivistic psychotherapy research. The circumscribed approach to establishing scientific basis for psychotherapy practice, based on using the natural science approach only, operates as a theory-in-use. Another theory-in-use of psychotherapy practice relates to the strategies of psychotherapy training used by programs in the collective case study. Programs encourage students to learn about various theoretical orientations and they emphasize the use of ESTs during psychotherapy training. However, theoretical orientations such as psychodynamic and existential orientations are

incompatible with positivistic psychotherapy research, natural science-based practice, and the rationales used in ESTs. Thus, the failure to address the potential incompatibility of certain theoretical orientations with natural science-based practice and ESTs, operates as another theory-in-use of psychotherapy practice. I discuss each theory-in-use in greater depth now.

Training programs and core faculty members espouse the importance of establishing a scientific basis for psychotherapy practice. The scientific basis is operationalized using natural science methodologies and positivistic notions of psychological science. Thus, encouraging students to think scientifically and utilize scientific knowledge in psychotherapy practice entails using positivistic notions of psychological science. The training directors described supervision by core faculty members as encouraging students to think critically and approach psychotherapy practice with a positivistic scientific stance. The limitations of natural science methodologies and positivistic approaches in informing psychotherapy practice are well documented (Hoshmand & Polkinghorne, 1992; Howard, 1985, 1993; Kanfer, 1990; Klien, 1995; Linden & Wen, 1990; Page, 1996; Polkinghorne, 1984; Rychlak, 1998; Ussher, 1991). Human science approaches have been identified as mirroring psychotherapy practice and, hence, are considered more amenable for generating clinically relevant research by providing a better link between research and practice (Beutler, et al. 1995; Claiborn, 1987; Hoshmand, 1991; Hoshmand & Polkinghorne, 1992; Stoker & Figg, 1998).

However, all the training programs in the collective case study uniformly failed to adopt the human science approach to psychotherapy practice, which I define as *human science-based practice*, while training students to think scientifically and utilize scientific knowledge in psychotherapy practice. Thus, the failure of training programs and core faculty members to adopt the human science approach to inform psychotherapy practice is an outcome of the theory-in-use.

It is not surprising that the human science-based practice is ignored because of the bias inherent in programs wherein psychological science is defined using only positivistic assumptions of psychological science. As I discussed in the theories-in-use of psychological science, most programs espouse methodological diversity but they value natural science approach to psychological science. On the other hand, the academic literature on alternative research approaches identifies the similarities in cognitive processes in human science approaches and psychotherapy endeavors (Hoshmand & Polkinghorne, 1992). Rennie (1994) described various characteristics of the human science approach that have close resemblance to the practice of psychotherapy:

> All characteristically use natural language both as data and in representation of results; all embrace reports on subjective experience as legitimate data; all typically work with a small number of selected data sources; all emphasize discovery more than verification; all recursively combine inquiry and analysis; and all are interpretive at root (p.237-238).

Hoshmand (1991) made a similar observation that qualitative clinical inquiry is akin

to the nature of psychotherapy practice because of their "direct involvement with

human beings or social systems, commitment to self-scrutiny by the researcher, and

in-depth search for meanings in context" (p.437). University of Husserl program

training director was the only training director who acknowledged the differences in

the kind of thinking involved in positivistic research and psychotherapy practice

(IHusserl):

> TD: One of the reasons is I think that it is sometimes very difficult
> for people who are very practice-oriented to think like scientists and
> it is really hard for science people to think like a practitioner. I mean
> those are two very different ways of being, thinking, and learning
> and knowing. Practice oriented is often times, it feels more
> anecdotal, or intuitive whereas in the science-based approach it is
> exactly the opposite. I think it is really very hard to find students that
> excel in both ends of that which is why people tend to gravitate
> toward one extreme or the other (ll.375-381).

In chapter two, I reviewed the academic literature relating to lack of clinical

relevance of positivistic experiment-based psychotherapy research. None of the

programs in the collective case study addressed this issue although they use natural

science-based practice in psychotherapy training. I believe that the failure of

programs to address this issue of clinical relevance of positivistic psychotherapy

research is another outcome of the theory-in-use.

The second theory-in-use of psychotherapy practice relates to strategies of

psychotherapy training. The espoused theory of psychotherapy practice, which

encourages exposure to multiple theoretical orientations as well as learning the use

of ESTs, fails to acknowledge the potential incompatibility of these two strategies in psychotherapy training. Although these two aspects of psychotherapy training (exposure to theoretical orientations and ESTs) can be viewed as important and necessary, none of the training directors acknowledged that not all theoretical orientations (e.g. psychodynamic, existential, humanistic) are compatible with the rationales used in ESTs. For example, core faculty members of the University of Hume program tend toward a dynamic orientation. Similarly, University of Socrates self-study states that the program subscribes to an integrative theoretical orientation. Yet, both these programs also train students in ESTs. According to Binder (1993):

> There is no sound evidence that clinical training – regardless of therapeutic orientation – fosters effective therapeutic performance (Bootzin & Ruggill, 1988; Schiffman, 1987; Strupp, Butler, & Rosser, 1988; Wright, Horlick, Bouchard, Mathieu, & Zeichner, 1977). Based on this review of published descriptions of clinical training in the 1970s, Garfield (1977) concluded: "Students are taught a variety of theoretical and clinical concepts which are not well defined or isolated, and comparatively little attention is paid to learning specifically defined skills" (p.80). From their view of empirical studies of training programs in the 1980s, Alberts and Edelstein (1990) concluded that the quality and effectiveness of clinical training is assumed more often than verified (p.302).

This evaluation of clinical training holds valid in training programs examined in the collective case study because the trend of assuming the effectiveness of psychotherapy training remains an assumption rather than a verified fact. I believe that training programs fail to explicitly address such potential incompatibilities

(between different theoretical orientations such as existential or integrative orientations and ESTs), contributing to a theory-in-use.

Different theoretical orientations in psychotherapy practice have different theories of human behavior, therapeutic change, and the techniques of psychotherapy. The mere ability to critically evaluate these differences would not be sufficient for development in the practice arena. It is necessary for psychotherapy training to also include a thorough examination of the different assumptions of human behavior that different theoretical orientations hold and include an examination of how certain theoretical orientations are not integrative in their view of human behavior and change. Although some courses on psychotherapy might include such discussions, the discourse on possible confusion and contradictions in psychotherapy training is practically absent in the data collected in the collective case study.

Thus, an examination of psychotherapy training in the eight programs reveal a pattern where core faculty members emphasize adopting the natural science-based practice in order to establish the scientific basis of psychotherapy practice. The programs in the collective case study, consequently, failed to adopt the human science approach in psychotherapy practice as a form of science-based practice. Similarly, they also failed to address the concern about lack of clinical relevance of positivistic psychotherapy research that has been made repeatedly in the academic literature. The programs also espouse the importance of educating students in

various theoretical orientations and in ESTs. The theories-in-use surfaces in programs adopting a limited definition of science-based practice and not questioning the possibility that a mere exposure to such a variety of approaches to psychotherapy is insufficient and that certain theoretical orientations are not compatible with the rationales used in natural science-based practice and in ESTs.

Programs espouse methodological diversity in research but they train students in research using positivistic models of psychological science. Similarly, psychotherapy training is espoused as establishing scientific basis for psychotherapy practice and includes students' exposure to multiple theoretical orientations. However, core faculty members favor a single approach to psychotherapy using natural science-based practice and do not examine the potential incompatibilities of certain theoretical orientations with the rationales of natural science-based practice. The next subsection describes the espoused theories of the scientist-practitioner model.

Espoused Theories of the Scientist-Practitioner Model

In the academic literature, psychological science is defined using natural science and human science approaches. The former approach conceptualizes research as entailing quantitative research methods and the latter approach subscribes to qualitative research methods. In the last two decades, the academic

discipline has espoused the importance of methodological diversity wherein research training involves teaching quantitative and qualitative research methods. The rationale of espousing methodological diversity is the equal legitimacy accorded to different approaches to psychological science and research and the acknowledgement that no single approach can lead to complete understanding of the subject under study. Most programs in the collective case study espouse methodological diversity in research training. However, as the analysis of theories-in-use of psychological science indicated, all the programs continue to value, emphasize, and place greater legitimacy in the natural science, positivistic approach to psychological science and primarily train students in quantitative research methods.

The conceptual rationales for psychotherapy training are not clearly articulated in the academic literature (Binder, 1993, p.301) or in the espoused theories of psychotherapy practice in the collective case study. All the programs in the collective case study offer psychotherapy training using the "tripartite model" (Binder, 1993) wherein the didactic and experiential components are combined during psychotherapy training. Programs primarily rely on didactic coursework on theories of psychotherapy, practicum training, and the pre-doctoral internship for providing psychotherapy training. The latter two use the apprenticeship model where students are expected to acquire psychotherapy skills through role modeling and supervision provided by supervisors. While discussing the theories-in-use of

psychotherapy practice, I discussed the nature of core faculty supervision. Core faculty members emphasize the notion of natural science-based practice by reinforcing students to thinks scientifically in psychotherapy practice, utilize existing positivistic scientific knowledge to inform psychotherapy practice, and seek experiment-based empirical evidence for supporting psychotherapy practice. Emphasis on ESTs fits in the last category. Adjunct faculty members and field supervisors who provide significant portion of psychotherapy training and supervision might differ in their supervisory approaches and I discuss the issue in greater depth in the next subsection on theories-in-use of the scientist-practitioner model.

The scientist-practitioner training model was adopted by clinical psychology in 1949 during the Boulder Conference (Neimeyer & Diamond, 2001) and counseling psychology also adopted this model of training during the Northwestern Conference in 1951 (Whiteley, 1984a, p.32). The basic crux of the scientist-practitioner model involves integration of the psychological science and psychotherapy practice in doctoral training. However, integration of psychological science and psychotherapy practice has proved to be problematic and the extensive debates in the academic literature have focused on the conceptual, epistemological, and methodological issues relating to integration of science and practice (Albee, 1970; Binder, 1993; Hoshmand, 1991; Hoshmand & Polkinghorne, 1992; John, 1998; Page, 1996; Rennie, 1994).

In addition, the concept of integrating science and practice has been defined

in different ways in the academic literature (Zachar & Leong, 2000). Multiple

interpretations of what integration entails relate to the specific philosophy of

science academicians subscribe to. With regard to the philosophy of science

informing the nature of integration, there are two primary approaches evident in the

literature. First, integration is defined using the natural science approach; second,

integration is defined using the human science approach. When the scientist-

practitioner model was instituted, the natural science approach in psychological

science was dominant and, consequently, programs adopted the natural science

approach to integration. For example, Thorne's description of integration in 1947

(two years prior to the inception of the scientist-practitioner model) describes a

natural science approach to integration. Thorne described integration as (Hayes, et

al. 1999):

> The increasing application of the experimental approach to the
> individual case and to the clinician's own 'experience'. Ideally,
> diagnosis (description) and treatment of each individual case may be
> regarded as a single and well-controlled experiment. The treatment
> may be carefully controlled by utilizing single therapeutic factors,
> observing and recording results systematically, and checking through
> the use of appropriate quantitative laboratory studies (p.3).

The above description closely resembles the notion of natural science-based

practice wherein psychotherapy practice is understood as an extension of the

positivistic-based scientific experiment in the clinical setting. Extending the

positivistic scientific endeavor in psychological practice, thus, defines the nature of integration.

The human science approach, on the other hand, conceptualizes the mutuality of science and practice such that, "psychological science as a human practice and psychological practice as a human science inform each other" (Hoshmand & Polkinghorne, 1992). The human science approach accords equal legitimacy to the practical reasoning used by practitioners and employs practitioners' contextual understanding and their personal knowledge to inform psychological research. Human science approach uses qualitative methods that mirror the practitioner's cognitive processes. Such an approach defines integration of science and practice as constituting practitioner-based inquiry that includes the experientially based body of practitioner knowledge as informing research (Hoshmand, 1991; Hoshmand & Polkinghorne, 1992). Thus, human science-based practice would attempt to capture the nature of *praxis* and *phronesis*.

It is also important to note that although the natural science and human science approaches are identified as the two primary competing models of science and practice, psychologists subscribe to a wider range of philosophies of science. Thus, the varieties of interpreting the scientist-practitioner are much wider. According to Page (1996), a scientist-practitioner could adopt an inductive or empirical, falsificationist, a paradigmatic, an anarchistic, and a variety of other philosophies of science to define integration of science and practice (p.105). For

example, an empirical scientist-practitioner would begin by collecting data in order to determine universally generalizable statements about a particular disorder and its treatment. On the other hand, a falsificationist scientist-practitioner "would not begin with data, but with a theory of the process and outcome of treatment. In order to put the validity of the theory to the test, data would be collected in an effort to falsify the theory" (p.105). Thus, the scientist-practitioner could differ in his/her approach to integration, depending on the particular philosophy of science he/she subscribes to.

In addition to the range of conceptualizations of the scientist-practitioner model, the historical influence of the VA in shaping the nature of doctoral training played a significant role in the implementation of the scientist-practitioner model. As mentioned in the review of the literature, the VA created an alliance between the clinical work being conducted in hospitals with scientific inquiry taking place in universities (Halgin & Murphy, 1995, p.435). Prior to the inception of the scientist-practitioner model, professional training of psychotherapists took place in various institutional settings where psychologists practiced (Mitchell, 1977). In fact, no formal relationship existed between the academy and professional training (p.89). But, the Boulder Conference participants decided to implement the scientist-practitioner model through a PhD degree granted by academic institutions, wherein psychological science would inform psychotherapy practice as part of the integrative task.

The decision to train scientist-practitioners in academic institutions has overlooked the entrenched values of the academy as a research institution. Consequently, psychotherapy training and integration of science and practice, as part of implementing the scientist-practitioner model, continues to be a problem. According to Ellis (1992):

> The PhD degree was (and is) a research- and academically oriented degree; its recipients were trained to teach and do research, and the major aim of graduate programs was the training of their students so that they could qualify for academic positions. Research, publications, and the development of scientific psychology were major goals of faculty involved in graduate training, and the values associated with these goals were carefully and jealously transmitted to the next generation of psychologists, who were instructed to carry the torch. Students and faculty who deviated substantially from this view of the psychological world were viewed suspicion; occasionally they were seen as disloyal or as second-class citizens. Faculty who showed excessive interest in professional or applied affairs were frequently excluded from the department power structure. Similarly, students who indicated that they wanted to do applied work rather than teach in universities could be made to feel either disloyal or even incompetent. The value system of the academic-research-experimental psychologists prevailed largely intact until about 1960 and is still dominant in many PhD graduate programs (p.570).

Thus, the combination of hegemony of natural science methodologies coupled with doctoral training in university settings, that values research (specifically positivistic research) more than applied practice, has resulted in continuing challenges in implementing the scientist-practitioner training model.

The espoused theories of the scientist-practitioner is based on information gathered from self-studies, program website information, program handbooks, and

relevant statements from training directors' interviews. All the programs in the collective case study espouse the reciprocal relationship between science and practice, as justifying their adherence to the scientist-practitioner model. University of Hume adheres to the scientist-professional model but emphasizes the integration of science and practice as a training goal as well. All programs, however, emphasize a positivistic scientific approach to psychotherapy practice while describing the reciprocal relationship between science and practice. I termed this approach as natural science-based practice. I briefly describe the various conceptual definitions of the scientist-practitioner model, programs in the collective case study espoused, before further discussing their espoused theories.

University of Aristotle's counseling psychology program's self-study states that the integration of science and practice is conceived as a "blending of science and practice" through the "reciprocal relationship between science and practice" (SSAristotle, p.4). A closer examination of the program's strategies of integration revealed a commitment to integration using the notion of natural science-based practice.

University of Plato's program website provides a detailed description of its goals in doctoral training stating that its first goal is to "educate counseling psychologists who can think scientifically in both research and applied settings" (Counseling Psychology Program; Website). The training director of the program espoused the above training goal and added that she views scientist-practitioners as

professionals who engage in research and psychotherapy practice. Her description defines integration as doing research and practice simultaneously.

University of Hegel training program defines integration as akin to application of psychological research in psychotherapy practice. The training goals involve training students in employing, conducting, and utilizing research findings in practice (SSHegel, p.2). The training director, although critical of official training-related terms, defined integration of science and practice as balancing the realities of clinical work with knowledge gained in the research arena (IHegel, ll.141-146). He also acknowledged that the program typically provided parallel training in research and psychotherapy practice and he viewed integration as a process wherein students think critically and preserved a scientific attitude in psychotherapy practice.

University of Heidegger training program describes the scientist-practitioner as a professional competent in consuming and generating research in applied areas as well as in formulating research (SSHeidegger, p.7). The training director espoused this view and emphasized the quality of scientific skepticism and using critical thinking in research and practice (IHeidegger, ll.1-19). Both descriptions emphasize the notion of natural science-based practice. The training director also described the scientist-practitioner as a professional who conducts research and engages in psychotherapy practice as one of the multiple definitions of the scientist-practitioner.

The University of Socrates training program defines the scientist-practitioner as "the practice of the profession [that] involves both being informed by and contributing to scientific knowledge" (SSSocrates, p.4). The training director used the term "blurring of boundaries between science and practice" and emphasized the importance of research being meaningful in the clinical context and clinical work being informed by scientific research (ISocrates, ll.1-14, 90-96).

University of Hume training program adopted the scientist-professional training model, which does not appear to be substantively different from the scientist-practitioner model. The main difference between the two training models relates to the explicit statement that the scientist-professional model trains students to function as health service providers in addition to being competent in various aspects of research. However, the scientist-professional model conceptualizes integration of science and practice as clinical work being informed by positivistic scientific knowledge (SSHume, p.4). Such a concept is similar to the oft-repeated theme of natural science-based practice that is evident in other scientist-practitioner training programs in the collective case study. The training director also espoused this concept by emphasizing the importance of professionals becoming consumers and producers of research and approaching psychotherapy practice from a scientific stance (IHume, ll.1-11).

According to the University of Descartes self-study description of the scientist-practitioner model, "Science and the professional practice of counseling

psychology are conceptualized as interdependent processes where science influences professional practice and, in turn, is influenced by the practice of psychology and demands from society to meet contemporary public health needs" (SSDescartes, p.9). The training director stated that integration of science and practice is a systematic approach to research and psychotherapy practice, which is taught through various strategies of integration such as the curriculum structure, faculty modeling, supervision, and classroom discussion (IDescartes, ll.166-183). All the strategies mentioned emphasize the importance of positivistic scientific thinking while engaging in psychotherapy practice.

University of Husserl describes the scientist-practitioner as a professional who has "the ability to integrate science and practice, with science informing practice and vice versa" (SSHusserl, p.8). The training director described integration similarly and included the emphasis on training in ESTs and focus on applied research as ways of integrating science and practice, a description similar to natural science-based practice (IHusserl, ll.188-200).

The espoused theories of the scientist-practitioner model relates to how different programs in the collective case study define the scientist-practitioner and integration of psychological science and psychotherapy practice. A cursory examination of the above mentioned conceptual definitions reveals two consistent themes across all the eight programs. First, all programs acknowledge the reciprocal relationship between science and practice which is described by various terms such

as "reciprocal relationship", "blending of science and practice", "science and practice as interdependent processes", and other similar descriptions. Second, all the programs in the collective case study emphasize the importance of approaching psychotherapy practice with a scientific stance. Typically, this emphasis relates to the importance of thinking scientifically, having critical thinking skills or scientific skepticism, or having a scientific stance in research and practice. Scientific thinking uses the tenets of positivistic science.

Scientist-practitioner programs are described as operating on science-practice continuum where in programs vary in their emphasis on science and practice in doctoral training (Neimeyer & Diamond, 2001; Stoltenberg, et al. 2000). The science-practice continuum is evident in programs in the collective case study as well. For example, University of Aristotle espouses natural science approaches to psychological science and psychotherapy practice and offers doctoral training in congruence with its espoused theories. The program is predominantly research oriented as described in the case description in the previous chapter. Universities of Hegel and Heidegger are in the middle position of this continuum. Both these programs are research oriented but they are relatively more open to methodological diversity in comparison to other programs in the collective case study. In addition, both programs concede the differences in the nature of research and practice activities. University of Heidegger describes psychotherapy training as, "grounded in the assumptions that there is both (1) a "common clinical wisdom" that guides

practice and (2) common factors (such as certain relationship qualities; client

expectations; and so on) that transcend particular theory" (SSHeidegger, p.16).

However, the training director described integration of science and practice using

the notion of natural science-based practice. University of Socrates, on the other

hand, equally emphasizes the importance of practice informing research or practice-

based science. For example, "students are encouraged in practica to generate

researchable questions from their clinical work" (SSSocrates, p.21). In addition, the

self-study states that (SSSocrates):

> ... while students are in their first counseling practicum, they are
> also enrolled in the year-long seminar on counseling theory,
> research, and practice. This seminar, which serves as the prototype
> for the recent Division 17 Project to Integrate Science and Practice,
> provides a structure opportunity (a) to integrate theory, research, and
> practice (including historical, sociological, and political factors
> influencing the emergence of theoretical and research paradigms),
> (b) to study alternative methods of inquiry for counseling research
> (from comparative efficacy research to qualitative methods), and (c)
> to review and analyze existing psychotherapy research from the
> perspectives of conceptual and methodological rigor as well as
> relevance to practice (p.27).

The above description from the University of Socrates' program self-study reveals

an emphasis on generating clinically relevant research. In addition, core faculty

members conduct research using qualitative research methods and areas of research

include developing an understanding of practitioners' experiences. For example,

one faculty member's recent publication is about experiences of psychotherapists

and another study uses the narrative/constructionist approach to understand a

specific kind of psychotherapy. (Faculty and Staff, p.4; Website). Thus, University of Socrates leans toward the practice end of the continuum, both in terms of the equal legitimacy accorded to psychotherapy practice along with research as well as using notions of practice-based science.

I define integration of psychological science and psychotherapy practice as a reciprocal relationship such that psychological science informs psychotherapy practice and psychotherapy practice informs psychological science. The reciprocity, however, functions in a manner where the knowledge generated through research has meaningful utility in psychotherapy practice and practitioners are in a position to meaningfully critique existing research in order to inform future research. With the exception of University of Socrates, all the programs in the collective case study espouse the reciprocal relationship between psychological science and psychotherapy practice, but with an emphasis on natural science-based practice. The conceptual basis of psychological science and psychotherapy practice and how the goals of integration are implemented is the focus of the next subsection on theories-in-use of the scientist-practitioner model.

Theories-in-use of the Scientist-Practitioner Model

Theories-in-use of the scientist-practitioner model emerge from multiple sources. The strategies of integration, training directors' views on why integration is

problematic, and internal and external factors that influence training all contribute to programs' theories-in-use. The case descriptions in the previous chapter delineated these categories for purposes of clarity. I integrated information from all these categories in this subsection in order to describe programs' theories-in-use. Such an analysis will provide answers to the three research questions posed in the third chapter about how programs interpret and implement the scientist-practitioner training model and identify various influential factors that play a critical role in doctoral training.

Three major theories-in-use emerge from comparative case analysis. First, no clear consensus exists regarding what *integration* entails. Second, the reciprocal relationship between science and practice typically manifests as a separation of science and practice. Third, various factors – administrative, financial, and academic – contribute to the development and maintenance of theories-in-use.

Conceptual Definitions of Integration

Espoused theories of the scientist-practitioner model uniformly acknowledge the reciprocal relationship between psychological science and psychotherapy practice. If one merely read the different self-studies, it would create the impression that all the eight programs are practically identical in their conceptual approaches to integrating psychological science and psychotherapy

practice. However, programs tend to define the reciprocal relationship between science and practice in different ways. There are four different approaches to understanding the integration of psychological science and psychotherapy practice. First, integration is defined as a way of *thinking* in research and psychotherapy practice. Second, integration is viewed as *doing* research and psychotherapy practice. Third, integration is understood as having a *knowledge-and skill-base* in research and psychotherapy practice. Both these definitions lend themselves to parallel training in research and psychotherapy practice, with no integrative aspects. Fourth, integration is defined as *application* of positivistic research findings in psychotherapy practice.

Although programs in the collective case study conceptualize the integration of science and practice differently, all the programs tend to adopt similar strategies of integration. These strategies typically include the curriculum structure where students take research and practice-related coursework or practicum every semester, faculty mentoring, active participation in pre-dissertation research, emphasis on developing critical thinking skills in research and practice, and comprehensive examinations or completion of doctoral portfolio as the evaluative component. Thus, an initial examination of espoused theories would create the impression that all programs espouse integration of science and practice and use similar strategies of integration. However, an in depth examination reveals that integration of science and practice is approached in different ways by programs. Consequently, the

implementation of these strategies of integration would create different learning experiences for students. I now discuss the four different definitions of integration used by programs in the collective case study.

Four programs – Universities of Heidegger, Socrates, Hume, and Descartes – define integration of science and practice as entailing a way of thinking in psychological research and psychotherapy practice. Integration defined as a way of thinking involves using skills of critical thinking, adopting a positivistic scientific stance, and having an attitude of scientific skepticism while conducting research and engaging in psychotherapy practice.

Universities of Plato and Heidegger define integration as doing research as well as practice. Most programs require students to actively participate in pre-dissertation research, typically with faculty research teams, and engage in psychotherapy practice through the practicum sequence. Thus, a scientist-practitioner is defined as a professional who conducts research and engages in psychotherapy practice. The programs do not explicitly question if the philosophy of science in research and the philosophy of psychotherapy practice in clinical work are congruent. Thus, a scientist-practitioner, in theory, could conduct positivistic, quantitative research and also approach therapy from an existential theoretical orientation, which are two mutually incompatible approaches to understanding the human subject.

Universities of Plato and Hegel define integration as having the competency or having a knowledge- and skill-base in order to conduct research and engage in psychotherapy practice. Similar to the previous approach, this approach lends itself to parallel training in research and practice because the conceptual approach to research and psychotherapy practice might now always be compatible.

Application defined, either as applying scientific thinking or utilizing scientific knowledge in psychotherapy practice, is the fourth definition of integration. All the programs in the collective case study espouse the notion of applying natural science-based practice as defining integration.

Thus, the integration of psychological science and psychotherapy practice is conceptualized in four different ways by the programs in the collective case study. The four approaches of thinking, doing, knowing, and applying the positivistic scientific endeavor in psychotherapy practice define integration. These four approaches are interrelated and programs differ regarding what aspect of these four activities they emphasize during doctoral training. However, there is no clear consensus regarding a single acceptable definition of integration. The next subsection analyzes how these four different conceptualizations of integration manifest as a separation of science and practice rather than as an integration of science and practice.

Manifestation of Separation of Science and Practice

The first conceptual definition of integration of psychological science and

psychotherapy practice is the notion that psychotherapy practice should be

approached scientifically and training involves teaching students the ability to think

scientifically while conducting research as well as in psychotherapy practice. As

mentioned previously, scientific thinking involves utilizing the tenets of positivistic

science and, hence, psychotherapy practice is viewed as an extension of the

scientific experiment conducted in the academy. I quote some relevant excerpts

from interviews with the training directors. According to the training director of

University of Heidegger (IHeidegger):

> I think there are two other notions of the scientist-practitioner – one
> will be that people, the graduates are good consumers of research,
> use critical thinking so that as they enter practice, they are able to
> use their judgment well, I think the whole notion of skepticism
> defines science and as a practitioner if they adopt that skepticism, I
> think it helps to question "where are the data?" I think the other
> sense of it is that the way of thinking as a scientist that gets
> translated into the practitioner side. So you get hypothesis testing,
> significance testing, so you gradually test all sorts of hypotheses
> about your clients and gradually build a theory. So those two main
> ways that scientist-practitioner applies. I think there is another sense
> that they want to see data and a lot of that is through stat [statistics]
> method courses, how to make sense of the literature, and also there is
> also the notion that simply taking stat [statistics] courses changes
> our view of problems. To some extent that models how faculty
> model their thinking in their courses and how they link it to existing
> literature to find answers (ll.6-18).

Similarly, the training director of the University of Socrates' doctoral program emphasized the importance of scientific thinking in informing psychotherapy practice. According to her (ISocrates):

> what we try to do is try to say that we are trying to blur the boundaries between science and practice so that a practitioner uses scientific, logical reasoning and develops their own hypotheses, tries to disconfirm those hypotheses but also tries to integrate the literature into their treatment, using evidence-based intervention, not just interventions but also in understanding clients from an empirical basis (ll.5-9).

University of Hume's program training director also emphasized scientific thinking and she described the concept of the scientist-practitioner in the following manner (IHume):

> It is mostly a philosophy that we embrace. We want our students to be consumers of research and we would also like them to be producers and they seem to do an excellent job of that. But the emphasis is that regardless of what profession they go into, that they approach it from a scientific stance (ll.8-11).

Finally, the University of Descartes training director described the scientist-practitioner by sharing her training history and how she learned to integrate research and practice (IDescartes):

> I sort of think back to my own history in my master's program I didn't learn a thing about science but I learned a great deal about counseling skills. It was a fabulous program and I took a lot of counseling courses in gestalt and various kind of therapies and I was never taught really how to look but it was more it feels good to do it rather does it do anything. And in my Ph.D. program that was in … State, I just really learned to think more critically about what was I

was doing and the techniques and approaches to knowing and what we know about these interventions that validate it as a good thing to do. And I think we do that really well in our program, not so much plan-fully but we all sort of think that way (ll.175-183).

As I mentioned previously, all the programs adopt a positivistic stance in research and the assumption is that the tenets of positivistic science can be extended to psychotherapy practice. A practitioner's systematic approach in psychotherapy, on the other hand, is based on personal experience conducting psychotherapy, the constraints of the clinical setting, and informed by the dynamics and demands of the therapeutic relationship. Thus, the systematic approach of the practitioner is not always conducive for positivistic scientific thinking. Thus, the goal of using positivistic thinking as defining integration typically manifests as a separation of science and practice.

Integration of psychological science and psychotherapy practice is also conceptualized as doing research and practice. Such a definition lends itself to parallel training in psychological science and psychotherapy practice because students could conduct research and engage in psychotherapy practice, even if research and psychotherapy are based on different models of human behavior. I quote some relevant excerpts from interviews where training directors describe this particular definition of the scientist-practitioner. University of Plato training director stated that an ideal faculty mentor should be actively involved in research

and practice in order to function as role model of a scientist-practitioner. According to her (IPlato):

> SR: So would you consider yourself a scientist-practitioner?
>
> TD: I definitely would be. I am an academic – I teach, I research and I always had a private practice from the day I graduated…. I was definitely sort of of the mindset that we need somebody who can do both (ll.178-181; 244-245).

Similarly, University of Heidegger's program training director stated that, "There are multiple definitions of the scientist-practitioner. One version has to do with doing practice and doing research…" (IHeidegger, ll.4-5).

Once again, programs and training directors do not question the kind of research and psychotherapy practice a professional might engage in. It is possible for a professional to conduct positivistic research and yet subscribe to an integrative orientation in psychotherapy practice, two mutually incompatible approaches to understanding the human subject.

The third definition of the scientist-practitioner focuses on acquiring knowledge and skills in research and psychotherapy practice respectively. Thus, having a knowledge- and skill-base in psychological science and psychotherapy practice is viewed as integrative in nature. For example, among the various goals of training in the University of Plato training program, one of the goals attempts to "educate Counseling Psychologists who can think scientifically in both research and applied settings" and requires students to "Acquire a wide range of professional and

psychological knowledge (Counseling Psychology Program; Website). Once again, whether the knowledge and skills taught are based on similar assumptions of human behavior is not questioned.

Finally, as described in the espoused theories of the scientist-practitioner, the eight programs uniformly define integration as the application of scientific thinking and scientific knowledge in psychotherapy practice. I quote relevant excerpts from the cases on the application of psychological science in psychotherapy practice or natural science-based practice before analyzing the problem of clinical relevance of research in greater detail.

The University of Aristotle's program self-study described various strategies of integration including the program's practicum training goals, which espouses the notion of application. According to the self-study, (SSAristotle):

> ... during the first practicum that is traditionally completed at the University Counseling and Consulting Services (UCCS), students are required to demonstrate increasing competence in the application of counseling theory to practice, discrimination in selection of theory, and increasing awareness of their own preferences for models of counseling (SSAristotle, p.10).

Among the five goals of the practicum seminars, one goal is to "(a) to teach students to integrate scientific and scholarly literature with their current practice experiences" (p.12). The University of Plato program training director acknowledged that integration during training is not always successful and frequently takes place in the form of parallel training. Her description of practicum

supervision includes the notion of application, which is not as unilateral as some

other programs' conceptualizations of integration. Encouraging clinical research

indicates an attempt to implement practice-based science as well (IPlato):

> TD: That is a multi-million dollar question. Usually, they say they
> integrate and they teach some science and they teach some practice. I
> wouldn't say that every faculty does it successfully but I think, for
> example, faculty who teach practicum will sometimes become
> research studies, efficacy studies about things. There is something
> called the Clinician's Research Digest and I know that some faculty
> have shown that to their students in their practice courses and in the
> research classes, there is discussion of and encouragement of doing
> clinical research and that kind of thing. And we have students who
> do that kind of thing (ll.74-81).

I quote a similar comment about practicum supervision by the University of Hegel's

program training director (IHegel):

> TD: Again, when we supervise practicum we do look up journals
> and look up literature on this and that and then some of our research
> courses we bring up real life examples. But I think there is
> integration throughout like that. When I supervise practicum and we
> talk about a client and as we are going, we might integrate my
> knowledge of both literature and experience. It is more of my belief
> that when treating things like anxiety and depression, there are things
> that are out there that can help this individual and there are times
> when I recognize that the research on the subject is not very useful. I
> think there are lots of relevant things like the stuff that Barlow has
> done that I will use (ll.363-371).

The self-study description of the scientist-practitioner in the University of

Heidegger included the notion of application and the self-study states that the goal

of doctoral training is to train a "professional who is able (upon review of theory

and research) to tailor, implement, and evaluate clinical applications of such theory and research" (SSHeidegger, p.7).

University of Socrates' training program also emphasized the importance of science-based practice using the definition of application. However, compared to the other programs in the collective case study, the program attempts a bilateral approach to application wherein insights gleaned from clinical work is also used to inform research. According to the self-study, "…training is undertaken in both intervention methods and scientific inquiry, and in which the practice of the profession involves both being informed by and contributing to scientific knowledge" (SSSocrates, p.4). On the other hand, the University of Hume's program self-study clearly articulates a particular notion of application – application of positivistic research findings and a scientific approach defined by positivism in clinical practice. The self-study states that one of its training goals is help students, "develop the capacity to apply data collection and hypothesis testing to the diagnostic and treatment planning process in clinical work, psychological assessment, and supervision" (SSHume, p.4).

A similar theme is evident in the description of practicum supervision by the training director at University of Husserl (IHusserl):

> TD: I think we do a pretty thorough job of integrating the two. I think there are two main components to that. One is clearly we have an emphasis on empirically or evidence-based treatments. So in our pre-practicum, in our practicum, in our advanced practicum, in our theories courses, we are always urging students to look at the data,

see what the data is telling you about these particular issues, with this particular type of client or both. So, for example, in the advanced practicum when they do their case presentation, they also have to talk about the empirical [*sic*] research that supports what they are doing with the client (ll.194-200).

Programs, however, subscribe to a positivistic model of science and research while psychotherapy training involves an exposure to multiple theoretical orientations. Although the additional emphasis on ESTs lends itself to positivistic tenets, it is unclear if students solely adopt ESTs as their approach to psychotherapy practice. It is possible that students might experience a separation of science and practice if their model of psychotherapy does not fit the positivistic models of psychological science. As mentioned previously, separation of science and practice takes place because positivistic scientific thinking uses the assumptions of theorizing while practical thinking in psychotherapy practice uses the assumptions of *praxis*.

I believe for effective integration of science and practice to take place, science-based practice needs to be based on human science-based practice and complemented with *practice-based human science*. The latter involves research that is informed by the realities of the clinical context. In addition, practitioners should be in a position to critique research and facilitate further refinement of future research. Conceptual definitions in the self-studies uniformly support the reciprocal relationship between science and practice, as discussed in the espoused theories of the scientist-practitioner. However, theories-in-use reveals a unilateral approach in

defining integration. University of Socrates was the single exception to this pattern in the collective case study. This particular program explicitly espouses the importance of practice-based science in addition to science-based practice in its self-study. In addition, doctoral training involves encouraging students to generate and conduct research that is informed by the clinical context. Programs in the Universities of Heidegger, Hume, Descartes, and Husserl appear to attempt the task of practice-based science by emphasizing applied research in doctoral training. However, most applied research is typically quantitative in orientation and has limited application in psychotherapy practice.

The review of the literature in chapter two revealed that the clinical relevance of research is problematic because the methodological approach in psychological science did not generate clinically relevant research findings that practitioners could use in their psychotherapy practice (Barlow, 1981a, 1981b; Drabick & Goldfried, 2000; Kanfer, 1990; Persons; 1991).

The theories-in-use of psychological science and the scientist-practitioner model in the programs examined in the collective case study reveals that most programs adopt a positivistic model of psychological science and research. This model of science and research is decontextualized from the clinical context and practitioners find research findings of limited or no clinical relevance. However, programs in the collective case study do not question the possibility that natural science-based practice might not be congruent with practical reasoning used by

practitioners. Neither do programs acknowledge that positivistic psychotherapy research might have limited clinical relevance, a limitation that has been repeatedly identified in the academic literature.

Morrow-Bradley & Elliott (1986) listed the possible causes of the research-practice gap in order to explain why practitioners do not utilize psychotherapy research. These possible causes include issues such as research questions are not clinically relevant, variables selected for study are not representative of clinical reality, the populations are inadequately described and selected, data analysis overemphasizes statistical information, and researchers make little attempt to communicate their findings in a manner for psychotherapists can use (p.188). These possible causes can be encapsulated as issues relating to methodological approach used in studying psychotherapy practice.

Goldfried & Wolfe (1996) stated that one reason for the problem of clinical utility of research is due to "a gap between the global nature of research findings and the usually specific nature of clinical dilemmas" (p.1011). This gap is created because of how research is conducted using experimental designs. According Drabick & Goldfried (2000):

> The group design that characterizes this research typically employs the application of one "pure form" theoretical approach, which then is compared to another approach in the treatment of a specific problem (Benson, 1992). This research design, however, does not reflect accurately the uncontrolled individual case application that oftentimes characterizes clinical practice (p.331).

Thus, the approach to knowledge generation and the kind of knowledge generated are of limited utility to practitioners. Hayes, et al. (1999) concluded that the primary reason for the science-practice gap is not because the goal of integration is unattainable but "rather the inability to develop the tools to implement the idea in a practice context where use of these tools is essential" (p.16). Consequently, practitioners prefer to use different kinds of knowledge base to inform their clinical practice (Barlow, 1981b; Elliott, 1983; Luborsky, 1972; Morrow-Bradley & Elliott, 1986; Orlinsky & Howard, 1978; Parloff, 1980; Polkinghorne, 1999; Rausch, 1974; Rennie, 1994; Sechrest, 1975; Ward, 1964). Practitioners typically rely on personal experience in conducting psychotherapy, personal theories of human behavior, clinical case studies, and clinical workshops to inform their psychotherapy practice.

Finally, separation of science and practice also takes place during supervision. Core faculty members emphasize establishing a positivistic scientific basis for psychotherapy practice during supervision. It is not clear if adjunct faculty members and field supervisors also share the same philosophy of psychotherapy training and supervision. Programs assume that multiple supervisors approach psychotherapy training and supervision in a uniform manner, which contributes to another theory-in-use.

In most programs, core faculty members supervise beginning-level practicum and adjunct faculty members and field supervisors provide supervision for subsequent advanced-level practica and field placements. One training director

(University of Hegel) acknowledged that field supervisors approach clinical work

and supervision differently from core faculty members wherein the former tended

toward a more eclectic and experiential approach. He also stated that core faculty

members tended toward a cognitive-behavioral orientation, which he described as a

"simpler view of life" (IHegel, 1.185). A lack of clear understanding of how various

supervisors differ in their approach to supervision and psychotherapy training was

not acknowledged. It was assumed that adjunct faculty members and field

supervisors were uniformly effective in imparting necessary psychotherapy training

and supervision, that is congruent with the program's training philosophy.

However, this is not the case. According to Binder (1993):

> Because empirical data are lacking, any discussion about problems
> with the supervisory process is speculative and must be based upon
> personal experience and relevant clinical literature. Nevertheless,
> such problems are sufficiently critical to the therapy training
> endeavor to warrant even speculative discussion. It appears that an
> identification process would occur gradually and the time allotted for
> supervision during formal training may not provide the trainee
> sufficient exposure to the supervisor for adequate consolidation of
> his or her learning experiences. On the other hand, relatively limited
> exposure to several supervisors (a common situation in most clinical
> training programs) may result in a confusing picture of partial
> identifications with diverse theoretical and technical approaches
> (Dewald, 1987) (p.305).

Programs do not question the possibility of fragmentation of psychotherapy

training as a result of multiple supervisors training students in psychotherapy

practice. Instead, programs acknowledge core faculty members as primary mentors

in the scientific endeavor and adjunct faculty members and other field supervisors

serving as role models in the clinical endeavor. According to the self-study of the University of Aristotle's program (SSAristotle):

> The Budgeted Faculty (Core Faculty) provide the preliminary influence vis-à-vis the scientist component of the scientist-practitioner model of a counseling psychologist. The Adjunct and Clinical Adjunct Faculty and other Contributors are all involved in the training and supervision of our students. They demonstrate for students what it means to be a practicing counseling psychologist in settings within and outside the University (p.16).

However, the implicit value placed on psychological science over psychotherapy practice is revealed in the University of Hegel training director's description of adjunct faculty members in the program. He stated, "I think, if anything, may be adjunct faculty feel like second class citizens and don't feel like they are faculty but they probably feel many times that they are more competent in practitioner stuff than faculty" (IHegel, ll.346-348). Programs' strategy of relying on core faculty members for research mentoring and adjunct faculty members and field supervisors for practice-related mentoring serves to separate science and practice rather than integrate the two.

Thus, defining integration using the approach of natural science-based practice and the possible differences in how core faculty members and adjunct faculty members view psychological science, psychotherapy practice, and integration contribute to a separation of science and practice.

Factors influencing Doctoral Training

Program training directors frequently acknowledged that integration of science and practice does not always successfully take place during training and described the program training as providing parallel training in science and practice. They also acknowledged various factors that influenced the training process. Internal factors, within the departments where the programs are housed, included core faculty members' bias favoring positivistic research and research per se over psychotherapy practice, lack of an internal department clinic for purposes of psychotherapy training, students expressing greater interest in psychotherapy practice rather than research, and programs' housing in schools of education. External factors outside the department also influenced training. These factors included the influence of managed care in shaping the future job market for students and consequently doctoral training, the pressure students experience to successfully match in a pre-doctoral internship site, the academic pressures placed by the university system, and the influential role of APA due to the accreditation process.

Based on the data collected in the collective case study, I identify two main factors influencing doctoral training. The influential role of academic institutions in shaping doctoral training and programs' struggle to preserve their administrative housing in the school of education, both influence doctoral training significantly. I do not focus on the second factor because programs' fit with the school of

education relates to a problematic match between the professional identity of counseling psychologists and schools of education's policies and goals. The problem of fit, although important for doctoral training, does not relate directly to the interpretation and implementation of the scientist-practitioner model. Specifically, it does not relate directly to how programs approach the task of implementing the goals of integration.

Programs that espouse the scientist-practitioner training model and function in academic institutions struggle to reconcile the goals and values of the university institution with that of the training model. Universities are committed to the pursuit of academic endeavors – generating research and securing research grants. Both these activities add to the prestige and financial health of the academic institution. This is especially the case in Research I universities where many accredited counseling psychology doctoral programs are currently housed. However, the scientist-practitioner training model aims to integrate science and practice. Thus, doctoral training includes a practice component wherein students are training in the practice of psychotherapy. Psychotherapy training does not actively contribute to the academic pursuits of the academic institution. Psychotherapy training, as part of implementing the scientist-practitioner model, is difficult in academic institutions (Ellis, 1992; Halgin & Murphy, 1995, p.435; Mitchell, 1977). Thus, programs tend to recruit core faculty members who are primarily researchers and who operate with a clear preference for research and commitment to producing research. Core faculty

members' preference for research, particularly positivistic research, has already

been discussed in the previous subsection on theories-in-use in psychological

science.

Faculty recruitment is, thus, selective in attracting professionals with a clear

investment in research production. While discussing the various problems in

integrating science and practice, a few training directors acknowledged that

implementing the scientist-practitioner training model in an academic setting

contributed to the separation of science and practice. For example, the University of

Plato training director stated (IPlato):

> SR: Why do you think integrating science and practice has been so difficult
> for the whole field as such?
>
> TD: I think it goes back to the role model issue we talked about. When our
> faculty members are hired, they are hired for their interest in research and
> they are the ones who teach students and so I think it is really hard because
> you don't have mentors who are doing both. And their mentors in
> internships are practitioners and they get one or the other all the time. So I
> think it is really hard because there are not many people who can or want to
> do both.
>
> SR: So when you look at your program, how would evaluate your program
> in terms of integration?
>
> TD: Honestly, we have got great practice training, we have got great science
> training and I am not really sure that we integrate actually. We do some
> integration but I don't think it is all weaved well together. I think of it as two
> overlapping circles then our programs overlap more than most programs but
> there are not completely overlapping. Does that makes sense (ll.204-221)?

However, programs' overemphasis on research can ironically have a negative

impact on research training if students perceive tenure-track faculty members as

being overburdened or too focused on a particular area of research (IHume):

> SR: So you are saying that when programs are much more science-focused
> or publication focused, especially in terms of faculty, that it is so time and
> energy consuming that it doesn't pass on as a positive attitude toward
> research to students?
>
> TD: I think so. Because the student ends up, either they end up surely
> adopting the research of that faculty member and that approach to research
> and they don't expand beyond that or they externalize as being "this is
> something I am going to do within this time frame of my career but that is
> it". So they don't internalize the fact that this might be something they
> might really be interested in and grow from that point (ll.476-484).

Implementing the scientist-practitioner model in academic institutions

creates clashes of values, priorities, and cultures. These clashes relate to the

different worldviews held by academic researchers and practitioners. Psychotherapy

training is a significant part of implementing the scientist-practitioner model but it

is not an important or valued aspect of the academic endeavor. Thus, balancing the

demands of the training model with the demands of academic institutions will

continue to be a challenge.

Summary of Comparative Case Analysis

The goal of this dissertation study was to examine how accredited

counseling psychology doctoral programs interpret and implement the scientist-

practitioner training model in multiple ways. The theoretical literature relating to the scientist-practitioner model locates ambiguities in several areas: (a) the extent to which science or practice should be emphasized (Neimeyer & Diamond, 2001), (b) the appropriate definition of psychological science (Hoshmand & Polkinghorne, 1992; Howard, 1985, 1993; Kanfer, 1990; Klien, 1995; Linden & Wen, 1990; Page, 1996; Polkinghorne, 1984; Rychlak, 1998; Ussher, 1991), and (c) the functional challenges in integrating science and practice in actual training programs (Bernstein & Kerr, 1993; Drabick & Goldfried, 2000; Frank, 1984; Goldfried, 1984; Halgin & Murphy, 1995, p.441; Hayes, et al. 1999, p.11-12; Hoshmand, 1991; Sprinthall, 1990).

In order to examine how programs varied in their training endeavors, I conducted a collective case study of eight accredited counseling psychology doctoral programs that espouse the scientist-practitioner training model. One program in this collective case study adopted the scientist-professional training model. This model was deemed not to be substantively different from the scientist-practitioner model. The scientist-professional training model also aims to integrate science and practice in doctoral training. I posed three research questions that I sought to answer through the collective case study – how do programs conceptualize the scientist-practitioner model, what are the different strategies of integration, and what are the influential factors that impact training?

Data was collected from multiple sources – program self-studies, program website information, student handbooks, course syllabi, interviews with current training directors, and dissertation abstracts since 1997. I analyzed the collected data using the template of theories of action and differentiated between programs' "espoused theories" and their "theories-in-use". Espoused theories relate to programs' official statements of what they propose to do in doctoral training, while theories-in-use relate to what I deemed to be the actual implementation of the training goals.

The comparative case analysis revealed that most programs espouse the importance of methodological diversity in research training. The theories-in-use of psychological science revealed that programs, that espouse methodological diversity in research training, effectively train students in positivistic psychological science and quantitative research methods only. Core faculty members are also tacitly biased against other approaches to psychological science and research and they view qualitative research methods as not empirical and as having less scientific rigor. They value knowledge generation primarily through using natural science methodologies. The bias against non-positivistic research methodologies is evident in the relatively minor focus placed on research training in qualitative research methods. Programs typically offer one elective course in qualitative research methods, which is not sufficient for training students to become competent in the use of qualitative research methods. Faculty research teams provide student mentoring

primarily in quantitative research. In addition, majority of students continue to produce positivistic research-based dissertations.

Programs espouse psychotherapy training using three strategies. First, core faculty members emphasize establishing scientific basis for psychotherapy practice. For this purpose, they adopted the approach of natural science-based practice. Second, programs educate students in multiple theoretical orientations and ESTs. Third, core faculty and adjunct faculty members (including field supervisors) supervise students during psychotherapy training. Thus, multiple supervisors are influential in the training process.

Two theories-in-use of psychotherapy practice emerged in the comparative case analysis. Because core faculty members use natural science-based practice as the sole template for psychotherapy training, they do not engage in human science-based practice or conduct research based on practitioner-based inquiry. In the academic literature, both human science-based practice and practitioner-based inquiry have been identified as important factors for the successful integration of science and practice (Hoshmand, 1991; Hoshmand & Polkinghorne, 1992; Rennie, 1994). The second theory-in-use of psychotherapy practice relates to the strategies used in psychotherapy training. Students typically learn about different theoretical orientations in didactic coursework on psychotherapy and during psychotherapy supervision. In addition, core faculty members emphasize establishing scientific basis for psychotherapy practice using notions of natural science-based practice. The

potential incompatibility between certain theoretical orientations (such as existential and gestalt therapies) and natural science-based practice, positivistic psychotherapy research, and ESTs is not questioned. Instead, the assumption that the two strategies of exposing students to different theoretical orientations and supervising them using natural science-based practice are congruent, operates as a theory-in-use.

The main goal of the scientist-practitioner model is integration of science and practice in doctoral training. All programs in the collective case study conceptualize science and practice as interrelated and interdependent. However, four different interrelated definitions of integration emerged in the comparative case analysis. Integration is viewed as a way of thinking, doing, knowing, and applying. In all these definitions, greater value and emphasis was placed on positivistic psychological science informing psychotherapy practice. For example, integration is defined as thinking scientifically (using positivistic tenets of psychological science) in psychotherapy practice, doing research and psychotherapy practice (in a systematic, scientific manner), having competency in research and psychotherapy practice, and applying scientific knowledge (e.g. positivistic psychotherapy research) in psychotherapy practice.

However, programs' conceptualization of psychotherapy practice and their approach to psychotherapy training, as described in their theories-in-use of psychotherapy practice, lead to separation of science and practice rather than integration. Separation of science and practice manifests in three different ways.

First, programs fail to acknowledge that positivistic approaches in psychological science are not congruent with practical reasoning used by practitioners. Consequently, human science-based practice and practice-based science are uniformly ignored in doctoral training. Second, programs do not take into consideration, the criticisms made in the academic literature about the lack of clinical relevance of positivistic psychotherapy research. Third, programs assume that multiple supervisors, who supervise students during psychotherapy training, are uniform in their approach to psychotherapy training.

In the main, programs interpret the scientist-practitioner model in different ways using varying definitions of integration. In contrast, all programs in the collective case study adopt similar strategies of integration such as curriculum structure that incorporates research and practice-related courses every semester, organizing faculty research teams for research mentoring, emphasizing the importance of ESTs, and emphasizing natural science-based practice. However, because the interpretations of the scientist-practitioner model vary, students' learning experiences are also likely to vary. Although programs' strategies of integration are similar, the emphasis and foci of strategies of integration are different among the programs in the collective case study. For example, University of Heidegger counseling psychology program emphasizes scientific thinking using natural science-based practice as the primary training template. On the other hand, University of Hume counseling psychology program emphasizes applying scientific knowledge in

psychotherapy practice. Thus, a science-practice continuum is operational in programs in the collective case study, depending on the particular interpretation of the scientist-practitioner model programs adopt.

Among the various factors that influence doctoral training, the primary influential factor that influences doctoral training appears to be the academic pressures placed by academic research institutions. Academic institutions, especially Research I universities, are invested in core faculty members' research production, grant generation, and journal publications. As mentioned previously, the prestige and value placed on research-related activities by the academic culture of universities preclude many core faculty members from investing time and energy in psychotherapy training or in engaging in psychotherapy-related activities. In addition, the internalized bias against psychotherapy practice held by many core faculty members also serves to maintain the value placed on research, specifically research using natural science methodologies. As a result, psychotherapy training is often relegated to adjunct faculty members and field supervisors who do not constitute core membership in doctoral programs. Two flowcharts (Figures 8 & 9) detailing the espoused theories and theories-in-use of the scientist-practitioner are presented below.
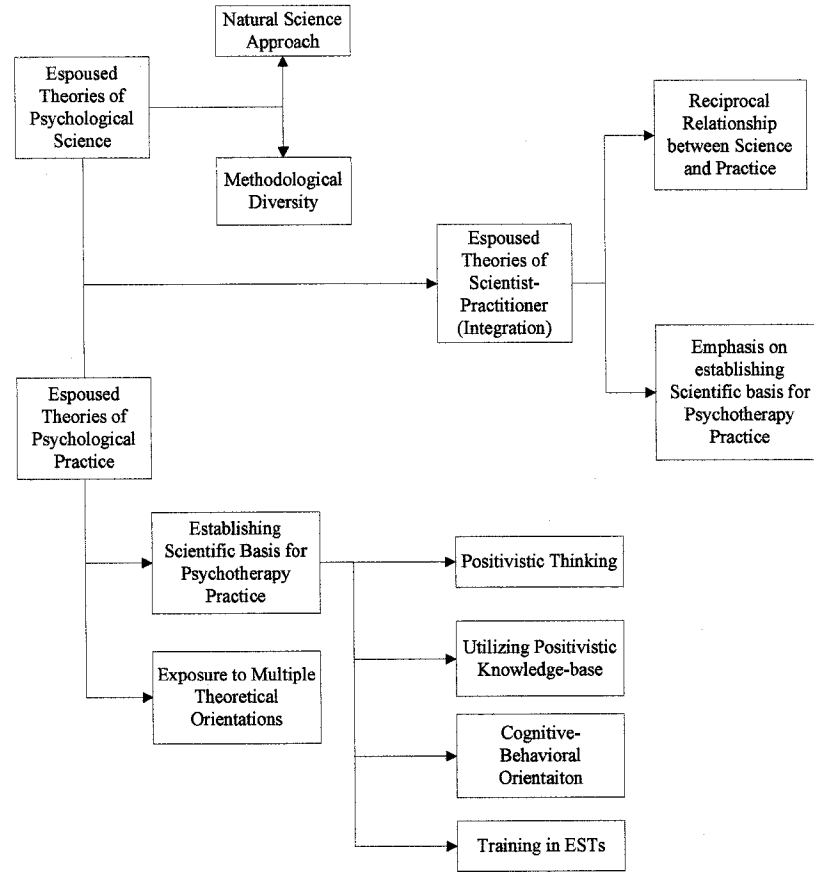
Figure 8. Visual Representation of Espoused Theories of the Scientist-Practitioner Model.
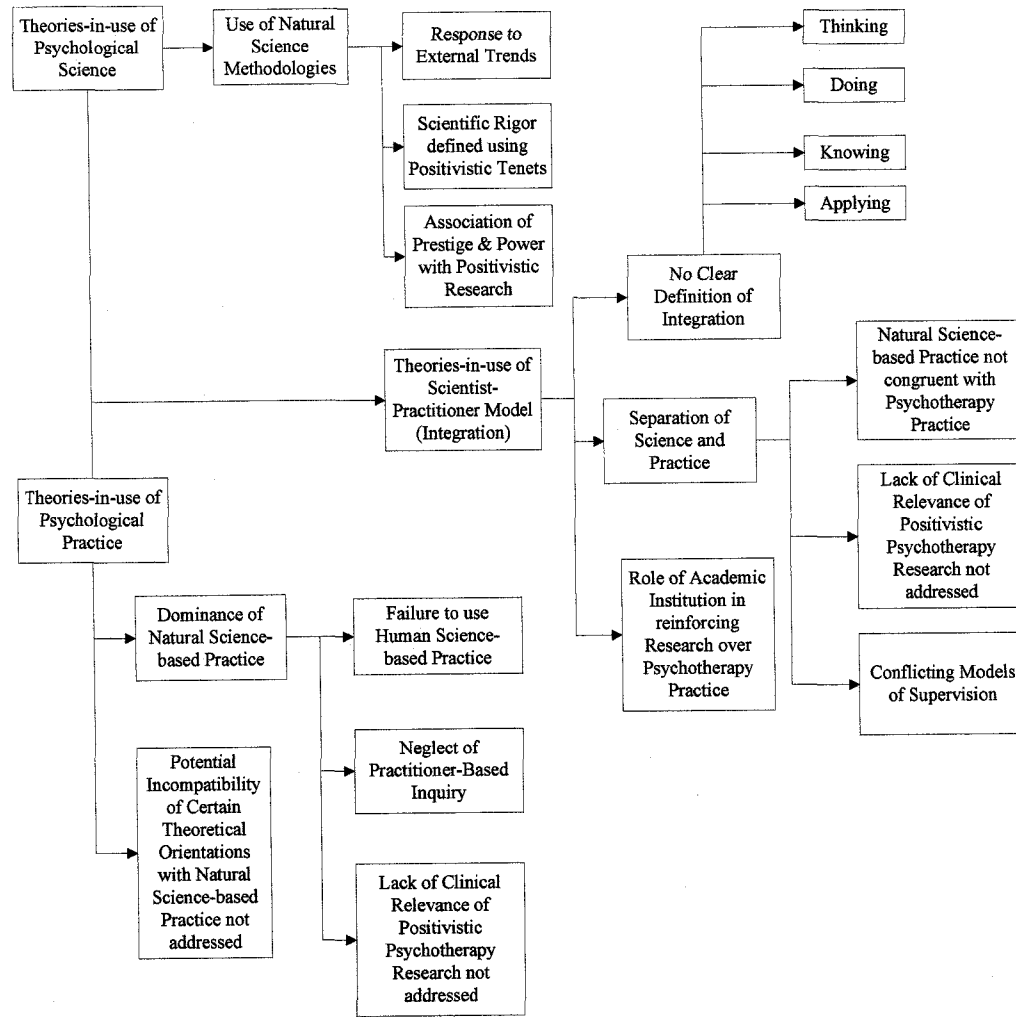
Figure 9. Visual Representation of Theories-in-use of the Scientist-Practitioner Model.

I am not sanguine about a possibility that significant systemic changes can be instituted to facilitate integration of science and practice, at an institutional level. It is possible that programs and core faculty members will gradually become more open and accepting of knowledge generation using diverse research methodologies. The Delphi poll conducted by Neimeyer & Diamond (2001) is indicative of such changes taking place within the discipline. As programs begin to effectively adopt methodological diversity in training and research, it is possible for a better integration of science and practice to take place. Human science methodologies mirror the kind of thinking and understanding involved in clinical practice. Inclusion of human science methodologies in doctoral training would, thus, facilitate integration of science and practice (Hoshmand, 1991; Rennie, 1994). However, the pressure and value placed on research by universities is unlikely to change. Universities function primarily for generation of new knowledge and their emphasis on research production will, therefore, continue.

Alternative Training Approaches to Facilitate Integration

The task of integrating science and practice in psychology training is an important and necessary one. Currently, most doctoral programs in counseling psychology adhere to the scientist-practitioner training model in order to achieve the goal of integration. However, more than five decades after the inception of the

model, debates in the academic literature continue to question the success of the model in integrating science and practice as part of doctoral training (Albee & Loeffler, 1971; Beutler & Fisher, 1994; Peterson, 1985; Stricker, 1975, 1997; Stricker & Trierweiler, 1995).

One of the training directors interviewed as part of the collective case study described the challenge involving implementation of the scientist-practitioner model eloquently. He stated, "I think we have two issues – one is very abstract in terms how you think about it and then next level that is further out is how do you go from this abstract level and operationalize it" (IHeidegger, ll.228-230).

In 1949, when the scientist-practitioner model was conceived as a novel experiment in doctoral training, the model operationalized integration of science and practice as natural science-based practice (Raimy, 1950, p.81; Thorne, 1947). The model was implemented in academic institutions that valued and continues to value research over practice (Ellis, 1992; Halgin & Murphy, 1995; Mitchell, 1977; Raimy, 1950). Problems in integration surfaced soon thereafter. Criticisms in the academic literature with regard to the model focused on the limitations of positivistic research methodologies in informing clinical practice (Goldfried & Wolfe, 1996; Hayes, et al. 1999, p.15; Snyder & Ingram, 2000, p.723; Stricker, 1975). Human science approaches to psychological science and psychotherapy practice have emerged more recently, as a viable approach to conducting psychological research and understanding psychotherapy practice (Heppner, et al. 1992; Hoshmand, 1991;

Hoshmand & Polkinghorne, 1992; John, 1986; Neimeyer & Diamond, 2001). But, the hegemony of natural science methodologies continues and doctoral programs resist effectively adopting methodological diversity. Part of this resistance includes a failure of programs to adopt notions of human science-based practice and failure to conduct practitioner-based inquiry.

Programs in the collective case study are skilled in providing research training using natural science methodologies. The focus of coursework, faculty members' research competence and their research interests, the focus of faculty research teams, the kind of dissertation research generated, and the overall academic culture reinforce conducting and training in positivistic research. However, methodological diversity in research training and effective psychotherapy training are not successfully accomplished. I believe that two consistent factors contribute to the separation of science and practice rather than integration. First, the hegemony of natural science methodologies and the value placed on positivistic research over psychotherapy practice has led to an inadequate examination and understanding of psychotherapy practice. Second, academic research institutions are not conducive for implementing the scientist-practitioner model, which has a significant practice component in training.

In order to address these two limitations, I suggest three training alternatives for facilitating the integration of science and practice. However, the three alternatives I suggest entail making substantial changes in how the scientist-practitioner model is

interpreted and implemented and I am not optimistic that such substantial changes would take place.

First, the status quo of the scientist-practitioner training model is preserved as part of the PhD degree granted by universities, but a concerted effort to increase methodological diversity in research training, generation of clinically relevant research, and practitioner-based inquiry is made during doctoral training. Second, the PhD degree is re-conceptualized as a pure research degree and the PsyD degree is used for providing psychotherapy training. Integration of science and practice would take place primarily through active collaboration of researchers and practitioners. Third, students are trained in the practice of psychotherapy in a master's level degree and the PhD degree is offered as a research degree in academic institutions. I discuss each alternative in greater depth now.

Maintaining Status Quo with Some Modifications

Based on the comparative case analysis, it is clear that most programs in the collective case study espouse methodological diversity in research training but they provide effective training in positivistic, quantitative research only. Consequently, the problem of lack of clinical relevance of positivistic psychotherapy research is not addressed. In addition, the limitations of natural science-based practice as an approach to integration are not challenged either. The comparative case analysis also

revealed that core faculty members and the academic culture do not value practice of psychotherapy, in comparison to conducting research, although programs espouse the scientist-practitioner training model. Thus, psychotherapy training is the primary domain of adjunct faculty members and field supervisors, who do not constitute core membership of doctoral programs. In order to facilitate integration of science and practice, systemic changes need to be instituted to effectively address these limitations in scientist-practitioner training. The first alternative I suggest involves maintaining the status quo of the scientist-practitioner training model, as part of a PhD degree granted by universities. But specific modifications in doctoral training are necessary.

First, research training needs to include multiple courses in qualitative research methods, core faculty members who are experts in diverse research methods need to be recruited, faculty research teams should encourage research using diverse research methods, and dissertations using diverse research methods need to increase substantially. Human science research methodologies would generate more clinically relevant research and would encourage practitioners to be more actively involved in the critique and application of research in psychotherapy practice. Thus, human science-based practice and practitioner-based inquiry would get equal emphasis and facilitate integration of science and practice. However, adding more courses in doctoral training would also lengthen the time students take to complete the doctoral degree. Currently, students take an average of six to seven years to complete the

doctoral degree and, hence, adding more research courses might not be feasible. Programs would also need to make deliberate efforts to recruit faculty members who are skilled in diverse research methods. Because programs are resistant to effectively embracing non-positivistic research methods and associate positivistic research with prestige, power, and acceptance in the academy, recruitment of faculty members with skills in diverse research methods would not be easy.

Second, adjunct faculty members who provide a significant part of psychotherapy training need to be included as core faculty members, in order to restructure the disparate power structure of doctoral programs. However, research universities are interested in research generation, grant production, and journal publications by core faculty members and do not view clinical core faculty members as contributing to the broader research endeavor. In addition, universities and programs view clinical core faculty members as a financial liability because they do not generate grant money. A solution to overcoming concerns about financial liability related to hiring clinical core faculty members is that universities support the creation of university-based community mental health clinics that cater not only to the student population but also the larger community. Operating such university-based community mental health clinics is similar to the role of teaching hospitals in medicine and dentistry that support clinical core faculty members. Schools of dentistry and medicine support clinical core faculty members through finance generated from professional services provided by clinical core faculty members in

the teaching hospitals. Such an arrangement not only eases the financial burdens related to supporting clinical core faculty members but it also provides an ideal setting for clinical training for students.

Effective research training in methodological diversity and supporting clinical core faculty members would also facilitate better collaboration between researchers and practitioners. However, successful hiring and inclusion of clinical core faculty members would depend on how receptive academic core faculty members and administrators of academic institutions are for supporting such large systemic changes. In addition, the systemic demands of creating a university-based community mental health clinic are substantial. However, universities do have available templates for making such changes if they model the creation of such a clinic using similar functional models in dentistry and medicine.

Separation of Research and Psychotherapy Training

The second alternative involves restructuring the PhD degree as purely a research degree so that the PsyD degree caters to the need of individuals seeking to become practitioners. Providing separate doctoral degrees with distinct focus on research or practice would allow students who have an interest in research or practice to pursue their interests, without the added burden of completing training in areas they are not interested in. Disconnecting the link between psychotherapy training and

academic institutions would overcome the cultural conflicts and clashes between researchers and practitioners. Separation of research and psychotherapy training into two doctoral degree programs and separating the setting in which psychotherapy training takes place would, thus, ease the challenge of providing psychotherapy training in academic institutions.

In addition, it is becoming increasingly difficult to provide adequate research and psychotherapy training as part of a single doctoral degree. According to Yalof (1997):

> The training of psychologists at the doctoral level has evolved to a point where there is growing consensus within the profession that the comprehensive nature of training in research and practice can not be accomplished equally within one degree program and that programs can best serve students when defined by one or two different training emphases (p.6).

If research training takes place in academic institutions and psychotherapy training takes place in professional schools, integration of science and practice would take place primarily through active collaboration between researchers and practitioners. In order to facilitate this kind of collaboration, PhD research training in universities need to train students comprehensively in diverse research methods. Research training would also need emphasize the differences between natural science-based practice and human science-based practice. Coursework relating to clinically relevant research needs to specifically examine practitioners' concerns and educate students on the nature of psychotherapy practice. However, educating

students about the nature of psychotherapy practice does not require students to be skilled in the practice of psychotherapy.

PsyD practitioner degree programs have been in operation since mid-1960s. The early formulations and rationales for creating PsyD doctoral programs was based on dissatisfaction with the scientist-practitioner training in providing effective psychotherapy training and due to conflicts of culture between academic researchers and psychotherapy practitioners (Peterson, 1966). During the inception of the practitioner training model, the differences between research programs and practitioner programs were clear cut. According to Peterson (1985), "practitioners were educated for the intelligent consumption of research, but the early program proposals contained no dissertation requirements at all" (p.447). Twenty years after practitioner programs have been in operation, one of the founding members of the practitioner training model, compared traditional scientist-practitioner programs with practitioner programs. He concluded that curricula of professional schools and scientist-professional programs "are more alike than different", APA accreditation criteria strongly influence professional school criteria, and all (with one single exception) professional programs require completion of a dissertation (Peterson, 1985, p.446-447). Although professional PsyD practitioner programs aimed to train practitioners by hiring faculty members who were primarily practitioners and by emphasizing psychotherapy skills in training, it appears as though the difference between the two training models are no longer significant (Peterson, 1985). The

main difference appears to lie in the attitude and interests of faculty members and

students (p.447).

Thus, demarcating research and practitioner training in separate doctoral

degree programs would not necessarily lead to better quality of training in research

or practice (Stricker, 1975). The evolution of practitioner programs indicates that the

discipline of psychology has not been successful in its attempts to provide separate

training research and psychotherapy. In addition, the notion that academic

researchers and practitioners would actively collaborate in generating clinically

relevant research has remained a challenge in the history of the specialty (Belar &

Perry, 1992; Bernstein & Kerr, 1993; Beutler, et al. 1995; Borders, et al. 1994;

Frank, 1986; Gelso, 1993; Heppner, et al. 1992; Hoshmand, 1991). I am, therefore,

not optimistic that this alternative for integrating science and practice would be

successful.

Adopting the Occupational Therapy Training Model

The third alternative adopts the occupational therapy training model.

Occupational therapy offers two kinds of doctoral degrees. According to the website

of University of Southern California's doctoral program in occupational therapy

(Doctor of Occupational Therapy):

> The Doctor of Occupational Therapy (O.T.D.) program prepares occupational therapists for leadership positions in health care, with a focus on applying knowledge developed in occupational science to practice health care policy and health care management. The O.T.D. program is designed to complement the Ph.D. program in occupational science. The Ph.D. degree is an academic degree that prepares students to conduct original research that will expand the knowledge base regarding occupation; the O.T.D. degree is a professional degree that focuses on the practical application of knowledge about occupation in order to solve real-world health care problems in clinical and community settings (¶ 1).

The admission criteria for the OTD program includes "a baccalaureate degree from an accredited college or university and must be certified or licensed as an occupational therapist, or be eligible to sit for the examination administered by the National Board for Certification in Occupational Therapy (NBCOT)" (Admission Requirements, ¶ 2). Thus, the doctoral program focuses on applied research in occupational therapy and admits licensed occupational therapists for doctoral training.

The current Master's degree in Marriage and Family Therapy offered by counseling psychology programs could be the uniform entry-level professional training students receive. Following the completion of the master's program and licensure requirements, students interested in pursuing a research career could pursue doctoral studies in counseling psychology. The advantage of making masters' level practitioner training as a minimal admission requirement for doctoral education is that students would already be trained and licensed to engage in psychotherapy practice when they embark on doctoral education. Thus, they would be more

informed about the needs, constraints, and demands of psychotherapy practice as they engage in psychotherapy research. Researchers with prior practitioner training would, thus, be in a better position to generate clinically relevant research and facilitate integration of science and practice. Generation of practice-based science and practitioner-based inquiry would be easier because students have a grounding in psychotherapy practice and the nature of practitioner inquiry. In order for this training model to be successful, faculty members also need to have a similar training background in psychotherapy practice so that they can mentor and facilitate students' research training in clinically relevant research.

Conclusion

The three alternatives I suggested above involve instituting significant systemic changes in how the scientist-practitioner model is implemented. Bias against non-positivistic research and psychotherapy practice is not easy to overcome. Neither is it easy to balance the demands of psychotherapy training in academic institutions that values research-related activities and relegates psychotherapy training to adjunct core faculty members and field supervisors. I am not optimistic that such entrenched values and priorities of the academic culture can be easily and quickly overcome. It is clear that integration of science and practice continues to be a challenge. According to Wittgenstein (1953), "in psychology there are experimental

methods and *conceptual confusion....* The existence of the experimental method

makes us think we have the means of solving the problems which trouble us; though

problem and method pass one another by" [italics in original] (p.232). The specialty

of counseling psychology is not an exception in this regard. The only effective

solution lies in the specialty developing an appreciation for the differences in

scientific thinking in research and practical thinking in psychotherapy practice.

Using Aristotle's distinction of three ways of thinking, positivistic research uses

theorizing, which aims at arriving at certain knowledge; psychotherapists practice

using practical understanding. I do not believe that the two ways of thinking can be

reconciled. Neither do I believe that theorizing can be used to understand the nature

of practical thinking or vice versa.

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APPENDIX A

Letter Requesting Nomination of Counseling Psychology Programs

The IRB paperwork included following this letter does not have the IRB approval

stamp. The photocopies of the stamped approval papers were sent to the training

directors. The copy of the letter is included below:

Dear Training Director,

I am a doctoral candidate in the Ph.D. program in the Rossier School of Education at the University of Southern California. My dissertation chair is Donald Polkinghorne, Ph.D. Professors Rod Goodyear, Gerald Stone, and Dallas Willard constitute the rest of my dissertation committee. My dissertation will examine strategies APA accredited counseling psychology programs use to integrate science and practice in training. Given that the integration of science and practice is an explicit aim of the guiding principles of accreditation, it is unclear what specific strategies training programs use to facilitate this integration. I am limiting my study to APA accredited counseling psychology programs that espouse the scientist-practitioner model of training.

The first step involves identifying a few select training programs that will constitute my collective case study sample. To identify various scientist-practitioner training programs that use different strategies to integrate science and practice, I request your assistance by nominating from that attached list at least two programs that are predominantly science-focused, two that are predominantly practice-focused, and two that you consider to be especially balanced with respect to their science and practice focus. You can respond by email or by phone to communicate your choices. Your feedback will be held in absolute confidentiality and it will not be shared with any program I contact at the next stage of the case study investigation.

Dr.Polkinghorne, the principal investigator, can be contacted at (213) 740-3256, emailed at polkingh@usc.edu and his mailing address is WPH 702E, Rossier School of Education, University of Southern California, Los Angeles, CA 90089. I, Sujatha Ramesh (co-investigator), can be contacted at (310) 621-0184, emailed at sramesh@usc.edu and my mailing address is C/O Ms.Tamara Mckenzie, WPH 703, Rossier School of Education, University of Southern California, Los Angeles, CA 90089.

I greatly appreciate your assistance in my dissertation work. I would like to inform you that by agreeing to share your choices of training programs, you voluntarily participate in my dissertation research without any remuneration. You

can also choose not to provide me with these choices. However, I hope that you would agree to assist me.

Thanking you,

Sincerely,

Sujatha Ramesh, M.A.

List of Accredited Programs in Counseling Psychology

Please nominate the six programs from the following list. Thank you.

1. University of Akron
2. University of Albany/ SUNY
3. Arizona State University
4. Ball State University
5. Boston College
6. Brigham Young University
7. University of Denver
8. University of Florida
9. Fordham University
10. University of Georgia
11. Georgia State University
12. University of Houston
13. Howard University
14. University of Illinois-Urbana-Champaign
15. Indiana State University
16. Indiana University
17. University of Iowa
18. Iowa State University
19. University of Kansas
20. University of Kentucky
21. Lehigh University
22. Louisiana Tech University
23. University of Louisville
24. Loyola University of Chicago
25. Marquette University
26. University of Maryland College Park
27. The University of Memphis
28. University of Miami
29. Michigan State University
30. University of Minnesota – Counseling & Personnel Psychology Program
31. University of Minnesota – Psychology Program
32. University of Missouri Columbia
33. University of Missouri Kansas City
34. University of Nebraska Lincoln
35. New Mexico State University
36. New York University
37. University of North Dakota
38. University of North Texas

39. University of Notre Dame
40. Ohio State University
41. University of Oklahoma
42. Oklahoma State University
43. University of Oregon
44. Auburn University
45. Pennsylvania State University
46. Purdue University
47. Seton Hall University
48. University of Southern California
49. Colorado State University
50. Southern Illinois University
51. University of Southern Mississippi
52. Teachers College
53. Temple University
54. Tennessee State University
55. Texas A&M University
56. University of Texas at Austin
57. Texas Tech University
58. Texas Woman's University
59. University of Utah
60. Virginia Commonwealth University
61. Washington State University
62. West Virginia University
63. Western Michigan University
64. University of Wisconsin- Madison
65. University of Wisconsin- Milwaukee

University of Southern California
Rossier School of Education

INFORMATION SHEET FOR NON-MEDICAL RESEARCH

Intra-model Differences within the Scientist-Practitioner Model of Training based on Strategies of Integration
Stage 1 Data Collection

You are asked to participate in a research study conducted by Ms.Sujatha Ramesh, M.A., doctoral candidate, and Donald E. Polkinghorne, Ph.D., faculty sponsor, from the Rossier School of Education at the University of Southern California. The results of this study will be contributed to the doctoral candidate's dissertation. You were selected as a possible participant in this study because you are currently a training director of an APA-accredited doctoral program in counseling psychology and you can identify training programs that can constitute the case study research. A total of 70 training programs subjects will be selected from currently accredited doctoral programs in counseling psychology to participate. Your participation is voluntary.

PURPOSE OF THE STUDY
We are asking you to take part in a research study because we are trying to learn more about how different scientist-practitioner training programs define concepts such as science, practice, and the integration of science and practice. In addition, we are trying to learn more about how these concepts, as operationalized in the training model, inform the program curriculum, research experience requirements, and clinical training requirements.

Completion and return of the questionnaire or response to the interview questions will constitute consent to participate in this research project.

PROCEDURES
You will be asked to nominate two programs that are science-focused, two that practice-focused, and two that you consider to be balanced in their science-practice focus in response to the email recruitment letter. You can email your response to me or mail to me by U.S. mail by stating the programs you nominated in each of these categories at your convenience. The estimated time to respond to this request will be 5-10 minutes on a single occasion. You can chose to respond at any site of your choice.

POTENTIAL RISKS AND DISCOMFORTS
No reasonable foreseeable risks, discomforts, inconveniences are anticipated or expected as a result of participating in this research project.

POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY
Participation in this study will be of no direct benefit to the subject.

This dissertation seeks to learn more about the different strategies for science-practice integration used by accredited doctoral programs in counseling psychology. Integration of science and practice has been an idea that has remained predominantly problematic although most training programs aim to train professionals who integrate them in their professional activities. The results of this dissertation will provide insight concerning the nuances that exist in the operationalization of this singular concept.

PAYMENT/COMPENSATION FOR PARTICIPATION
You will not be paid for participating in this research study.

CONFIDENTIALITY

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission or as required by law.

Other than my dissertation committee, nobody else will have any access to the dissertation data. The dissertation committee will have access to this data for the purposes of mentoring the co-investigator.

The data will be stored in this locked cabinet for a period of 36 months, following dissertation defense, after which all documents will be shredded. Data that exists in the form of content analysis on the co-investigator's personal laptop computer will be password-protected and these documents will be permanently deleted 36 months following dissertation defense. No other use of this data is currently contemplated.

When the results of the research are published or discussed in conferences, no information will be included that would reveal your identity. Responses to the recruitment letter will be stored in a locked cabinet which only the co-investigator will have access to.

PARTICIPATION AND WITHDRAWAL

You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. You may also refuse to answer any questions you don't want to answer and still remain in the study. The investigator may withdraw you from this research if circumstances arise which warrant doing so.

IDENTIFICATION OF INVESTIGATORS

If you have any questions or concerns about the research, please feel free to contact Dr.Donald E.Polkighorne, the principal investigator. His business address is WPH 702E, Rossier School of Education, University of Southern California, Los Angeles, CA 90089. His telephone number is (213) 740-3256 and email is polkingh@usc.edu. The co-investigator, Sujatha Ramesh, can be contacted at (310) 621-0184, her email is sramesh@usc.edu, and her mailing address is C/O Ms.Tamara Mckenzie, WPH 703, Rossier School of Education, University of Southern California, Los Angeles, CA 90089.

RIGHTS OF RESEARCH SUBJECTS

You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study. If you have questions regarding your rights as a research subject, contact the University Park IRB, Office of the Vice Provost for Research, Grace Ford Salvatori Building, Room 306, Los Angeles, CA 90089-1695, (213) 821-5272 or upirb@usc.edu.

APPENDIX B

Letter requesting Case Data and Consent to Interview

The IRB paperwork included following this letter does not have the IRB approval

stamp. The photocopies of the stamped approval papers were sent to the training

directors. The copy of the letter is included below:

Dear Training Director,

       I am a doctoral candidate in the Ph.D. program in the Rossier School of Education at the University of Southern California. My dissertation chair is Donald Polkinghorne, Ph.D. Professors Rod Goodyear, Gerald Stone, and Dallas Willard constitute the rest of my dissertation committee. My dissertation will examine of the strategies used by APA accredited doctoral programs in counseling psychology in order to integrate science and practice in training. Because the integration of science and practice is an explicit aim of the guiding principles of accreditation, it is unclear what specific strategies training programs use to facilitate this integration. I am limiting my study to APA accredited counseling psychology programs that espouse the scientist-practitioner model of training. For the purposes of case study selection, I had sought feedback from all current training directors of APA accredited counseling psychology doctoral programs requesting them to identify training programs that they deemed use different strategies for integrating science and practice. On the basis of that feedback, your program was chosen for inclusion in this study.

       To gain an in-depth understanding of your training program as part of the case study investigation, I would like to conduct a telephone interview that might take about 45-60 minutes. This interview can be arranged at a time that is suitable for you. I shall audiotape this interview and transcribe the interview verbatim. You have the right to review and edit the content the transcript which will be sent to you; both the audiotape and transcript will be coded numerically in order to protect identifying information.

       The interview will consist of questions relating to the training program, specifically regarding the integration of science and practice during training. I might contact you again if I need additional information. If you would prefer a face-to-face interview, I shall gladly schedule such an interview. In addition, I also request you to provide me with additional information that would help my case study including a copy of the narrative portion of the self-study your program prepared for accreditation purposes.

The self-study, the audiotapes, the transcripts, and the master document that links the transcripts and tapes with the individual program will all be stored in a locked cabinet in the co-investigator's personal library. All data-related documents present in the co-investigator's personal laptop computer will be password-protected. Raw data that are numerically coded and devoid of identifying information will be shared only with dissertation committee members for the specific purpose of dissertation-related mentoring. Nobody else will have access to this data. No identifying information or related information that can identify a particular training program or training director will be used in the dissertation or in any publication in the future arising from this dissertation research. All dissertation data will be shredded and audiotapes destroyed after 36 months of co-investigator's dissertation defense.

Dr.Polkinghorne, the principal investigator, can be contacted at (213) 740-3256, emailed at polkingh@usc.edu and his mailing address is WPH 702E, Rossier School of Education, University of Southern California, Los Angeles, CA 90089. Sujatha Ramesh, the co-investigator can be contacted at (310) 621-0184, emailed at sramesh@usc.edu and her mailing address is C/O Ms.Tamara Mckenzie, WPH 703, Rossier School of Education, University of Southern California, Los Angeles, CA 90089.

I greatly appreciate your assistance in my dissertation work. I would like to inform you that by agreeing to be interviewed, share the self-study report, and additional training-related information, you voluntarily participate in my dissertation research without any remuneration. If you prefer, you could decline to participate in this study. However, I hope that you would agree to assist me to.

Thanking you,

Sincerely,

Sujatha Ramesh, M.A.

University of Southern California
Rossier School of Education

INFORMATION SHEET FOR NON-MEDICAL RESEARCH

Intra-model Differences within the Scientist-Practitioner Model of Training based on Strategies of Integration
Stage 2 Data Collection

You are asked to participate in a dissertation research study conducted by Ms.Sujatha Ramesh, M.A., doctoral candidate in counseling psychology in the Rossier School of Education at the University of Southern California. My faculty sponsor or dissertation chair is Donald E. Polkinghorne, Ph.D. Professors Rodney K.Goodyear, Gerald Stone, and Dallas Willard constitute the rest of my dissertation committee. You were selected as a possible source of data as well as participant in the study because you are currently a training director of an APA-accredited doctoral program in counseling psychology and your program was identified as employing a particular type of science-practice integration. Your participation is voluntary.

PURPOSE OF THE STUDY

We are asking you to take part in a research study because we are trying to learn more about how different scientist-practitioner training programs define concepts such as science, practice, and the integration of science and practice. In addition, we are trying to learn more about how these concepts, as operationalized in the training model, inform the program curriculum, research experience requirements, and clinical training requirements.

Your willingness to provide me the self-study report and other additional information related to the training program and/or willingness to be possibly interviewed in a future date will constitute your consent to participate in this research study.

PROCEDURES

You will be interviewed and requested to provide a copy of your most recent self-study report as well as additional information related to training. This interview will be conducted over the telephone and audio-taped. I estimate that the interview will take between 45-60 minutes. The interview questions will seek in greater detail how your particular training model has been conceptualized, defined, and implemented in the training program. Specifically, questions relating to the definition of science and practice and its integration in the context of the particular training model will be

asked. If you prefer to be interviewed face-to-face, such an interview will be arranged.

POTENTIAL RISKS AND DISCOMFORTS

No reasonable foreseeable risks, discomforts, inconveniences are anticipated or expected as a result of participating in this research project.

POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

This dissertation seeks to learn more about the different strategies for science-practice integration used by accredited doctoral programs in counseling psychology. Integration of science and practice has been an idea that has remained predominantly problematic although most training programs aim to train professionals who integrate them in their professional activities. The results of this dissertation will provide insight concerning the nuances that exist in the operationalization of this singular concept.

PAYMENT/COMPENSATION FOR PARTICIPATION

Training directors will not be paid for participating in this study.

CONFIDENTIALITY

Any information obtained in connection with this study will remain confidential and will be disclosed only with your permission or as required by law. Other than my dissertation committee, nobody else will have any access to the dissertation data including the self-study reports, interview transcripts, and the audiotapes of interviews. Even the dissertation committee will have access to the raw data only after I remove all identifying information from the documents, tapes, and transcripts. Training directors retain the right to review or edit interview tapes that will be provided to them upon request in the form of verbatim transcripts. Following the interview, I shall numerically code the audiotape and the transcript so that no identifying information is present. The audiotapes, transcripts, self-study reports, and my ongoing data analysis documents including the master documents that links the numerical coding with identifying information all will be stored in a locked cabinet in the co-investigator's personal library. Other than the co-investigator nobody has any access to these documents and tapes at any point in time except during the times when the co-investigator shares them with her dissertation committee for a particular mentoring purpose. The data will be stored in this locked cabinet for a period of 36 months, following dissertation defense, after which all documents will be shredded and audiotapes destroyed. Data that exists in the form of content analysis on the co-

investigator's personal laptop computer will be password-protected and these documents will be permanently deleted 36 months following dissertation defense.

No individual training program or training director will be individually identified and identifying information will be sufficiently disguised so that such information cannot be gleaned either in the dissertation or in any publication that might be generated as a result of this dissertation.

PARTICIPATION AND WITHDRAWAL

Participation in this dissertation study is voluntary. You can chose to provide the self-study report and/or agree to be interviewed or decline to do both. I will contact you through email/phone/mail requesting a suitable time to conduct a telephone interview. You can refuse to be interviewed at that point even if you chose to provide the self-study report and other training-related details.

You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. You may also refuse to answer any questions you don't want to answer and still remain in the study.

IDENTIFICATION OF INVESTIGATORS

If you have any questions or concerns about the research, please feel free to contact Dr.Donald E.Polkighorne, the principal investigator. His business address is WPH 702E, Rossier School of Education, University of Southern California, Los Angeles, CA 90089. His telephone number is (213) 740-3256 and email is polkingh@usc.edu. The co-investigator, Sujatha Ramesh, can be contacted at (310) 621-0184, my email is sramesh@usc.edu, and my mailing address is WPH 1003, Rossier School of Education, University of Southern California, Los Angeles, CA 90089.

RIGHTS OF RESEARCH SUBJECTS
You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study. If you have questions regarding your rights as a research subject, contact the University Park IRB, Office of the Vice Provost for Research, Grace Ford Salvatori Building, Room 226, Los Angeles, CA 90089-1695, (213) 821-5272 or upirb@usc.edu.

APPENDIX C

Interview Question Guide

These questions were addressed to the training director during the interview:

1. There has been an ongoing debate about the appropriate definition of science in psychology – whether natural science or human science models are more appropriate. Which model has your program adopted?

2. Just as the kind of science that is appropriate for psychology has been debated about, programs differ in their practice orientations as well. Which theoretical orientation/s has your program adopted?

3. Do all faculty members endorse this orientation or are there some variations?

4. Looking at the literature on the scientist-practitioner model, I am finding that the fundamental goal of integrating science and practice is quite difficult to achieve. How has your program tried to achieve this goal?

5. Do you think this goal of integration is realistic?

6. So what kind of strategy does your program use to integrate science and practice in training?

7. Do you have criteria that evaluate the success of your strategy?

8. What are these criteria? (If the response to # 7 is affirmative)

9. Under ideal circumstances, would you like to do something differently in training in order to integrate science and practice?

Questions added as data collection and analysis progressed:

10. How do you define a scientist-practitioner?

11. How does your program train students to become scientist-practitioner as per this definition?

12.   Are there any factors within the program or outside that influence training?

13.   How do these factors impact training, especially the science and practice components?

14.   How do these factors influence the development of the scientist-practitioners in the program?