1976

Role conceptions of faculty and clinicians in the field of physical therapy

John Lennox Echternach
College of William & Mary - School of Education

ROLE CONCEPTIONS OF FACULTY AND CLINICIANS IN THE FIELD OF PHYSICAL THERAPY

A Dissertation
Presented to the
Faculty of the School of Education
College of William and Mary in Virginia

In Partial Fulfillment
of the Requirements for the Degree
Doctor of Education

---

by
John Lennox Echternach
July, 1976

APPROVAL SHEET

Title of thesis: Role Conceptions of Faculty and Clinicians in the Field of Physical Therapy

Candidate: John Lennox Echternach

Thesis and abstract approved:

Daniel R. Gerber

Daniel R. Gerber, Ph. D., Chairman

Armand J. Galfo

Armand L. Galfo, Ed. D.

Charles O. Matthews

Charles O. Matthews, Ph. D.

Date approved: July 13, 1976

TABLE OF CONTENTS

LIST OF TABLES

LIST OF TABLES

(continued)

LIST OF FIGURES

LIST OF FIGURES

(continued)

CHAPTER I

Introduction

An individual often performs several roles simultaneously. An occupation usually requires the performance of several roles. An example would be the college professor who may teach, counsel students and perform research. Lawrence (1966) has suggested that in medicine and the other health professions the most important roles have traditionally been teaching, research and practice. As a profession develops the emphasis on the importance of various roles may change, a phenomenon illustrated by the medical profession. Since the Flexner Report of 1914, the field of medicine has had an upswing in the importance of both teaching and research roles. More recently the emphasis of medicine has been on improving the role of practice (Carnegie Commission of Higher Education, 1970, p. 40). Thomas and Biddle (1966, p.14) defined role "as both a behavorial repertoire characteristic of a person or position, and a set of standards, descriptions, notions, or concept held (by anyone) for the behaviors of a person or a position." The problem that was investigated in this study arose from the question "Do faculty members and clinicians in the field of physical therapy differ signi-

ficantly in attitudes and opinions toward the professional roles of teaching, clinical practice and research?"

A review of literature in physical therapy and related areas revealed expressed dissatisfaction in the performance of the professional roles of teaching, research and clinical practice.

A physical therapist initially enters his professional field because he wishes to engage in practice, and his initial education is directed to this end (Blair, 1972; Decker, 1974; Hislop and Worthingham, 1958). An interest in preparing others for clinical practice may lead some individuals to regard teaching as a major role, in preference to engaging in full time practice.

The research role may be performed by physical therapists in clinical practice or in teaching. Therapists often perform a role not characterised by their major role: the clinical therapist is involved in teaching patients, families, staff members and other health professions: the teaching therapist may be involved in clinical practice through demonstration of clinical methods, or part time work to maintain clinical skills.

As a professional field develops, a conscious effort is often made to improve the status and prestige of some roles (Hughes, 1964, p. 4). This effort is related to the attitudes and opinions of those working in the professional field, attitudes 'learned' during the professional

education phase. Jencks and Reisman (1968, chap. 5) stated that professional socialization is one of the most notable aspects of the professional education. It is important to investigate the attitudes and opinions about professional roles to which students are exposed in their contacts with members of the professional field.

At the present time there are sixty-six educational programs leading to the professional qualification in physical therapy. Sixty-four programs are either at the bachelors degree level or at the certificate level. Certificate programs are twelve to twenty-four months in length and require a bachelors degree for entrance. There are six masters degree programs at the professional entry level: these programs are two years in length. Several universities offer two programs - a bachelors degree plus certificate program, or a bachelors degree and a masters degree program. Of the twelve certificate programs, nine are at schools offering bachelors degrees. Two are affiliated with a degree granting institution but are not in a college or university setting (Educational programs, 1974). Currently 379 full time faculty members are employed in the sixty-six professional programs devoted to the basic educational preparation of physical therapists (Physical Therapy Faculty, 1974).

Historical development of the profession

In the United States physical therapy developed as a

part of the practice of medicine in the latter part of the 19th century. The medical profession recruited people with a background in physical education to assist in newly developed scoliosis and posture clinics. Further growth took place in the early 20th century when orthopedic surgeons, primarily in the New England area, required assistance in the after care and post corrective surgery programs of patients, who were victims of poliomyelitis epidemics. Physicians pioneering in studies of muscle movement at that time recruited women with physical education backgrounds to work with them. During this period hospital departments in Boston and Philadelphia were developed for treatment of orthopedic problems (Blair, 1972).

Initially all training in physical therapy was on an apprenticeship basis, with no identified professional organization or universal training programs. In the early 1900s a few proprietary schools for training in physical therapy were established, but the term physical therapist was not yet used.

During World War I when large numbers of injured soldiers required care, the United States Army called upon the leaders in the new field to develop training programs. These "reconstruction aides" were first trained at Walter Reed General Hospital (Vogel, 1967). The training programs were later extended to colleges with physical education

departments and to schools of physical education (Worthingham, 1963). The largest group of trainees was at Reed College, Oregon, under the direction of Mary McMillan, an early leader in the developing field of physical therapy. Nearly eight hundred reconstruction aides were serving in Army Hospitals by the end of World War I (Vogel, 1967). Those trained as reconstruction aides continued to work in this new field following the war. In January 1921, a group of former reconstruction aides of the U.S. Army formed the American Women's Physical Therapeutic Organization with Mary McMillan as its first president. In 1922 the name was changed to The American Physiotherapy Association and men were admitted to membership. In 1940, the name of the organization was changed to The American Physical Therapy Association (APTA) (Blair, 1972; Beard, 1961).

During the first decade of the organization's existance, minimum standards for educational programs were developed. The requirement for entering these programs was graduation from recognized schools of physical education or schools of nursing (Worthingham, 1963).

The major role of education in the development of the profession was recognized when the APTA took responsibility for approving schools of physical therapy. By 1928 there were a total of eleven approved educational programs (Beard, 1961).

During the 1930s many physical therapy programs became affiliated with colleges and universities, and certificates were granted to graduates (Beard, 1961; Michels, 1970). These programs combined classroom instruction with clinical practice in a hospital setting. Often the major base of operations was a hospital affiliated with a university medical school. The APTA during this time felt it could no longer handle the accreditation of educational programs, and asked the Council of Medical Education of the American Medical Association to assume this responsibility in 1936. By 1940, the first bachelors degree programs were established (Presidential Addresses Reprinted, 1971).

A World War again created the impetus for growth in the field of physical therapy. In 1942 the Army began commissioning female physical therapists as officers, requiring a bachelors degree and a certificate from an approved physical therapy school. The Army also continued to conduct its own training programs (Vogel, 1967)

Further growth of bachelors degree programs continued, and by 1950 nineteen of the thirty-one accredited schools of physical therapy offered degree programs. The other twelve programs offered certificates requiring three years of college, college graduation, or graduation from an approved school of nursing for admission. The trend of affiliating physical therapy education with university and college

programs has continued (Beard, 1961; Decker, 1974). All sixty-six current physical therapy professional programs are associated with or part of a college or university (Educational Programs, 1974). Two further trends can be noted in the development of physical therapy. The first is the inclusion of physical therapy programs in schools of allied health professions which combine educational programs for several health related occupations into one school (McTernan, 1972, pp 1-10; Perry, 1968; Light, 1969; Greenfield, 1969; Medical Education in the U.S., 1969). Proponents of this form of organization feel that the allied health professions command more attention and better financing from institutions of higher education, and better organization of training by combining several health professions into one school. (Perry, 1969). Prior to this organizational change physical therapy programs and other allied health programs were operated as separate departments, or as additions to medical schools, often competing for funds on a basis of inequality (Worthingham, 1968). One of the objectives at schools of allied health professions has been to develop a core curriculum in the basic sciences and basic health areas, thus increasing the efficiency of the educational programs (Hamburg, 1969). This resulted from the demand for basic science faculty to provide a great variety of courses for the diverse health groups

seeking education (Perry, 1968). Theoretically, a school of allied health professions can decrease the variety of courses taught by basic science faculty since these courses become part of a core curriculum. Communication is increased among the health fields as students are introduced to the problems of other allied health workers at an early stage in their careers. Physicians and medical students become conversant with the work of those in the allied health professions (Perry, 1968, 1969).

Through the influence of the schools of allied health professions, the use of aides or assistants in the allied health professions has increased (Gossett, 1973). Community college programs for physical therapist assistants were developed during the later part of the 1960s. The trend toward utilization of formally trained assistants raised questions about the education of professionals and the level of practice professionals should be capable of performing. An increased demand for role expansion and longer educational preparation of the professional person in physical therapy has resulted (Daniels, 1974; Pascasio, 1969; Worthingham 1970; Johnson, 1974; James and Stuart, 1975).

The historical development of physical therapy toward professional status has followed a typical developmental pattern of apprenticeship training, education programs of a proprietary nature, educational programs located in colleges and universities, and the final development of degree

status for these programs (Lynn, Mayhew, Barber, 1964, pp 15-34; Mayhew, 1971, chap 1). As the field matured, graduate degree programs were developed also.

Teaching role

A review of the roles of interest to this study was found in the literature on physical therapy. This revealed that the teaching role is performed both by faculty members of the physical therapy educational programs, and by clinicians. The first of two surveys of faculty members, reported in the literature, was part of an extensive study of physical therapy education published between 1968 and 1970. Worthingham's study (1968, a) found that 20% of physical therapy faculty were males, and 80% were females. Three percent of the faculty held full professorships, 13% had associate professor rank. Faculty members had obtained these graduate degrees: 5% had a doctorate, 55% held a masters degree, 45% held the bachelors degree as the highest academic degree.

Twenty-eight percent of the faculty reported research activity: 34% were involved in clinical practice activities. Worthingham did not attempt to evaluate faculty performance, but she did note several problems in the educational setting. These included the lack of research space, heavy teaching loads, lack of preparation for the faculty-teaching role, and failure to achieve higher faculty ranks.

A second survey of physical therapy faculty reported

responses to 282 questionaires received from forty-six of fifty-two surveyed physical therapy programs (Conine, 1973). This survey reported that faculty members spent most of their time in the teaching function. The average amount of clinical experience prior to full time teaching was two and one-half years. For 80% of the faculty members, clinical practice accounted for less than 20% of their duties. Ninety-five percent of the faculty spent less than 10% of their time in research, professional writing or consultation. Conine found that 67% of the faculty had graduate degrees, but only 8% had the doctorate. Very few faculty members felt that any prerequisites were required for a teaching or faculty role, but they did report some preparation for the teaching function was needed. In this survey Conine asked what preparation would be most helpful to the teaching process and found that faculty members were interested in educational methods and techniques. About 50% stated interest in supervised teaching experiences, 15% expressed an interest in research methods and statistics, and 10% wished to learn most about educational foundations.

Griffin (1973), as part of a study of integrated teaching, reported on attitudes of physical therapy teachers. Data was collected from thirty-nine responses to questionaires sent to officials in charge of fifty-two physical therapy programs. She found 87% of the faculty agreed that content and organization of the curriculum needed to be changed. Seventy-six percent of the faculty surveyed felt that "teach-

ing the teachers to teach" was important. Eighty-four percent reported that the educational objectives of their respective programs should be reappraised. Only 58% thought the present educational programs prepared students adequately for professional practice.

In two editorials, Hislop (1968, a, b) stated that high quality teachers were lacking in physical therapy programs. She critisized faculty for not being scholarly and for not contributing to the professional literature. Hislop characterised faculty members as being too conventional, too traditional in teaching methods, and too lax in conducting research. In her view, teaching without being involved in research was stultifying to both faculty and students. She critisized the educators for not setting a good role model in an atmosphere conducive to research by which the students would be encouraged to develop inquiring minds. The university atmosphere should attract the best minds to teaching, but Hislop felt this was rarely the case in physical therapy.

She noted that teaching loads were too high, laboratory and research space were sparse, and curriculum revision was long overdue. The demands on faculty were primarily for teaching, which she felt was only a part of the needs of the professional program: a spirit of scholarship as well as pride in the educational program was needed.

Michels (1969), as president of the APTA, critisized

educators for two shortcomings. The first was the non-critical teaching of methods and techniques of physical therapy. He felt that too much was passed along to students in the form of "Holy-Writ" - that students were not being challanged to examine and question current practices. His second criticism was of the curriculum, particularly on the lack of exposure to research design and statistical analysis. Michels felt this was needed to enable students to question classroom presentations and the professional literature. Pascasio (1969) also raised questions about current educational practices. She noted that physical therapists are expected to be able to teach - both those who are faculty members and those in clinical settings - but that no time is devoted to the teaching process in the current curriculum. Johnson (1974) felt this should be a major concern to all physical therapists.

The preparation required of a faculty member was explored by Jaeger (1970) who felt a suitable balance between depth of understanding of subject matter and breadth of background was desirable. She discussed the importance of the faculty as role models for students, especially for the role of the "continuous learner" in a professional field.

Several studies have noted the involvement of the clinician in teaching. Senters (1972) found in a survey that 48% of clinicians were involved in teaching other professionals in the health setting, and that 64% were involved

in teaching patients as part of the patient's care. Worthingham (1968, c) found 93% of clinical therapists teaching family members some portion of a patient's care, 75% teaching nurses, 32% teaching physicians in residency programs and 25% teaching medical students. Her study was of clinical educators, and the high number of these therapists in teaching hospitals accounted for the high percentage found teaching physicans, medical students and nurses. This study was done on the clinical education phase of basic education of the physical therapist. Clinical educators - clinicians in a practice setting (usually a hospital), have the responsibility of supervising physical therapy students who are gaining clinical experience. Each student, prior to graduation from the basic educational program, spends four to eight weeks in three or more clinical centers.

Worthingham (1968, c) felt the clinical educators job was unreasonably difficult because it combined planning and supervising the students' program, and the responsibilities of patient care. Investigation of the educational background of clinical educators showed 1% had the doctorate, 11% the masters degree, 83% a bachelors degree, and 2% with no degree. Of those involved in clinical supervision of students, 10% had less than one year of clinical experience, 23% had two years or less, and 45% had over six years of experience. Fewer than 6% of the clinical educators participated in the development of the curriculum of the physical

therapy program (Worthingham, 1968, c). Another study reported that clinicians spend approximately 7% of their time teaching members of other health professions (Hightower, 1973) and 94% of the clinical therapists having teaching responsibilities. Worthingham (1969) noted that teaching responsibilities are increasing as the therapist in the clinical setting makes increasing use of aides and assistants.

Students in the clinical education setting are becoming more critical of the experiences offered during this phase of their education. When Worthingham (1969) compared 1961 with 1965 graduates, she found a 30% increase (66% to 96%) in those critical of supervision and experiences offered in clinical education.

Worthingham (1970, b) noted that a directly controlled patient care area was an integral part of very few academic programs, a disadvantage leading to deficiency in teaching clinical skills, lack of faculty involvement in innovations in the clinical area, and a communication gap between clinicians and academic teachers.

Research role

The research role has been urged upon physical therapists since the organization of the profession. The fostering of the development of a scientific viewpoint by therapists served as a major factor in the formation of the association.

Moffroid and Hofkosh (1969) investigated the lack of research activities. They noted the lack of educational preparation for therapists to perform research, especially the lack of mathematical and statistical courses. They felt that clinical research was not as clearly defined as basic research and the therapist-patient interaction caused problems in evaluating research. Many therapists expressed a reluctance to "experiment" with patients; many therapists had little awareness that the effectiveness of patient care is an important aspect of research.

Moffroid and Hofkosh found most physical therapy reserach literature was reported by graduate students with very little research routinely reported by clinicians.

In presidential addresses in 1970 and 1973 Michels made a strong appeal for increasing the research role of physical therapists. Michels (1970) review of the productiveness of theapists in reporting research studies listed six research papers from the 1940s, eleven papers from the 1950s, and forty-six research papers during the 1960s. Since 1930 there has been at least twenty articles or editorials urging more research by therapists. Michels felt many physical therapists could not read the research papers in the literature because their background in research design and statistical methods was poor. He further indicated that therapists not only do not know about research, but are not concerned about their lack of knowledge. He raised the question "how do we know what we do, what we teach,

and what we tell others to do is worthwhile?" The small number of both faculty and clinicians involved in research activity (Worthingham, 1968, a; Conine, 1968,c, 1973; Senters, 1972) has been noted, as has the number of editorials devoted to urging research. The problem of insufficient research activity has continued to the present. Clinkingbeard (1974) editorialized that physical therapists may be in danger of being called professional charlatans unless they document the effectiveness of clinical methods. He made a strong appeal for clinical research to improve the quality of patient care. Several articles directed at improving the therapists' knowledge of research methods, scientific writing and statistics have appeared recently. Since 1970, articles on these topics have been published by Gonella, 1970, 1973, a and b; Lemkuhl, 1970; Moffatt, 1974; and Crocker, 1974.

Clinician role

The role of clinical practice is the central role in all health care professions. The educational programs are concerned initially with the development of clinicians: the early concerns of the physical therapy profession were to standardize the practice of physical therapy and develop minimum educational standards for those who desired to practice (Vogel, 1967; Beard, 1961).

The standards for basic education are periodically re-

vised by the professional association. The most current standards for physical therapy were published in 1972 and cover the competencies needed in patient care. These broadly outlined competencies cover individual patient services, attention to psychosocial needs, communications, administration of services and professional growth. The section on communications which states the therapist must be able to give "accurate and appropriate information concisely and clearly" does not mention the importance of teaching ability, or of understanding the teaching-learning process. The standards under the heading of professional growth contain only a brief reference to research (Standards for Basic Education, 1972).

Presidential addresses during the 1930s and 1940s, in addition to encouragement of research activities, were also concerned with professional recognition (Presidential Addresses Reprinted, 1971). The 1946 presidential address quoted Flexner's criteria for a profession, and discussed the need for clinical therapists to seek professional status. During the 1950s clinicians were praised for their work with poliomyelitis victims and encouraged again to do clinical research. The presidential address of 1961 discussed lengthening the preparation time of the therapist by citing the difficulties of preparing for clinical practice in a four year bachelor degree program and by recommending an internship year. The 1968 presidential address, concerned with physician-

physical therapist relationships, stated physical therapists should be experts in their field, run their clinical departments well, and do clinical research (Presidential Addresses Reprinted, 1971).

In a 1968 editorial, Michels stated that the clinical therapist should apply his interest in patient care to research so that more convincing conclusions could be drawn about the effectiveness of treatment.

The results of a survey of clinical therapists showed that 77% were employed in hospitals or health agencies, and that 19% were in private practice (Senters, 1972). The investigator found that 46% of the therapists surveyed had more than one place of employment. Twenty percent of those surveyed were not working: these were married women. Fifty percent of the therapists worked in a setting not staffed with supportive personnel (aides/assistants) and were not making maximum use of their professional ability. Those who reported using supportive staff had higher incomes and were more likely to have attended continuing education courses in their professional area.

In a study to improve patient services, faculty members were required to participate with clinical therapists in teams related to medical specialty areas. Two problems with clinical staff were reported (Moore, 1974). The clinical therapist often could not relate to the level of sophistication of the medical specialist when developing new programs.

A high "turnover rate" among clinical staff caused problems in long range planning and program development. Clinical team leaders experienced difficulties with the physical therapy faculty member of some teams as these faculty members tended to dominate the thinking of their teams with resulting interpersonal relationships posing problems. The program overall achieved positive results with increased referrals to clinical services and the development of new clinical programs. The problem of rapid turnover of clinical staff was also noted by Worthingham (1968). She noted that many clinic staffs are small, being made up of one or two therapists. Some of these small clinical staffs, especially those without supportive personnel, were isolated from such opportunities for professional activities as inservice programs and continuing education. The depth of a clinic's experience in some settings was very shallow with the majority of staff members having had only one or two years of experience. Many clinical therapists expressed the feeling that physicians did not understand the therapist's role in patient management. Worthingham (1970, a) stated that the clinicians may not have been effective in presenting their role to other professionals in the health care environment.

Worthingham (1969) compared the 1961 and 1965 graduates of physical therapy schools. Both groups were critical of their educational experiences, especially the teaching of prelinical therapy and the practice area of the clinical phase. Many of these graduates expressed an interest in

future graduate study: 56% of the 1961 graduates and 74% of the 1965 graduates sighted further preparation for clinical practice as a major reason.

Conine (1972) surveyed the graduates of one physical therapy program over the ten year period from 1960-1970. This survey also asked current employers to comment on the graduate's abilities. A 73% response was obtained from graduates, a 75% response from employers. Sixty-four percent of the therapists were in general or special hospitals, 20% worked in nursing homes or extended care facilities,2% were in an academic environment, and 2% were self-employed. Twenty-three percent of the graduates were unemployed, and 15% worked part time. The former figures represent primarily married women graduates with children.

Both the graduates of the program and employers noted elements lacking in the educational preparation of the therapist. Employers noted deficiencies in planning for continuity of care, patient care standards and supervision of the clinical activities of the department. Failure to participate in research activities and in the institution's overall educational programs were seen as areas of weakness, as was a lack of planning for professional growth. Conine concluded that increased emphasis was needed in the therapist's educational program in the areas of professional responsibilities in education, research and administration.

She felt this must be accomplished without reduction in the therapist direct-patient-care competencies.

Jacobsen (1974) studied role modeling in physical therapy to determine if academic models or clinical educator models were more important to beginning therapists. The study, confined to female graduates, was carried out by using a Q sort technique. Subjects were selected randomly from a list of 1970 graduates. Only 37% of the returns were useable. The academic model was defined by the subjects as being a teacher first and a person second. The clinical model was defined by the subjects as a practitioner first, a person second and a teacher third. The clinical model was preferred over the academic model by 83% of the participants when comparing "self" to the model. The "ideal therapist" was found in the clinical setting, but more likely to be found during the clinical education period than during the first or second job experience. This indicated to the author a difference in clinical practice as conducted in centers which have teaching responsibilities, as compared with centers not affiliated with a teaching program. The subjects of the study admired the clinical model as a teacher more than they admired the academic model as a practitioner. The

investigator concluded that if students were to admire the academic model they must have the opportunity to see the faculty in a clinical setting. Another major conclusion was that the clinician had more influence in the professional socialization process than the academic instructors had.

A study of students in California physical therapy programs was done by Lee and Shepard (1973), to determine levels of interest in clinical practice. Biographic data of students backgrounds, especially evidence of leadership ability, was examined to determine levels of interest in clinical practice. Students in masters degree programs for basic professional preparation appeared more agressive in pursuing challanging work in the clinical areas, and more likely to demonstrate innovative approaches to clinical practice.

Michels (1972) discussed the clinical education phase of the therapists education. He felt that the area of clinical education was in need of new models and insights, and called for more involvement from all members of the profession to improve the clinical education portion of the therapists educational experience.

Worthingham (1970, b) summed up the study of physical therapist education with the following prescriptions related to the clinical area. She noted that research needed to be performed by more clinicians and academic personnel. The

professional role of the clinician in association with physicians and other health professionals needed improvement in the area of recognition of the physical therapists' capabilities and responsibilities. She felt that although the concept of peer equivalence was important for physical therapists, the bachelors level training of most clinicians made this an unlikely accomplishment. Worthingham felt the clinicians need more ability in administrating physical therapy programs. In her opinion the clinical education period was too short with specialization at the clinical level poorly developed; new arrangements were needed to improve clinical abilities in specialty areas.

Effects of graduate study on profession roles

Increased attention has been paid in the professional literature to graduate study for physical therapists as both basic professional preparation and preparation for teaching, research and other functions. Worthingham (1970, b), Hislop (1968, a), Daniels (1974), Pascasio (1969) and Johnson (1974) have expressed the opinion that basic professional programs in physical therapy should be at the graduate level. Worthingham (1968, a) noted in her study of physical therapy education that 90% of the B.S. level programs required four to eight months longer than the traditional thirty-six month college programs. Certificate programs were eleven to twenty-four months beyond the baccaluareate degree. Beyond the baccalaureate degree,

education not covered by a graduate degree added little to the prestige or salary of the individual. Hislop in a 1968 (a) editorial noted the heavy emphasis on prerequisite science courses in the first two years of college, and the almost completely prescribed professional program of the last two years of the B.S. program allowed little time for electives or humanities to develop a broad educational background.

Pascasio (1969) and Daniels (1974) discussed the proposal for graduate level professional training. The first graduate level program was started in 1959 at Western Reserve University. This program of studies combined elements of the certificate program with the usual requirements for a masters degree into a two year professional masters program. Western Reserve University felt all professional training should be at the graduate level, and of graduate school calibre. Daniels stated the emphasis of a graduate professional program should be the development of clinicians with high levels of competence, capable of assuming an expanded clinical role. This was felt to be especially important since there had been a change of emphasis in the health fields to disease prevention and adequate lifelong health care for all individuals. Daniels also noted the possibility of improved peer relationships between the therapists and other health professionals. This would be true especially in medicine where a trend toward

shortening the time taken to educate physicians has been noted (Mayhew, 1971). Daniels (1974) cites a Stanford University study which stated "the masters degree has a social utility equal to the Ph. D. especially in fields where the gap between what is known and what is being done is great."

Graduate degree programs for therapists already professionally qualified have been in existence since the late 1940s. Michels (1973) noted there were ten masters degree programs by 1960 but only one additional program by 1970. Today there are fourteen graduate programs (Educational Programs, 1974).

Many physical therapists have obtained their masters degrees in areas other than physical therapy, examples are education, basic sciences, public health, etc. It has been shown that there is an increasing number of therapists obtaining their masters degrees in the field of physical therapy (Conine, 1973, Wadsworth). Blair (1972) and Conine and Ramsden (1970) have noted unresolved issues in graduate education for physical therapists, especially in appropriate areas for graduate education and benefits of this study to the individual. A series of articles about individual experiences in graduate education appeared in the literature in 1970 (McMullan, Delehanty, Cambell, Houge, Hardin). These articles were designed to show the reason for and the benefits of graduate study by physical therapists.

The initial emphasis of masters degree programs was to attract those interested in becoming faculty members or administrators. New programs are designed with more flexibility, to attract clinicians (USC, VCU-MCV and Emory University; Graduate School Bulletins, 1974).

In addition to the emphasis on masters degrees there has been a limited discussion of the benefits of the doctorate for physical therapists. Milachek in 1968 stated there were approximately seventy therapists with doctorates. She cites the importance of the terminal degree to academic advancement and research. Singleton (1968) found many physical therapy programs could not properly support a Ph. D. faculty member because of inadequate office and laboratory space. Teaching loads were considered too heavy to allow time for scholarly interests, and adademic rank and salary were not equal to those of faculty in other fields. Physical therapists presently hold doctorates in basic sciences, psychology, education and public health (Milachek, 1968). Hislop (1968, a) called for the development of doctoral programs in physical therapy, stating that thirty years ago a Ph. D. in a service field was "unthinkable" but this is presently possible in nursing, speech pathology, rehabilitation counseling and similar service fields. Since Hislop's editorial advocating this type of development for physical therapy, two universities have announced the availability of doctoral level study for physical therapists. These

programs suffer from the problem noted by Conine of some masters degree programs (1970), the physical therapy aspects of the plan are a cognate minor of graduate study in another discipline, often education.

Hislop (1967) expressed the need for residency training of physical therapists, based on the medical model. The reasons stated for this were the depth of knowledge problems clinicians faced when working in a specialty area, and the need for superior clinicians in specialized treatment areas, clinical teaching, clinic administration and research. Advanced clinical training has undergone very little development. Centers offer an opportunity for advance training in specialized areas through in-service programs for their staff, but few have developed training programs which are certified. An APTA committee currently is investigating the specialty training needs of physical therapists. An indication of the trend toward development of interest in clinical specialty training is the growth of special interest sections of the APTA in areas such as sports medicine, orthopedics, public health, electrophysiological measurement, and research. Johnson (1974, a) notes specialization should be an educational experience, and more than just working in a specialized facility. She feels the delivery of superior service by clinicians in an expanded role is the single most important step for the future of physical therapy.

Professionalism

The professional concerns and the literature about professional roles in physical therapy has been discussed. Now to be considered is who is and who is not "professional". Much literature has been devoted to the definition (Sharof and Levinson, 1967; Moore, 1970; Cheek, 1967). Moore (1970, chap 1) developed a scale of professionalism and criteria for use of this scale. The first criteria was a full-time occupation which was also a "calling". This "calling" represents a set of normative and behavorial expectations. The second criteria was a formalized organization of those in the profession. The purpose of the formal organization was to set entry requirements, and to protect the standards of practice in the profession. Third, knowledge developed by the profession should be esoteric by useful, and the educational process should be of "exceptional duration and difficulty". Moore felt a collegiate education met this criteria, but others have said at least part of the professional training should be at the graduate level (Jencks and Reisman 1968, chap 5; Flexner, 1910). The fourth criteria was a professional service orientation, defined by standards of competence, rules of conscientious performance, and the demonstrated need for the service. His fifth requirement was that the person working in the profession have significant autonomy, with their own judgement and authority more impor-

tant than the client's judgement or authority.

Moore noted that professional services generally were of three varieties. The first are "free" professionals in which the clientele receiving the services are unorganized, as in the private practice of medicine and law. In the second variety the professional works for an organization but the clientele remain unorganized. Here the professional retains a fairly high level of autonomy. The third form occurs when the professional works in an organization and performs services for that organization. The employer and the client are the same; there is a decrease in professional authority. Physical therapy meets the criteria for the professions based on the scale of professionalization developed by Moore (Worthingham, 1960; Williams, 1958). Although physical therapists do not enjoy the same level of professional autonomy as physicians and lawyers, they do retain fairly high levels of professional authority since their clients are not organized. Physical therapy meets the other criteria as well. Parsons and Platt (1973, chap 5) note that professional education has been part of higher education in the United States for some time and state that as long as the emphasis in professional education remains of its cognitive aspects, this is a compatible inclusion.

Professional schools and practitioner conflict

The lack of clinical involvement by physical therapy

faculty members has been noted earlier (Conine, 1973; Worthingham, 1968, a). In discussing conflicts in schools for the minor professions, Glazer (1974) notes an interesting phenomenon. In the major professions of medicine and law, the faculty member who also practices the profession he teaches, adds to his prestige. This is not true of the so-called "minor" professions. An example given is nursing school faculty who generally do not add to their prestige by practising nursing. Practitioners who are faculty members tend to gravitate toward teaching the higher status roles, among which is potential faculty membership, and neglecting or downgrading teaching for the main practitioner role. The problem of prestige or importance of the qualifying or basic practitioner degree was noted by Glazer. In medicine and law the first professional degree, qualifying the individual to practice, is held to be the most important degree. Faculty members with this degree are held in equal, if not higher, esteem in their professional schools than those with academic degrees. This is rarely the case in the minor professions. In physical therapy it has been suggested (Worthingham, 1970, b; Johnson, 1974, a; Hislop, 1968, d) that one is not fully qualified to teach with only the basic qualifying degree, except in the clinical environment. Only those with a graduate degree are qualified to teach in the academic environment. Those with graduate degrees, such as a masters

degree in physical therapy, are rarely held in [illegible] teem than those faculty members who hold [illegible] in another discipline(Hislop and Worthingham, [illegible]

Rogers (1967) discussed the accreditation [illegible] in physical therapy. She found that practitioners [illegible] that control of educational standards by faculty [illegible] did not prepare students for effective work, [illegible] faculty members tended to be unrealistic. [illegible] members felt practitioners were conservative [illegible] of the field, and not oriented toward further [illegible] hew (1971) finds this tension exists in [illegible] sional fields. He states the division of [illegible] teaching and practice leads to periodic [illegible] marily over theoretical versus practical [illegible] Faculty members not only control education [illegible] also admission to study in the field. Faculty [illegible] are largely responsible for determining which [illegible] selected. Trotter (1974) discusses the selection [illegible] of one university program and states the [illegible] opinion about the professional direction and [illegible] field of physical therapy should be taking [illegible] ficulties with student selection.

The attitudes and opinions toward the [illegible] in physical therapy have not been studies in [illegible] is much written about hwat should be, but [illegible] of what is. The various authors cites are [illegible] tudes and opinions. This shaping of attitudes [illegible]

comes not only from within the profession of physical therapy but also from the professions of medicine and other allied health fields. From medicine comes suggestions to increase the therapists' professional functions in the areas of patient evaluation, treatment planning, expanded patient responsibilities, and specialization (Perry, 1964; Hellebrandt, 1960; James and Stuart, 1975).

Many educational suggestions about core curriculum for health professionals, career ladders, increased mobility between health careers, the use of assistants and upward mobility have come from the field of allied health (Hutchinson, 1960; Greenfield, 1969; McTernan, 1972; Kuhl, 1972; and Rosenfield, 1972). There has been increased concern about accreditation and licensure and its effects on professional growth (Watts, 1973; Pennell, Proffet and Hatch, 1971). New health workers have been proposed to assume some physical therapy functions, such as othopedic assistants and respiratory therapists (Light, 1969). Some physical therapists perceive this as a threat and a lost opportunity (Hogue, 1974): others see it as freeing the therapist for other important tasks (Pascasio, 1969; Johnson, 1974, b; McTernan, 1972; Kuhli, 1972; Perry, 1968; Rosenfeld, 1972). The attitudes and opinions of physical therapists about these matters will affect professional roles now and in the future.

Many professional fields have been studied from the view-

point of attitudes and opinions about professional roles. Examples are nursing, medicine and education (Corwin, 1967; Pearlin, 1967; Hughes, MacGill and Deutcher, 1958; Grace, 1972; and Gregg, 1972). Conine (1973), Griffen (1973), Lee and Shepard (1973) have noted the lack of study of physical therapists' attitudes toward professional roles.

Statement of hypothesis

The literature cited supports the development of the hypothesis - There are differences in attitudes and opinions held by clinicians and faculty members regarding the importance of the professional roles of teaching, clinical practice and research in the field of physical therapy. The two sub hypotheses derived from the hypothesis are:

1. Faculty members will have positive attitudes and opinions regarding the importance of the role of teaching, and neutral or negative opinions regarding the importance of clinical practice and research.

2. Clinicians will have positive attitudes and opinions regarding the importance of the role of clinical practice, and neutral or negative opinions regarding the importance of teaching and research.

CHAPTER II

Selection of Participants

Three hundred clinicians and faculty members in the field of physical therapy were selected randomly to participate in the study. Using a table of random numbers, one hundred and fifty participants comprising the faculty group were selected from the Physical Therapy Faculty Roster 1973-74 provided by the Department of Educational Affairs of the American Physical Therapy Association. In a similiar manner, one hundred and fifty clinicians were selected from the active membership roster provided by the Department of Management Services, Membership Section of the American Physical Therapy Association.

For the purpose of the study, a faculty member was defined as a physical therapist working full time in an academic setting with responsibilities related to teaching students in a professional level physical therapy program.

Clinicians were defined as physical therapists working full time in health care setting with major responsibilities related to patient care activities.

Definition of terms

The following terms used in the study were defined as follows:

attitudes - a relatively enduring organization of beliefs around an object or situation predisposing one to

respond in some preferential manner (Rokeach, 1968, chap 6)

role - both a behavorial repertoire characteristic of a person or a position and a set of standards, descriptions, notions or concepts held (by anyone) for the behaviors of a person or a position (Thomas and Biddle, 1966, chap 1).

opinion - a view, judgement or appraisal formed in the mind about a particular matter. A belief stronger than an impression and less strong than positive knowledge (view, belief, conviction). A judgement one holds to be true (Websters Unabridged Dictionary).

Data collection

Data was collected through the use of a three-part questionaire mailed to the selected participants for completion.

The first part of the questionaire requested bibliographic data about age, sex, job title, work history and degrees held. This data was collected in order to compare this study group with previous study groups (See Appendix A for complete questionaire).

The second part of the questionaire contained a twenty-item, Likert scale using a five point spread from "agree strongly" to "disagree strongly". The scaled items were related to research, teaching and clinical practice roles

and were mixed in a random fashion with items from each area of interest scattered throughout the questionaire.

The final part of the questionaire consisted of a semantic differential (SD) instrument which utilized the words "teaching", "research" and "clinical practice" as concept words. Ten word pairs with opposite meanings were used as the scale items for each concept word. The ten word pairs were mixed randonly and the positions were reversed for the different concept words. The word pairs were selected from several sources (Osgood, Tuci and Tannenbaum, 1957; Robinson and Shaver, 1969; Heise, 1965).

Rationale for development of the questionaire

Likert type scales have been used in questionaires since Likert originally described this form of survey instrument in 1932. The questionaire as a data collection instrument of opinions and attitudes had come into use nearly a half century earlier (Murphy and Likert, 1938, chap 1). Most authors discussing the subject have approved the construction of scaled items by individual researchers when existing scales are not adequate for the problem to be investigated (Likert, 1933, 1967; Shaw and Wright, 1967, chap 2; Thurstone, 1967).

Likert points out that when constructing scaled items,

the statements must be such that those with differing points of view will respond differently. Likert scales are a form of summated rating scale containing a set of attitude items of approximately equal value (Kerlinger, 1973, chap 29).

Based on a review of the literature, the questionaire statements (scale items) were written to elicit opinions of the professional roles of interest. The questionaire was used in a preliminary study of forty selected individuals: twenty faculty members and twenty clinicians. The preliminary study results were analysed by computing the mean values for each scaled item for the two groups, and by soliciting comments about the questionaire from the participants. One difficulty noted was the wording of the scaled items. Those items calling for conclusions rather than opinions were found to be more factual than opinion oriented. Likert pointed out this problem and stated that persons with differing opinions may often agree on facts (Murphy and Likert, 1938). The questionaire used a five point scale to make use of the advantages of intensity of agreement-disagreement while discouraging the tendency of response set. Response set has been described as the tendency to respond to most or all items in similar fashion, such as always at the extremes of the scale, or always in the neutral area (Kerlinger, 1973, chap 29; Athansiou and Head, 1969, chap 1). The major advantage in using a scale

of agreement-disagreement is the increase in the variance, response set tends to decrease this variance (Robinson et al, 1969, chap 1). The wording of the scaled items was directed toward discouraging response set by reversing the end of the scale most likely to be used in several items throughout the questionaire (Gregg, 1972; Dawes, 1972, chap 2).

The questionaire form took into account these considerations:

(1) Statements of fact were avoided and statements of opinions were used.

(2) Statements were worded to enhance the likelihood of differences between the two groups.

(3) Statements were worded to elicit agree-disagree choices.

(4) Statements were kept short and simple.

(5) Statements about the three roles of interest were scattered throughout the questionaire and worded in such a way that the end of the scale most likely to be used did not follow a pattern.

The questionaire format attempted to satisfy the requirements of scale construction noted by Likert (1932), Murphy and Likert (1938), and Robinson et al (1969).

Rationale for use of semantic differential technique

The semantic differential (SD) was developed by Osgood (1957) as a method of measuring the connotative meaning of concepts. Osgood stated that a concept's meaning

is closely related to attitudes, and that attitudes tend to define a concept's meaning to an individual. A major advantage to the SD technique is the wide range of possibilities for its use and analysis. When using the SD technique in a research problem one is concerned with the selection of the appropriate concepts for study. The primary concern of this study was to investigate attitudes and opinions of the physical therapist toward the professional role concepts of "research", "teaching", and "clinical practice".

The second step in constructing a semantic differential is the selection of the word pairs. Osgood makes the point that these word pairs should meet the criterion of relevance to the concepts under study. Osgood noted three major factors measured by word pairs: evaluation (good-bad), potency or strength (strong-weak), and activity (fast-slow). A word pair may express some of each of these factors, but each word pair should emphasize one of the three major factors. Whether these three factors are important has been questioned by some investigators. Wiggins and Fishbein (1969) felt there was a significant difference from individual to individual with a given word pair implying evaluation to one individual but potency to another. Green and Goldfried (1965) noted that the factors changed from concept to concept with word pairs used for evaluation for one concept not implying evaluation for another concept. Osgood

(1957, chap 5) stated that the most important factor in attitude studies is evaluation since attitudes imply a predisposition to respond in a certain manner. Several authors have supported this view. Carrol (1959) who reviewed Osgood's work, felt that evaluation was by far the most stable and most important factor in attitude studies. Studies by Prothero and Keehn (1957), Tannenbaum (1956), Brinten (1961) and Wiggins and Fishbein (1969) have supported the idea that the evaluation dimension is the most important in attitude studies.

Osgood (1957, chap 1),in his original study, published the dimensionality of these three factors for fifty words. Others, most notably Heise (1965), have expanded this information by publishing these profiles of the three factors for many words. However, many word pairs that can be used with concepts do not have published information available on the dimensionality of these three factors. Kerlinger (1973) and Snider (1962) both pointed out that an investigator should select words relevant to the concepts being studied in the context of the research problem regardless of information available on these factors. Carrol (1959) in demonstrating that the SD was a technique and not a test, felt that the SD had possibilities for a great variety of uses if the above criteria were kept in mind.

The investigator must choose the number of bipolar adjectives or scales used with each concept. Osgood initially used as many as twenty word pairs, but other investi-

gators have reduced this. Heise (1965) noted that four word pairs often worked adequately. The selection of ten word pairs for this study was a compromise between an extremely abbreviated list and the lengthy one used originally by Osgood. The ten word pairs used for this study were drawn from a wide variety of sources and appeared relevant to the concepts under study (Robinson and Shaver, 1969; Osgood, 1957; and Heise, 1965).

Osgood stated that attitudes lend themselves well to SD study since attitudes have direction (for or against something) and intensity (how much for or against something) from a neutral point. In his attitude studies, Osgood (1957, chap 5; 1967) used scales or word pairs primarily of the evaluative type. The method meets the major properties of attitude measurement of direction intensity by providing the individual with a seven point scale.

Osgood (1957, chap 5) reported extensive reliability studies of the SD in a wide range of uses. Most of the studies were of the test-retest variety. In the area of attitudes, .85 reliability coefficients were reported. Osgood reported that less than 5% of those tested showed a shift in intensity on scoring work pairs of greater than two points. Osgood concluded that the relationship of concepts to scales proved to be stable in his studies.

Osgood (1957, chap 5) felt the SD when used with attitude studies, demonstrated reasonable face validity, especially on the evaluative dimension. Osgood also reported on

attitude studies using the SD technique compared with the Thurstone scales. He reported correlation coefficients of .90 or better with several of the Thurstone scales. This was also true of studies with Guttman type scales. Osgood concluded that the SD can be used as an index of attitudes, that it was easily employed, and that it could be scored easily.

Snider (1962) compared a SD constructed from an attitude scale for stereotypes and the scale from which it was constructed and found high levels of agreement between the two instruments.

Tannenbaum (1956) used a variety of SD scales to record changes in attitudes. A preliminary portion of the study showed the SD to be stable, indicating reliability and also valid when compared with other attitude scales. Brinton (1961) used SD studies in the construction of an attitude scale for public opinion research, again testifying to the relationships between attitude scales and the SD.

To test the SD instrument utilized in this study, a preliminary study was conducted with forty individuals. No difficulties were noted in the participants' understanding of the method. As a result of the preliminary study, only one change was made. The word pair "dull-intellectual" was changed to "dull-interesting" since this improved clarity and avoided duplication with another word pair ("stupid - intelligent") being used.

The following steps were followed in construction of the SD instrument for the study:

(1) the concepts were the three roles under investigation.

(2) word pairs were collected from a variety of sources. Twenty word pairs relevant to the concepts were selected. The final selection of the ten word pairs from this group was based on comments and statements found in the review of the literature, and their relevance to the concepts.

(3) The word pairs selected were used with each concept but the order of the word pairs was mixed for each concept and several of the word pairs were reversed for the different concepts. This was done to emphasize the consideration of each word pair with the individual concept word and to reduce response set.

Analysis of data

The questionaire data was analyzed in two ways. The first was an analysis of variance for the twenty items to detect differences between the two groups. Age was used as a covariant and the effects of sex on the responses was tested for. The second method of analysis of the questionaire was by percentage of response to each question along the scale from agree strongly to disagree strongly. This was done for each group by sex. This descriptive method of analysis was done to show the percentage of responses to each point along

the scale and to highlight the number of neutral responses. It was felt that this provided additional information in interpreting the results.

The SD was also analyzed in two ways. The first of these was an analysis of variance of the individual mean scores for each concept. Mean scores were derived for each individual by totaling the scores of the word pairs for each concept and then calculating a mean score for each concept word. Age was used as a covarient and the effects of sex were tested for. The second method was a breakdown of the means for each word pair for each concept. Since the same word pairs were used for each concept this allowed for comparisions of means of the word pairs for each concept. Means for each group were obtained this way as well as means for each sex within the groups. These means were then plotted to obtain a profile of the word pairs for each concept for the two groups to permit direct visual comparisions.

CHAPTER III

Results

The response of the participants

The response rate of the participants was 200 returned questionaires of the 300 sent. Three of the returned questionaires could not be used due to inadequate or missing data. Eight questionaires were returned by the post office due to lack of a forwarding address of these individuals. The overall response rate was nearly 67%. The faculty group returned 106 of 150 questionaires or 70.6% and the clinician group returned 91 of 150 or 60.6% of the questionaires.

Characteristics of the participants

The mean age of the clinicians was 33.6 years (see table 1). Male clinicians were slightly older (35.5 years mean age) than female clinicians (31.7 years mean age). Faculty members had a mean age of 41.4 years with very little difference in the mean age for males and females.

The educational attainments of the clinician group can be seen in table 2. The highest degree held in physical therapy was the bachelors for 46 individuals, a post bachelors

TABLE 1

Age Distribution By Group and By Sex

Clinicians	No. Of Respondents	Mean Age	S.D.	Group Mean
Males	36	35.5	9.8	
				33.6
Females	55	31.7	10.4	
Total	91			
Faculty				
Males	35	41.5	8.9	
				41.4
Females	71	41.3	10.8	
Total	106			

TABLE 2

Analysis of Educational Levels of Clinicians	
a. Highest Degree Held in Physical Therapy	
Bachelors	46
Certificates	38
Masters	7
Total	91
b. Masters Degrees - Major Field	
Physical Therapy	7
Education	2
Public Health Administration	2
Physical Education	1
Rehabilitation Counseling	1
Total	13
c. Degrees in Progress - Masters	
Neurophysiology	1
Anatomy	1
Health Care Administration	1
Total	3
d. Total % with Advanced Degrees	14.2%
Total % with Doctoral Degrees	0%
Total with Advanced Degrees or degrees in progress	17.5%

certificate for 38 individuals and a masters degree for 7 participants in the study. A total of thirteen individuals or 14% held a masters degree. This included the seven therapists with masters degrees in physical therapy plus 6 other degrees at the masters level in various fields. Three individuals reported masters degree work in progress making the total percentage of clinical therapists with advanced degrees obtained or in progress 17.5%.

The faculty groups educational preparation can be seen in table 3. Bachelors degrees were the highest degrees obtained by 28 of the therapists, 24 certificates and 55 masters degrees were obtained as the highest degree in physical therapy.

In the area of advanced degrees the faculty group had a total of 81 masters degrees including the fifty-five in physical therapy. Education was the 2nd most common area for the masters level work with 12 individuals having their degree in this area. Sixteen therapists reported holding a doctorate with a degree in education accounting for 6 of these degrees, the rest being spread over several areas. Degrees in progress were reported by five masters candidates and 6 doctoral candidates. The total number of individuals with advanced degrees was 87 for 82% of the faculty group. If degrees in progress are added the total is increased to 92 faculty and 86.7% of the total. The number of faculty with a doctorate equaled 15% of the faculty group and adding

TABLE 3

Analysis of Educational Level - Faculty	
a. Highest degree held in Physical Therapy	
Bachelors	27
Certificates	24
Masters	55
Total	106
b. Masters Degrees - Major Field	
Physical Therapy	55
Education	12
Physical Education	6
Anatomy	2
Other (Anthropology, Biology, Health Sciences, etc.)	6
Total	81
c. Doctorates - Ph. D./Ed. D.	
Education	6
Neurosciences	2
Anatomy	2
Physical Education	3
Medical Sociology	1
Pathology	1
Public Health	1
Total	16

TABLE 3

Continued

d.	Degrees in Progress		
	Masters:		Doctorates:
	Physical Education------ 2		Education--------- 4
	Education---------- 3		Epidemiology------ 1
	Total---------- 5		Anatomy---------- 1
			Total---------- 6
e.	Total % with advanced degrees---------- 82%		
	Total % with Doctorates---------- 15%		
	Total % with advanced degrees or degrees in progress--- 86.7%		

those in progress increased this total to 20% of the group.

The faculty ranks of the faculty group and the occupational status of the clinician group can be seen in table 4. The breakdown of faculty ranks is incomplete since the majority of department chairman/directors of programs failed to list faculty rank along with their title. The five faculty members in the "other" category represent the faculty person charged with the responsibility of coordination of the clinical portion of the students education. These individuals also have faculty ranks in most instances but failed to list this rank along with their title.

The occupational status of the clinician group revealed that 28 therapists or 30.7% were department heads with some administrative as well as clinical duties. Forty-one percent of the participants were staff therapists having primarily clinically related duties. Eight individuals reported they were in private practice exclusively. Six individuals reported they were no longer employed as physical therapists. Three of these individuals had retired recently to raise young children, one reported work as an elementary school teacher and two individuals had returned to school for full time graduate study. Seven members of the clinician group reported duties in the clinical setting as being full time in administration, clinical teaching, research or athletic training and teaching.

TABLE 4

Major Occupational Titles of Groups		
Faculty		
25	Department heads (Director/Chairperson - ranks not reported)	23.5%
4	Professors (2 Chairpersons)	3.7%
14	Associate Professors (2 Chairpersons)	13.2%
35	Assistant Professors (1 Chairperson)	33 %
23	Instructors	21.6%
5	Other (Clinical Coordinators, Lecturer or unknown)	4.7%
106	Total	
Clinicians		
Chief/Director	28	30.7%
Assistant Chief	4	4.3%
Staff/Senior Staff	38	41.7%
Private Practice	8	8.7%
Administrator	2	2.1%
Trainer	1	1 %
Clinical Research	1	1 %
Clinical Education	3	3.2%
Not employed as physical therapist (previously clinical jobs)	6	6.5%
	91	

The first job of all respondents in the field of physical therapy was in an area involving clinical work usually a hospital, clinic or nursing home setting. Many reported clinical teaching as part of their first job.

Results of questionaire portion of data collection

Table 5 shows the means and standard deviations for each of the 20 questions for the clinician and faculty groups. Means are reported for males and females of both groups. The data was analyzed by an analysis of variance design using age of the participants as a co-variant. The analysis was carried out for differences between groups and also tested for differences between sexes. Table 6 shows the F values and significance levels for the differences between the two groups and also for the difference based on sex. Five questions revealed differences that were significant at the .001 level between the two groups. Differences of significance based on group were found on questions 11, 12 and 13 which were related to research. These differences were primarily based on intensity of the attitude expressed with the faculty group being more intense in their feelings about research. Questions 17 and 19 were about the teaching role and reflected a difference in attitudes by the clinician about the faculty position.

Questions 7 and 20 in which significant differences based on sex were found were also related to the teaching role. The male clinicians response to question 7 was strong

TABLE 5

Means and Standard Deviations - Questionnaire

Question Number	Clinicians				Faculty			
	Males		Females		Males		Females	
	M	SD	M	SD	M	SD	M	SD
1.	1.893	.811	1.929	.828	1.636	.895	1.789	.955
2.	2.861	.961	2.857	.999	2.848	1.228	2.690	1.129
3.	4.028	1.028	3.893	.824	3.970	.684	4.056	.773
4.	1.417	.554	1.321	.606	1.485	.712	1.310	.523
5.	2.722	1.233	2.982	1.198	2.576	1.119	3.014	1.315
6.	2.972	.941	3.107	.867	2.697	1.262	2.986	1.076
7.	4.528	.560	4.329	.668	4.424	.614	4.197	.729
8.	3.611	.964	3.607	.908	3.727	1.039	3.549	1.106
9.	4.528	.560	4.429	.828	4.455	.564	4.676	.555
10.	4.389	.599	4.375	.676	4.182	.808	4.366	.567
11.	4.250	.692	4.179	.690	4.606	.827	4.606	.597
12.	3.083	1.204	3.161	1.125	2.636	1.113	2.549	1.093
13.	2.472	.878	2.321	.664	2.000	.661	1.958	.801

TABLE 5

(continued)

Means and Standard Deviations - Questionnaire

Question Number	Clinicians				Faculty			
	Males		Females		Males		Females	
	M	SD	M	SD	M	SD	M	SD
14.	1.861	.961	1.875	.854	1.879	.992	2.127	.955
15.	2.722	.974	2.875	.916	2.909	.765	3.014	.853
16.	3.583	.732	3.411	.682	3.485	.906	3.549	.983
17.	2.389	.871	2.714	.825	2.758	1.001	2.761	1.007
18.	2.944	1.013	3.036	1.095	2.939	1.171	2.944	1.170
19.	2.583	.937	2.661	.978	3.455	1.003	3.366	1.099
20.	1.611	.688	1.661	.514	1.788	.630	1.380	.570

TABLE 6

Analysis of Variance Questionnaire Results						
	Sex			Group		
Question Number	F	Mean Square	P Less Than	F	Mean Square	P Less Than
1.	0.626	0.487	0.430	0.352	0.275	0.553
2.	0.120	0.140	0.729	1.637	1.903	0.202
3.	0.107	0.072	0.744	1.373	0.933	0.243
4.	2.649	0.917	0.105	0.183	0.063	0.669
5.	2.780	4.166	0.097	0.633	0.949	0.427
6.	2.476	2.602	0.117	2.935	3.084	0.088
7.	4.392	1.950	0.037	1.691	0.751	0.195
8.	0.672	0.683	0.413	0.559	0.568	0.455
9.	0.362	0.152	0.548	2.385	1.003	0.124
10.	0.737	0.313	0.392	0.409	0.173	0.523
11.	0.172	0.081	0.679	16.169	7.584	0.001
12.	0.024	0.030	0.877	15.016	18.829	0.001
13.	1.269	0.866	0.261	14.076	9.601	0.001
14.	0.814	0.715	0.368	1.844	1.619	0.176
15.	0.679	0.525	0.411	3.019	2.333	0.084
16.	0.272	0.196	0.692	0.619	0.445	0.432
17.	0.894	0.765	0.346	3.904	3.341	0.050
18.	0.021	0.026	0.886	0.024	0.030	0.877
19.	0.088	0.090	0.767	33.651	34.214	0.001
20.	3.825	1.345	0.052	2.971	1.045	0.086

disagreement and faculty females response to question 20 was strong agreement.

The questionaire results (Table 7) was also analyzed by group and by sex for the percentage of those responding to each scale item from agree strongly to disagree strongly. Table 7 reports the question from the questionaire followed by the percentage of respondents to the scale item. This analysis supplements the statistical analysis by showing in more direct fashion the area of differences between the groups and the percentage of neutrals or no opinion respondents. Neutral response rates were considered to be high if 25% of one group or sex were neutral on a question. Eight questions in the questionaire met this criteria.

Questions 1, 4, 5, 10, 14, 15 and 17 were related to clinical practice (see Table 7). Question 1, stating that clinical practice was the basic purpose of physical therapy was agreed upon by both groups with the faculty holding this opinion more forcibly than the clinicians. Question 4 on role expansion in the clinical area was also agreed on by both groups with females, both clinicians and faculty, holding this opinion the most strongly. Question 5 regarding graduate study and clinical competence showed that the males - both clinicians and faculty had a higher percentage of agreement with the statement (over 50%) while females from both groups disagreed by over 40% with 14 to 16% being neutral.

TABLE 7

Percentage Responses by Group and by Sex to Questionnaire

	Agree Strongly	Agree	Neutral	Disagree	Disagree Strongly
1. Clinical practice (direct patient care) should be the basic purpose in the field of physical therapy.					
C^M	33	56	8	0	3
C_F	29	58	4	9	0
P^M	48	46	0	3	3
P_F	45	42	3	9	1
2. Clinical research is so important that every clinician should be performing at least some clinical research.					
C^M	3	42	25	28	3
C_F	5	35	27	29	4
P^M	11	37	17	26	9
P_F	14	38	15	30	3
3. The most important aspect of graduate study is the preparation for becoming a faculty member.					
C^M	3	8	8	44	33
C_F	2	5	13	60	20
P^M	0	3	14	66	17
P_F	0	4	6	62	25
4. Clinical competence and expansion of the physical therapist role in patient care should be a major concern for all clinicians.					
C^M	61	36	3	0	0
C_F	74	22	2	2	0
P^M	60	34	3	3	0
P_F	72	25	3	0	0
5. Further graduate study is essential for increasing clinical competence.					
C^M	14	42	11	25	8
C_F	13	27	16	36	7
P^M	14	43	8	34	0
P_F	18	20	14	38	10
6. All faculty members should be actively engaged in research.					
C^M	0	39	30	25	5
C_F	2	25	31	42	0
P^M	14	43	8	26	8
P_F	4	39	20	29	7
7. Leadership in the professional organization should be held by faculty members rather than clinicians.					
C^M	0	0	3	42	55
C_F	0	0	5	53	42
P^M	0	0	6	46	48
P_F	0	1	10	53	34
8. Faculty should devote their major efforts to teaching rather than spreading their interest over research and clinical activities as well.					
C^M	0	19	14	53	14
C_F	1	18	16	54	9
P^M	3	14	6	60	17
P_F	4	17	17	44	17
9. Teaching skills are not important for the physical therapist in the clinical setting.					
C^M	0	0	3	42	55
C_F	2	0	4	40	54
P^M	0	0	3	46	51
P_F	0	1	0	28	70
10. Clinical activities and patient care are not important for faculty members to engage in.					
C^M	0	0	5	50	44
C_F	0	2	5	47	45
P^M	0	6	6	51	37
P_F	0	0	4	55	41

TABLE 7
(continued)

	Agree Strongly	Agree	Neutral	Disagree	Disagree Strongly
11. Most research related to physical therapy should be carried out by those in other field, eg, medicine, basic scientist rather than therapists.					
C^M	0	3	5	55	36
C_F	2	0	5	63	27
F^M	0	0	3	23	74
F_F	0	1	3	51	45
12. Therapists do not engage in research because their education does not prepare them for this function.					
C^M	5	36	17	28	14
C_F	5	29	16	40	9
F^M	11	46	14	23	3
F_F	14	42	17	22	3
13. Faculty teaching loads and other duties should not prevent them from devoting their time to research activitiess.					
C^M	5	61	22	11	14
C_F	5	60	31	4	0
F^M	20	66	11	3	0
F_F	27	58	8	7	0
14. It is essential for faculty members to maintain a clinical contact and be actively involved with patient care.					
C^M	39	47	5	5	3
C_F	38	40	16	5	0
F^M	43	40	6	11	0
F_F	29	38	22	10	0
15. It is essential that faculty members serve as consultants to clinical departments.					
C^M	8	36	28	28	0
C_F	7	25	44	22	2
F^M	3	26	48	23	0
F_F	1	29	37	31	1
16. Faculty members should put in more hours per week than the clinical physical therapist.					
C^M	0	3	42	42	13
C_F	0	47	44	45	4
F^M	0	14	31	43	11
F_F	1	15	25	42	15
17. Faculty members should experience pressures from the clinician to prepare students differently than they are presently being prepared for clinical practice.					
C^M	14	44	30	11	0
C_F	5	40	40	15	0
F^M	6	40	28	23	3
F_F	7	39	28	21	4
18.. Faculty members must be more up-to-date on new developments in the field than clinicians.					
C^M	0	47	17	30	5
C_F	4	3	20	38	5
F^M	11	31	11	40	6
F_F	7	39	15	28	10
19. Faculty members of departments of physical therapy are likely to be held in high esteem as other departments on campus.					
C^M	8	44	30 30	14	3
C_F	2	49	24	22	4
F^M	6	20	26	34	14
F_F	3	27	14	44	13
20. Teaching is a highly important function of the clinical therapist.					
C^M	47	47	3	3	0
C_F	34	65	0	0	0
F^M	37	51	11	0	0
F_F	66	29	4	0	0

Questions 10 and 14 both related to faculty involvement in clinical activities. Responses of disagreement to question 10 were very uniform while responses to question 14 showed faculty females not agreeing as strongly as the other groups and having 23% with neutral responses. The statement (question 15) that faculty should serve as consultants to clinical departments showed male clinicians most in favor of this with the other categories being split close to evenly in agreement-disagreement. Neutrals on this question were very high, from 28% (male clinicians) to 48% (male faculty). Question 17 asked about pressures from clinicians on faculty about student preparation for clinical practice; over 40% in each category agreed, while neutral responses ran from 28 to 40%.

The teaching role was explored by questions 3, 7, 8, 9, 16, 18, 19 and 20. Some of these questions were about teaching as a function and others were about the role of teacher (faculty member). Question 3 related faculty membership to graduate study and drew disagreement from both groups. More male clinicians disagreed strongly than the others but disagreement was over 75% in all categories. The seventh question asked about leadership in the professional organization, and there was strong disagreement by both groups that this leadership should be by faculty. Male clinicians expressed this disagreement the most strongly and female faculty the least strongly. Question 8 proposed that the faculty devote

its major interests to teaching rather than spreading interests into research and clinical activities. This was disagreed with by both groups with faculty males disagreeing the most strongly and female clinicians the least strongly. Questions 9 and 20 were very similiar and were concerned with teaching skills and teaching functions of the clinician. All categories felt this was an important area for the clinician registering strong disagreement to question 9 and strong agreement to question 20. Female faculty held the strongest opinions on these questions compared to the others.

Question 16 proposed that faculty should put in more hours working per week than clinicians and found 42% neutral responses in the clinician group and 28% neutral responses among faculty with 29 to 57% disagreement trom all categories. Question 18 proposed that faculty should be more up to date in new developments than clinicians. The response was a nearly equal division between agreement and disagreement except for female clinicians who had a higher percentage of disagreement than agreement. Question 19 about faculty esteem revealed an interesting difference between the groups, clinicians tended to see the faculty as having esteem as high as other faculty (with 27% remaining neutral) while the faculty felt its esteem was not as high as others on campus (52%). Faculty females hold this opinion

more strongly than male faculty - 56% compared to 48% expressing disagreement.

The questions related to research were 2, 6, 11, 12 and 13. Question 2 stated that clinical research was so important every clinician should be performing some research and found that 26% were neutral, 45% of male clinicians and 40% of female clinicians expressed agreement. The faculty had a slightly higher (48%) level of agreement and fewer neutrals. Question 6 asked essentially the same question of faculty proposing research for all faculty members. The clinician group again showed a higher proportion or neutral responses (31%) with male clinicians agreeing at the rate of 39% and female clinicians disagreeing in 42% of cases. Question 11 relating to other than physical therapists carrying out research in physical therapy elicited disagreement from both groups which was expressed more strongly by faculty and most strongly by male faculty (74% disagree strongly). Question 12 proposed that therapists do not engage in research because their education does not prepare them for this function. This found higher levels of agreement among faculty (57%) than among clinicians. The clinician group found 49% of female members disagreeing while 41% of males agreed and 42% disagreed.

Question 13 essentially about faculty having time for research showed 85% or the faculty supported this while 66%

of the clinicians supported this with 26% being neutral.

The questionaire portion of the data supported the main hypothesis of differences between the experimental groups on attitudes and opinions regarding the professional roles of clinical practice, teaching and research. A complete discussion of the hypothesis and the subhypothesis is presented after the presentation of the results of the semantic differential portion of the data.

Semantic differential results

The SD was scored by assigning a number from 1 to 7 to the scales with 1 being the least favorable response and seven the most favorable response on the scale for the word pairs.

The means, standard deviations and analysis of variance results are displayed in tables 8 and 9. The means for the groups and for sex were derived from individual means obtained by totaling the scores of the ten word pairs for each concept word and dividing this by 10 to obtain a single score for each concept word for each individual. Age was used as a covariant in the analysis of variance and the influence of the factor of sex was tested for. No significant differences of the means were found on the basis of sex at the .05 level. Significant differences between the groups were found for the concept words "clinical practice" and "teaching" at the .05 level while no differences were found for the concept word research.

TABLE 8

Means and Standard Deviations - Semantic Differentials

	Concept Words					
	Clinical Practice		Teaching		Research	
	M	SD	M	SD	M	SD
Male Clinicians	5.953	.56%	5.897	.810	5.661	.897
Female Clinicians	5.913	.618	5.915	.559	5.687	.605
Male Faculty	5.703	.745	6.191	.550	5.866	.820
Female Faculty	5.883	.795	6.170	.647	5.684	.985

TABLE 9

Analysis of Variances - Semantic Differential				
Test for Sex		F	Mean Square	P - less than
Concept Words	Clinical Practice	1.119	0.518	0.921
	Teaching	0.022	0.009	0.881
	Research	0.263	0.189	0.609
Test for Group				
Concept Words	Clinical Practice	5.519	2.555	0.020
	Teaching	4.094	1.661	0.044
	Research	0.039	0.028	0.843

The clinician group had the highest means for the concept word clinical practice with a slightly lower mean for teaching. The clinician groups lowest mean was for the concept word research. The faculty group had its highest mean for the concept word teaching with clinical practice in second place and research having the lowest mean.

The SD was also analysed by calculating the means and standard deviations for each word pair for each concept word for both groups. Tables 10, 11 and 12 show the means for males and females for each group and the overall group means for the word pairs for the three concept words. The data from these tables was used to construct a profile for each concept word by plotting on a graph the position of the means for each word pair for the concept words. These profiles were plotted contrasting the males and females responses for each group for the concept words (Figures 1 to 6) and constrasting the group means against each other (Figures 6 to 9).

The SD profiles for clinical practice (Figures 1, 2 and 7) all follow a similiar pattern of a shift to the left for the word pairs superior-inferior, leader-follower and independent-dependent. This shift is most noted on the profile of faculty males. The shift is all profiles is most notable for the word pair independent-dependent. The highest values for word pairs was assigned to the words

TABLE 10

Means for SD Word Pairs						
Clinical Practice						
	Clinician			Faculty		
Word Pairs	Male	Female	Group	Male	Female	Group
1. Stupid Intelligent	6.472	6.345	6.396	5.914	6.310	6.179
2. Worthless Valuable	6.667	6.782	6.736	6.771	6.854	6.830
3. Rigid Flexible	5.722	5.582	5.637	5.829	5.648	5.708
4. Dull Interesting	6.083	6.400	6.275	6.200	6.310	6.274
5. Inferior Superior	5.694	5.455	5.549	5.229	5.324	5.292
6. Follower Leader	5.194	5.291	5.253	4.686	5.127	4.981
7. Dependent Independent	5.083	5.382	5.264	4.400	5.099	4.868
8. Unimportant Important	6.778	6.709	6.736	6.486	6.761	6.670
9. Competitive Cooperative	5.472	5.582	5.538	5.657	6.042	5.915
10. Disorganized Systematic	6/167	5.600	5.824	5.714	5.465	5.547

TABLE 11

Means for SD Word Pairs						
Teaching						
	Clinician			Faculty		
Word Pairs	Male	Female	Group	Male	Female	Group
1. Stupid Intelligent	6.611	6.527	6.560	6.171	6.451	6.358
2. Worthless Valuable	6.694	6.745	6.725	6.743	6.732	6.736
3. Rigid Flexible	5.500	5.527	5.516	6.086	5.767	5.868
4. Dull Interesting	5.861	6.327	6.43	6.486	6.296	6.358
5. Inferior Superior	5.667	5.545	5.593	5.943	5.690	5.774
6. Follower Leader	5.889	5.982	5.945	6.114	6.119	6.151
7. Dependent Independent	4.944	4.745	4.824	5.657	5.775	5.736
8. Unimportant Important	6.278	6.836	6.615	6.714	6.775	6.755
9. Competitive Cooperative	5.139	4.964	5.033	5.229	5.690	5.538
10. Disorganized Systematic	6.222	5.982	6.077	6.200	6.155	6.170

TABLE 12

Means for SD Word Pairs						
Research						
	Clinician			Faculty		
Word Pairs	Male	Female	Group	Male	Female	Group
1. Stupid Intelligent	6.000	6.309	6.187	6.400	6.268	6.311
2. Worthless Valuable	5.944	6.509	6.286	6.743	6.366	6.491
3. Rigid Flexible	4.722	4.655	4.681	5.171	4.380	4.642
4. Dull Interesting	5.583	5.491	5.527	5.714	5.620	5.651
5. Inferior Superior	5.361	5.255	5.297	5.286	5.211	5.236
6. Follower Leader	5.806	5.545	5.648	5.743	5.662	5.689
7. Dependent Independent	5.389	5.382	5.385	5.629	5.761	5.717
8. Unimportant Important	6.250	6.582	6.451	6.486	6.423	6.443
9. Competitive Cooperative	4.889	4.836	4.857	4.829	4.493	4.604
10. Disorganized Systematic	6.167	6.145	6.154	5.914	6.099	6.038

FIGURE I

SD Profile - Clinician Group
Concept Word - Clinical Practice
Males ———
Females - - - - - -

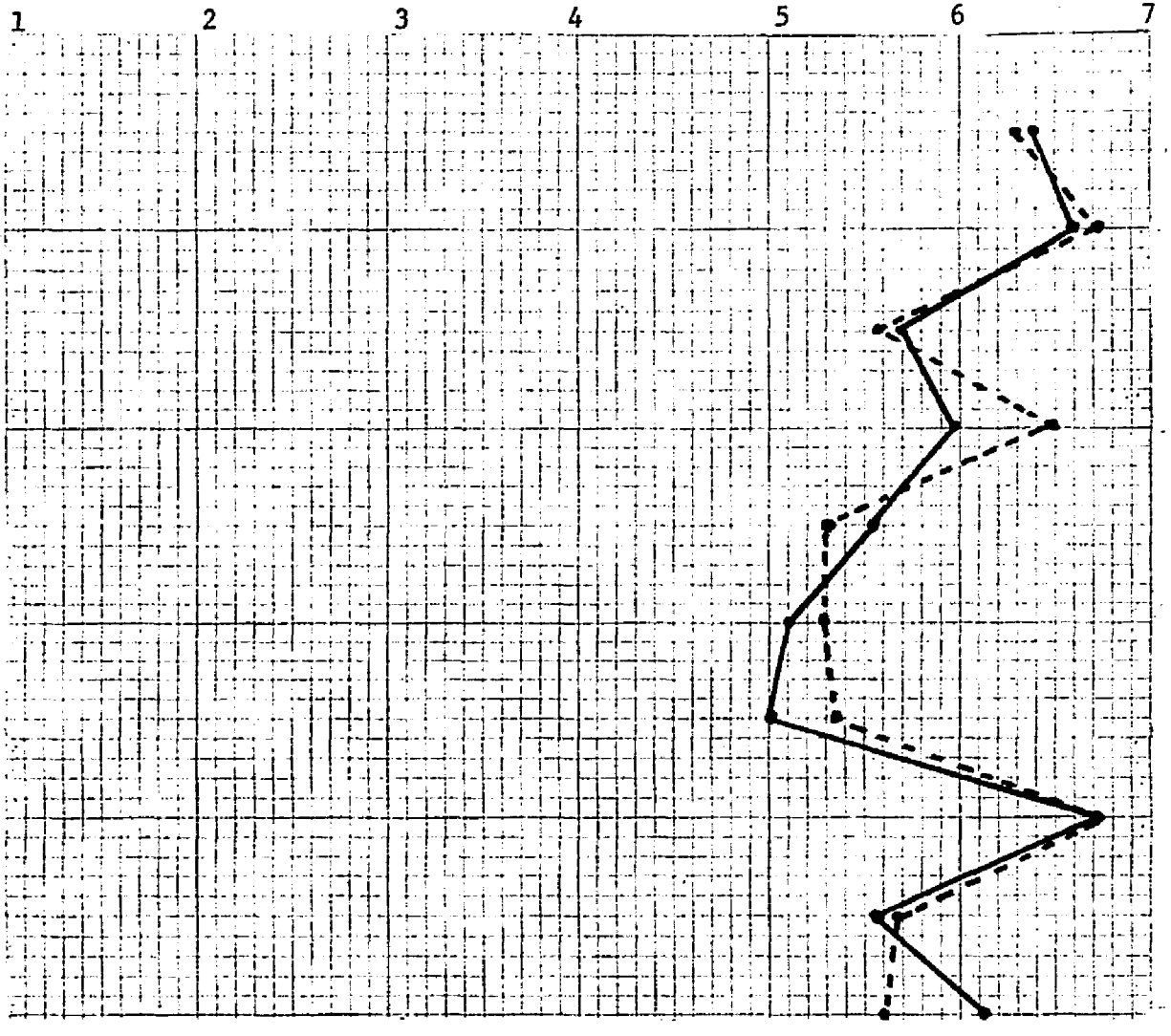


FIGURE 2

SD Profile - Faculty Group
Concept Word - Clinical Practice
Males ————
Females --------

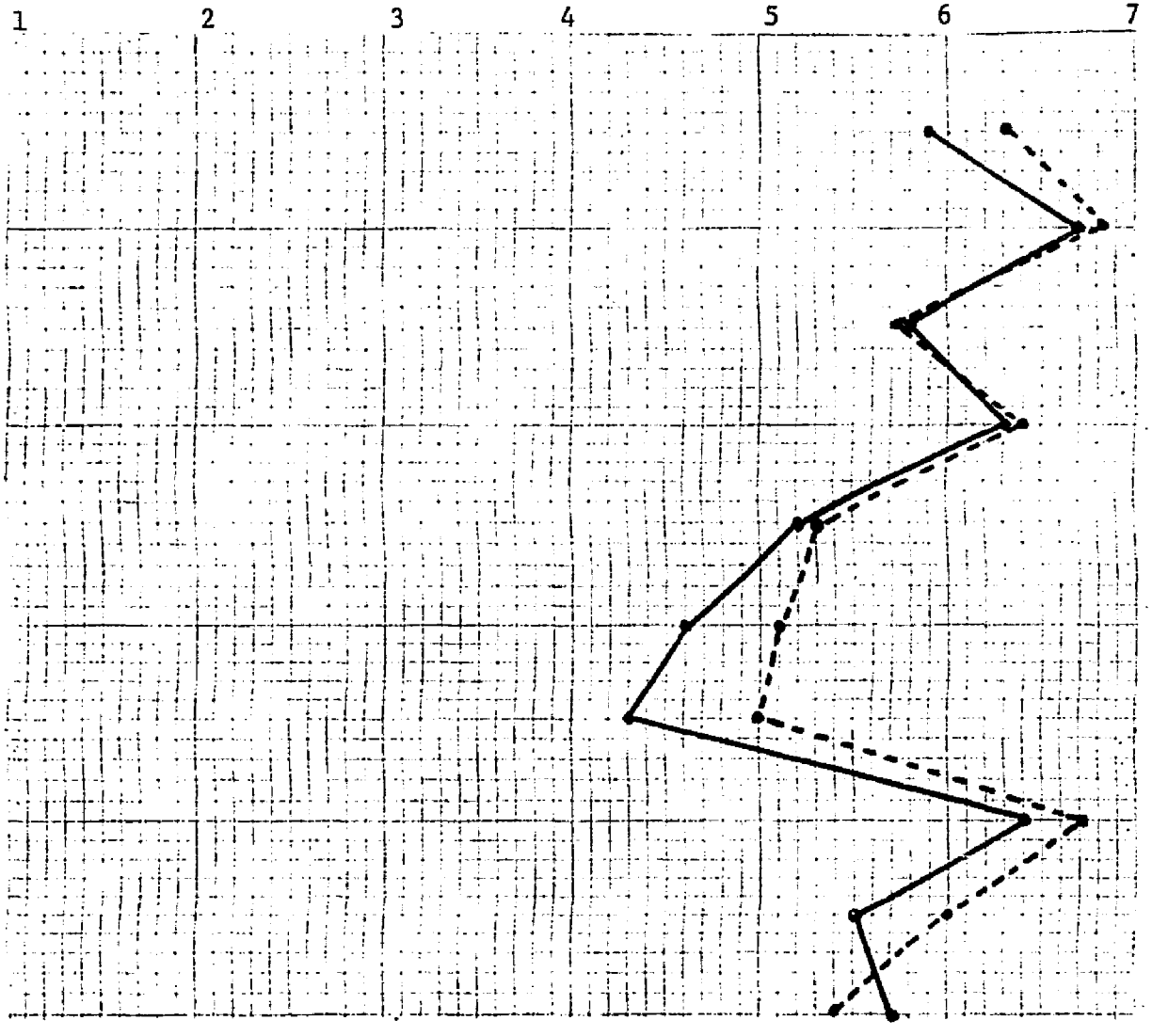


FIGURE 3

SD Profile - Clinician Group
Concept Word - Teaching
Males _____
Females -------

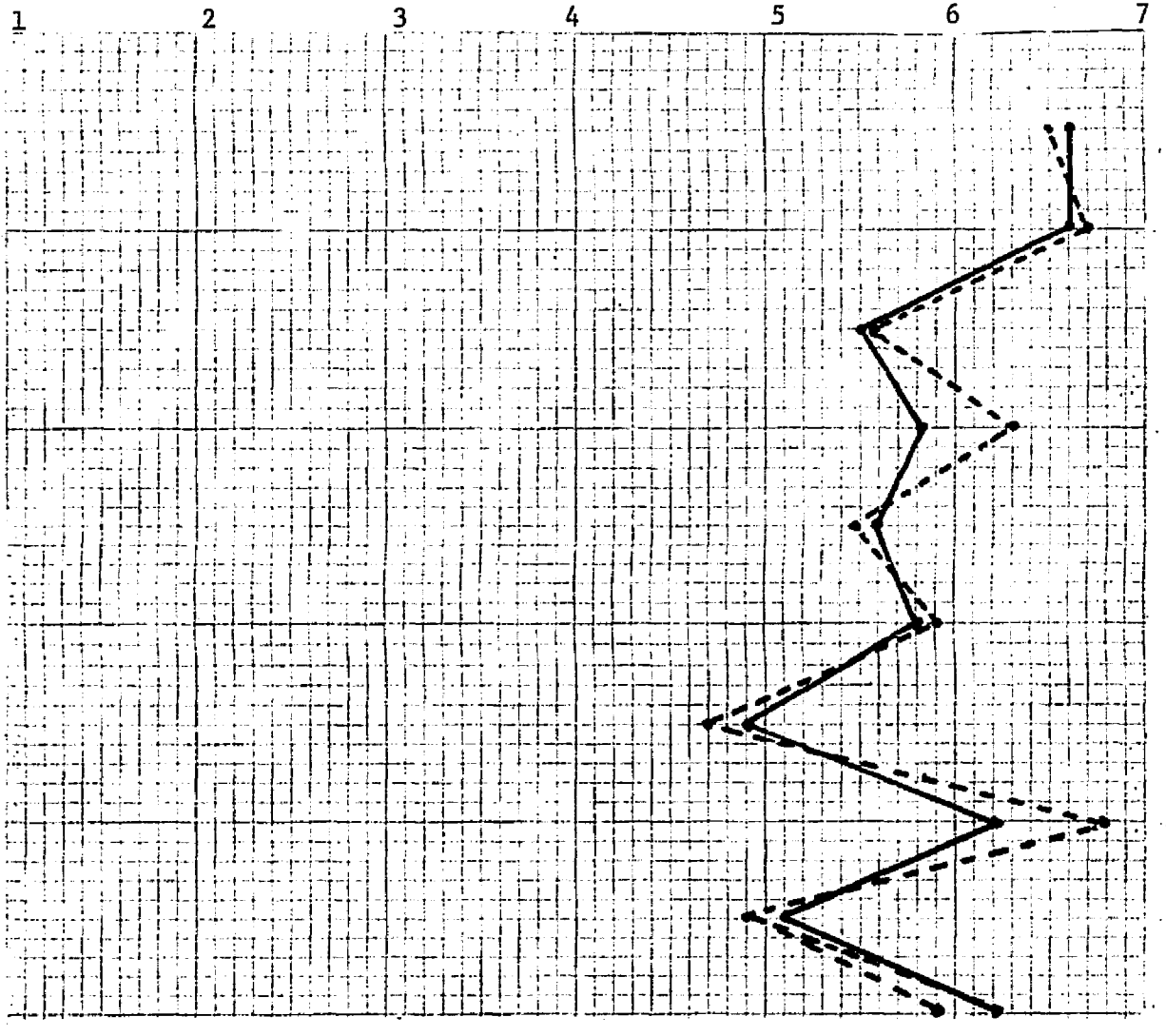


FIGURE 4

SD Profile - Faculty Group
Concept Word - Teaching
Males _____
Females -------

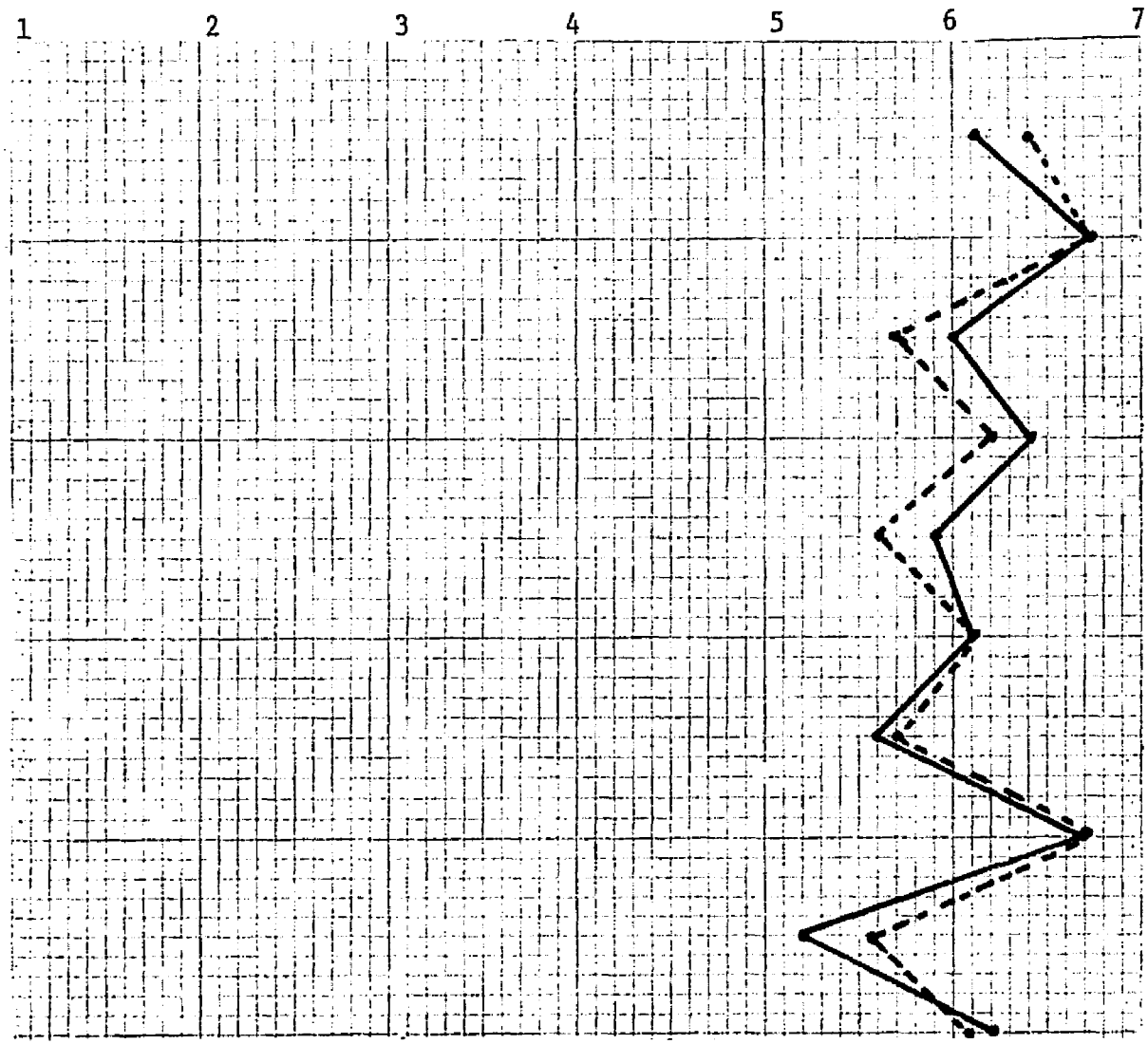


FIGURE 5

SD Profile - Clinician Group
Concept Word - Research
Males ———
Females - - - - - -

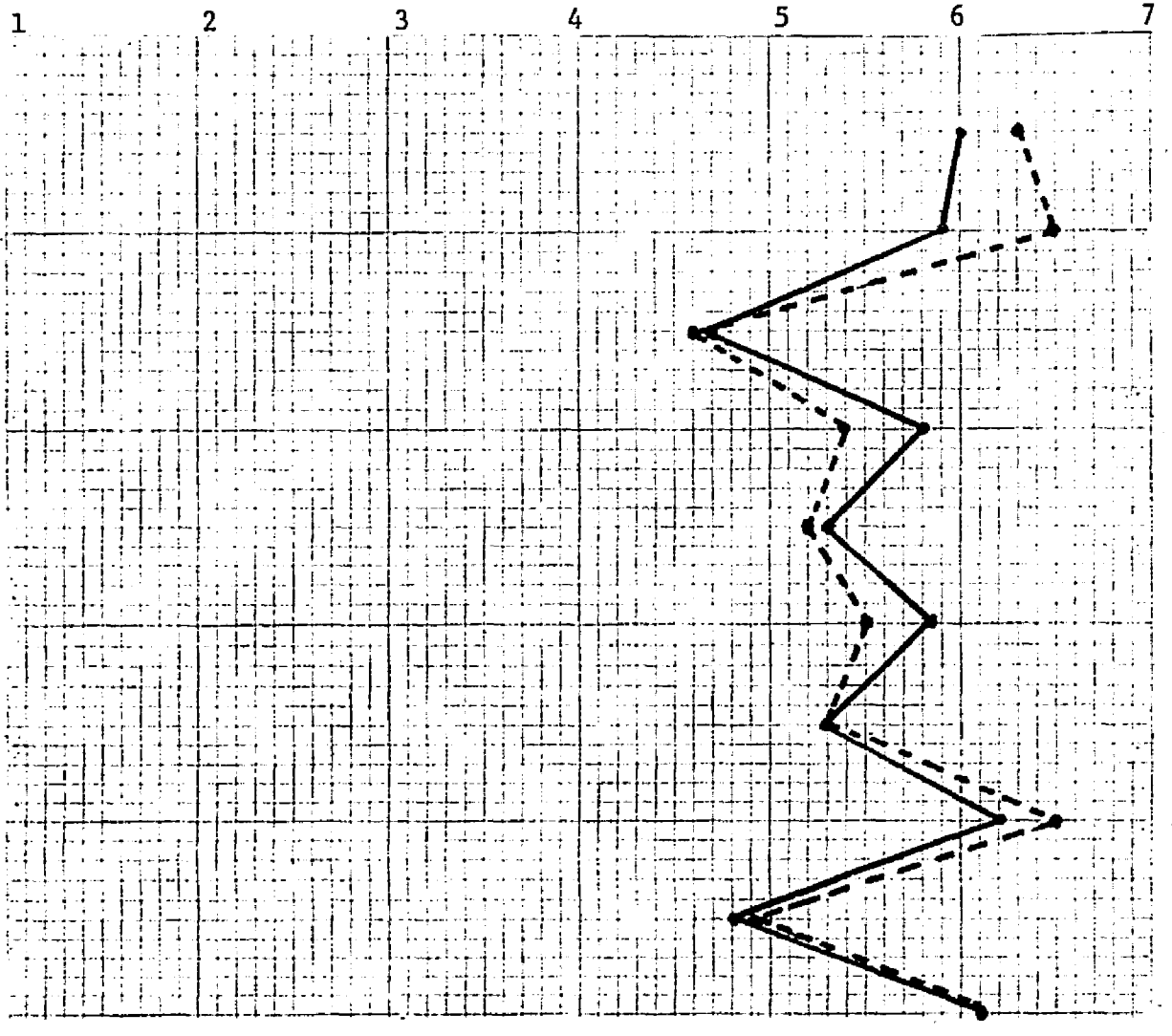


FIGURE 6

SD Profile - Faculty Group
Concept Word - Research
Males _____
Females -------

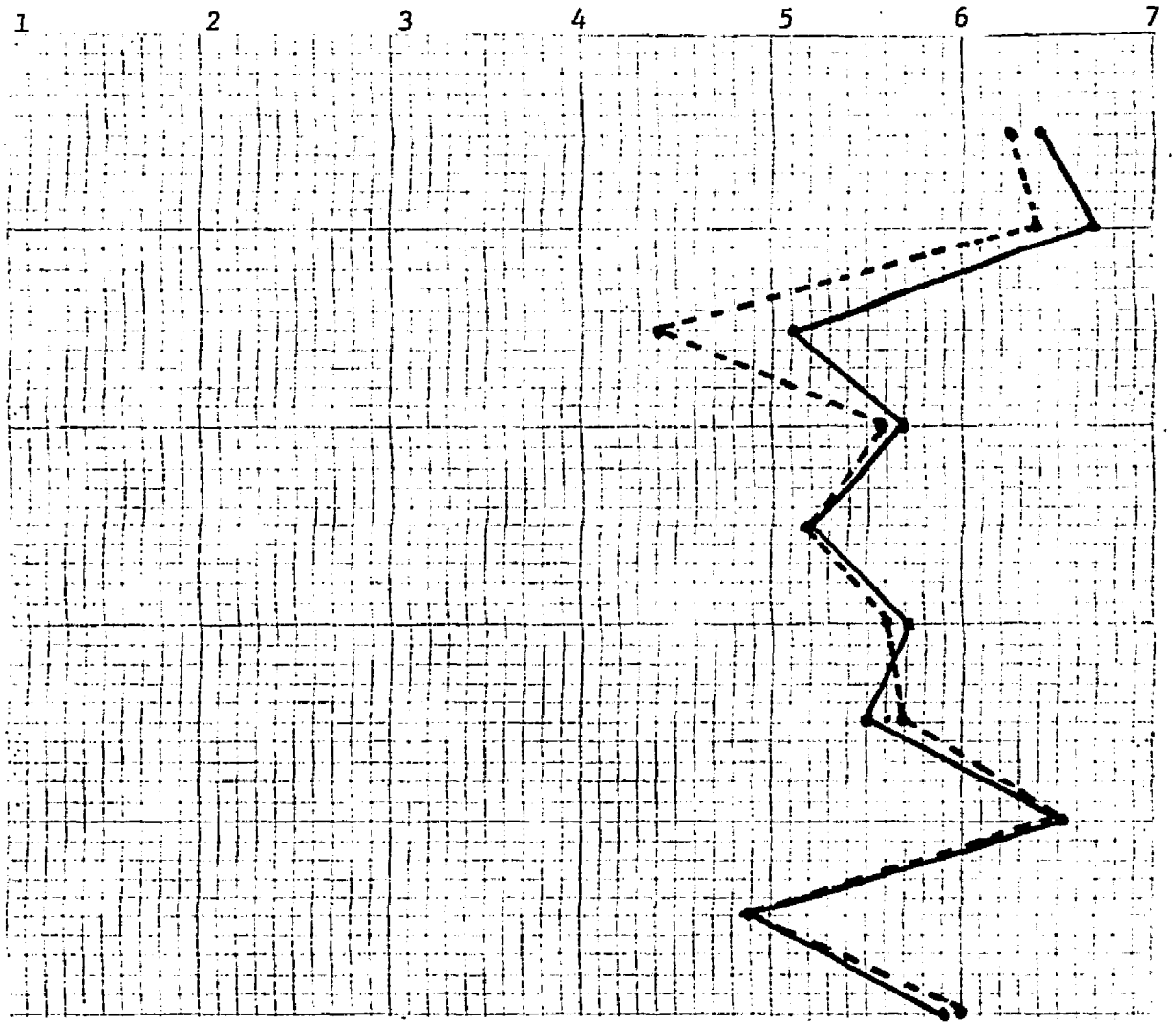


FIGURE 7

SD Profile - Clinician and Faculty Groups
Concept Word - Clinical Practice
Clinicians _____
Faculty - - - - - -

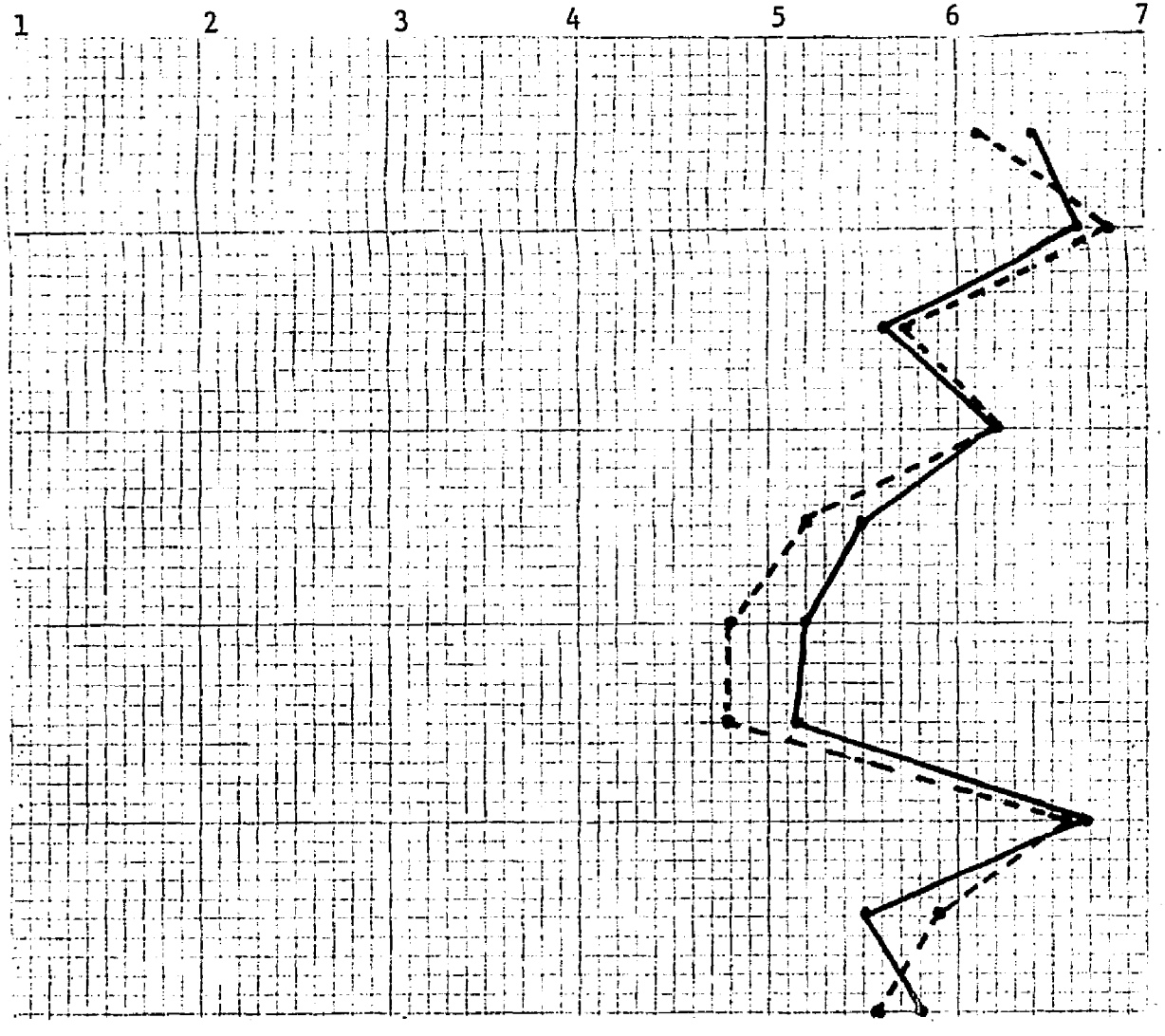


FIGURE 8

SD Profile - Clinicians and Faculty Groups
Concept Word - Teaching
Clinicians _____
Faculty -------

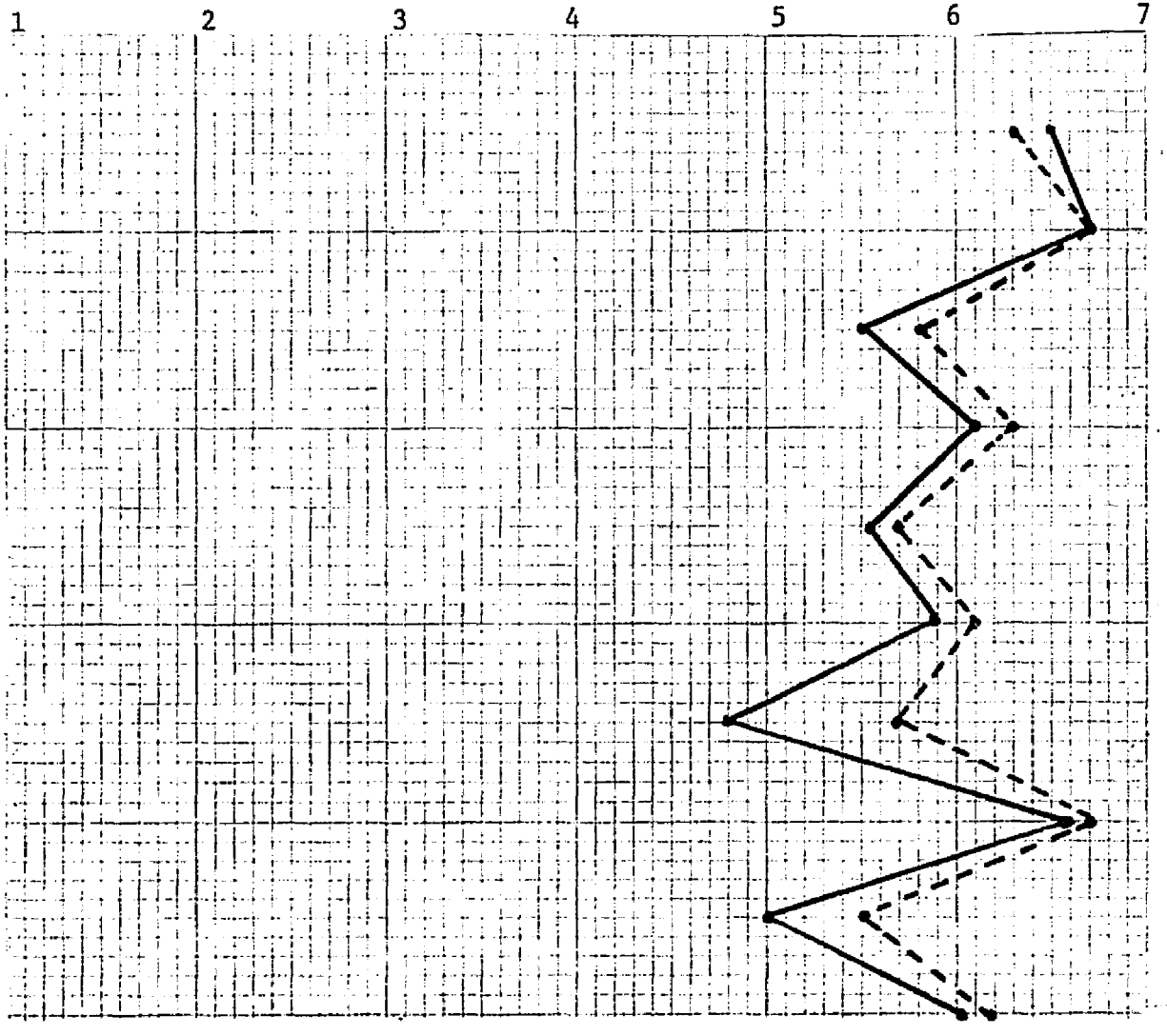
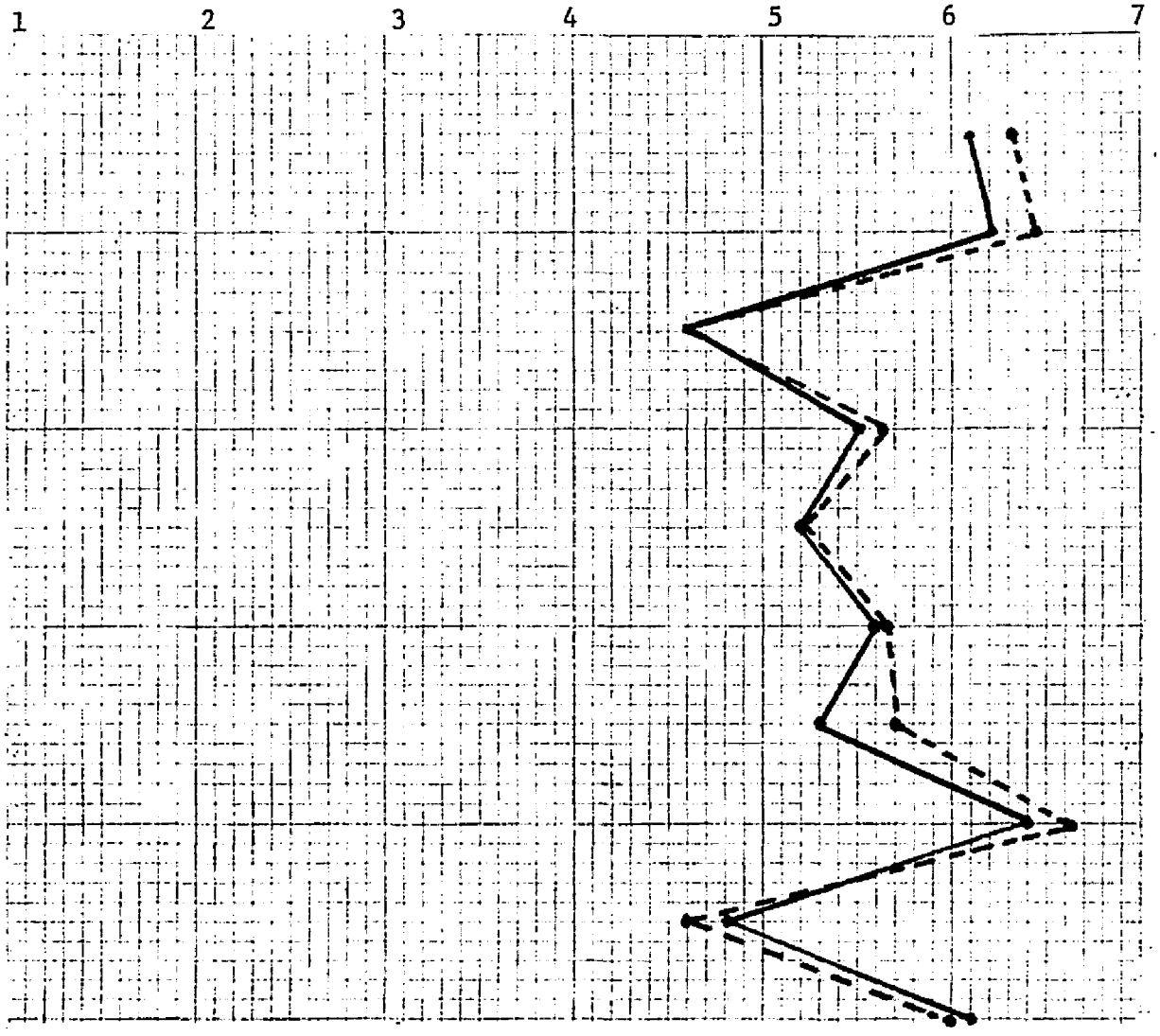


FIGURE 9

SD Profile - Clinician and Faculty Groups
Concept Word - Research
Clinicians _____
Faculty -------



valuable-worthless and important-unimportant by both groups. Word pairs with means of 6 or above showed agreement between both groups. These word pairs were intelligent-stupid, valuable-worthless, interesting-dull and important-unimportant.

The profiles for the concept word teaching (Figures 3, 4 & 8) show the clinicians group overall with lower means and a shift to left on the word pairs independent-dependent and cooperative-competitive. The profiles for males and females is very similiar for the faculty group and generally similiar for the clinician group. The clinician group differed most in the word pair interesting-dull with the females showing a higher mean. The word pairs with means of 6 or above were intelligent-stupid, valuable-worthless, interesting-dull, important-unimportant and flexible-systematic. The word pair leader-follower had a mean of over 6 for the faculty group and just under 6 for the clinician group. The profiles for the concept word research (Figures 5, 6 & 9) showed the most consistency from group to group and also by sex with very little differences. The mean for the word pair flexible-rigid showed a shift to the left for faculty females compared to males but the profiles otherwise were very similiar. The profiles for research in general were shifted to the left compared to the profiles for clinical practice and research. Word

pairs with means of 6 or greater were intelligent-stupid, valuable-worthless, important-unimportant, systematic-disorganized.

CHAPTER IV

Discussions and Conclusions

The hypothesis stated: there are differences in attitudes and opinions held by clinicians and faculty members regarding the importance of the professional roles of teaching, clinical practice and research in the field of physical therapy.

The results of the questionaire and SD both support the hypothesis and demonstrated that these differences in attitudes and opinions do exist.

The first subhypothesis stated: faculty members will have positive attitudes and opinions regarding the importance of the role of teaching and neutral or negative opinions regarding the importance of clinical practice and research.

The results support the subhypothesis. The questionaire and SD support the statement that faculty have positive attitudes and opinions regarding the role of teaching. The faculty also had positive attitudes about the roles of clinical practice and research but these attitudes were less strongly positive than the attitudes related to teaching. Research was found to have the least positive attitudes associated with it. The subhypothesis

stated the direction of the attitudes correctly but not the intensity.

The second subhypothesis stated: clinicians will have positive attitudes and opinions regarding the importance of the role of clinical practice and neutral or negative opinions regarding the importance of teaching and research.

This subhypothesis was also accepted. The ranking of clinical practice as the most important area to the clinician was correct. The attitudes toward the teaching role and research role were also positive but less strongly so. The attitudes expressed toward research were the least positive. The subhypothesis was correct in direction but not in intensity of prediction of attitudes of the clinician for the roles of clinical practice, teaching and research.

The questionaire was pretested and revised on the basis of the pretest. Further trials with the questionaire might have resulted in further revision and refinement to reduce the number of neutral responses and increase the chances for a response indicating an expression of an opinion for or against the question.

Using both the questionaire and SD at the same time might possibly have reduced the rate of return since it made the appearance of the total "package" seem long which may have discouraged some individuals from making the effort

to fill it out while they might have filled out a shorter instrument.

Future research into the area of the physical therapists attitudes and opinions about professional roles could be done using a similiar format as used in this study. It would be interesting to use an interview schedule based on the questionaire and compare the results of this technique which is direct and personal with the indirect and impersonal methods of the questionaire. It would be interesting to explore other possible roles using the semantic differential technique especially such roles as administrator, consultant and clinical educator using the same ten word pairs. Another avenue for future research would be to compare other allied health professions to physical therapy using a similiar format. A similiar questionare could be paraphrased for use with other groups and the SD could be used as it is to explore the same roles as explored in this study.

Comparing the results of the two instruments used indicates that the SD results are more clear cut and reveals more consistently what the attitudes of the groups studied were toward the roles investigated. The questionaire results are not as clear in showing a difference between the two groups in the area of clinical practice. The questionaire did show differences between the two groups

on the faculty teaching role but not on the "pure" teaching role. The difference between the two groups on research in the questionaire results followed the pattern of the SD showing that the attitudes toward this role were less positive than towards the other roles. The SD is more subtle than the questionaire in method and may be eliciting responses which are less the results of consciously looking for a "respectable" response.

The questionaire also is seeking a slightly different viewpoint in that it seeks opinions in a less abstract form for or against a specific proposition. There was much less tendency towards neutral or no opinion responses in the SD compared to the questionaire presumably because of the above mentioned factors.

An item of interest is that there was very little effect from the factor of sex on the results obtained from the questionaire and the SD. This may prove a disappointment to some male members of the profession who for "years" have been convinced that the females were responsible for holding back the development of the field.

The data sheet of the questionaire could have been more specific to elicit desired information. More specificity would have been helpful in the area of job titles by asking for faculty rank as well. Also the portion of

the data sheet related to educational background could have been more exact in seeking information about the entry level educational preparation of individuals entering the field of physical therapy.

The clinician group was younger than the faculty group on the average of eight years which may be a factor in the marked difference in the number of graduate degrees held by the clinician group compared to the faculty. The clinician group had a much higher number of bachelors degrees and certificates as the highest degrees held in physical therapy when compared to the faculty group. Two possible reasons exist for this. The first is that faculty members with a bachelors degree or certificate went on to graduate study in physical therapy for a masters degree. The second possibility is that many masters degree entry level individuals are siphoned off into teaching positions rather than clinical positions (Daniels, 1974).

The number of clinicians with masters degrees is relatively small and has shown very little growth since the studies done by Worthingham (1968, c) and Conine (1972). Apparently the rewards to the clinician for graduate study are not sufficient to attract large numbers away from the clinic for a period of study or perhaps the clinician does not see the usefullness to him-

self of a graduate program. Other possibilities are that many graduate programs in physical therapy do not have a strong clinical emphasis and generally take place in a non-clinical environment. Accessability of the programs may also be a problem with only 13 graduate school programs to choose among. This makes part time work and part time graduate study difficult since the potential student must leave his work area to seek graduate education most of the time.

The faculty group by comparison has a much higher level of attainment in graduate education with 82% holding masters degrees and 15% doctorates. Both of these figures represent progress in the achievement of faculty holding higher degrees compared to Worthingham's (1968, a) and Conine's studies (1972).

The faculty group held the highest proportion of its masters degrees in physical therapy and the lowest number in basic medical sciences. The leading doctoral area was education with the rest scattered over several areas.

The faculty group while showing progress in attaining graduate degrees still demonstrates a large gap between physical therapy faculty and established academic fields which have higher percentages of doctorates among its faculty members. One of the major problems which is encountered in physical therapy is that fact that doctoral

programs in physical therapy are essentially nonexistent. Holding a masters degree in physical therapy is often an academic dead end with no logical progression to a higher degree without entering another discipline. This lack of progression to doctoral levels as well as the small numbers of physical therapists holding doctorates must also have an effect on research in physical therapy. Doctoral degrees remain the primary training program in research even though many masters programs require the writing of a thesis which may be a good introduction to research. In fact without the masters thesis it has been suggested that the professional literature already noted for its sparseness of research papers would suffer even more (Michels, 1970; Hislop and Worthingham, 1958).

The questionaire revealed there is substantial agreement about the importance of the role of clinical practice. There seems to be little agreement of the methods for advancing the role of clinical practice since large numbers of both groups do not see graduate study as being related to increasing clinical competence. Also the faculty members clinical involvement remains limited and unsure.

Questions 10 and 14 showed that clinical contact and patient care by clinicians is felt to be important (Table 7). The idea that faculty serve as consultants to clinical

departments (question 13) is received less enthusiastically with large numbers of respondents being neutral. In looking at the educational attainments of the faculty compared to the clinical group it seems obvious that the clinician and his patients would benefit from a closer contact with faculty members by utilizing the expertise they have developed. Since there seems to be a separation between the faculty members and the clinicians it is possible that the faculty member is not perceived as having clinical expertise even though they have had graduate level educational experience often in the field of physical therapy. The other possibility is that the clinicians may already feel insecure since many of the professionals with which they have contact are products ot graduate level educations and they do not want to deal with the faculty group on an unequal footing.

The question about graduate study (#3) to become a faculty member drew disagreement from both groups. The fact that graduate programs in physical therapy have in the past been developed primarily as recruitment devices for faculty does not seem to be well perceived. The responses to questions 3 and 5 seem to reveal that the role of graduate study in physical therapy has not yet been resolved. If it is not for preparation for teaching (i.e. faculty membership) and not in preparation for increased

clinical competence then what is it for? Judging by the amount of research done in physical therapy, graduate study is not answering this need either. Comparing the numbers and percentages (Tables 2 and 3) of faculty versus clinicians with advanced degrees it is not difficult to imagine what role advanced degrees are playing currently in physical therapy regardless of the attitudes expressed in this area.

The questions (9 and 20) regarding the importance of teaching skills for the clinicians were answered very positively indicating that this area is recognized as important to the clinician. Even though teaching is recognized as important the current preparation of therapists does not make any provision for the development of this ability.

Questions 2 and 6 related to research by clinicians and faculty showed little disagreement between the groups with less than 50% feeling research was so important every one should be invclved in it. The remainder expressed either neutrality or disagreement. Thus there is no clear indication of strength of opinion for or against research activity although there is clear indication of strength of opinion that clinical practice is important and that teaching is important. The therapists did disagree with the statement that research in the field should be carried out

by others such as scientists, physicians, etc.

The proposition that therapists do not engage in research because they lack proper educational preparation found over 50% of the faculty group agreeing while the clinician group had over 40% disagreeing. It appears that the faculty(which is in a position to change this) recognized the short comings in the preparation of the therapist for this responsibility. The curriculum of the therapist is already crowded into a compressed time span and providing the educational opportunities for research activities in this limited time span presents a challenge.

In examining the role of the faculty the following might be noted from the questionaire results. Neither clinicians nor faculty want the faculty to engage only in teaching but expect research and clinical activities to also be carried out. Also faculty is not expected to be the only leaders in the professional association. However in spite of this expression of attitudes - faculty members are over represented in the professional organizations' structure especially on committees with responsibilities in education and research where little or no clinical representation is noted.

Many therapists feel faculty members should experience pressures from the clinician to prepare students differently

than at present. There is no clear indication that the faculty should be better informed about new developments than the clinician.

Clinicians feel that faculty members are held in as high a regard as other faculty on campus but faculty members do not. The feeling by faculty of lack of esteem compared to other groups on campus can be understood by assessing the effects of several factors. The first is the lack of sufficient individuals at the doctoral level which improves an individuals as well as a departments esteem on campus. The second is that physical therapy is a "practical" field and many campus groups continue to look askance at professional - vocational programs at the undergraduate level compared to the traditional "arts and sciences". Also if a physical therapy educational program is a part of a medical school, the primary interest is on the medical student and on medical faculty at the expense of others. A final factor is that faculty groups that are predominantly female still suffer prestige problems in comparison to the male dominated faculty of most other departments.

Many questions in the questionaire seemed to elicit a disproportionate number of neutral responses. Often these were associated with an expression of opinion about the role of the clinician or faculty group. There seemed to be a reluctance to express an opinion which might be

considered judgemental about how things "ought to be". This may present a problem in a professional field where a standard of performance is nearly always involved for the functions of the profession. I have the feeling that many physical therapists do not understand the role of criticism in the development of a profession. In many professional fields criticism of a rationale and constructive nature is part of the educational process from very early in the persons educational experience. This seems to foster a continuation of this process as part of the persons professional life in which they continue to analyze the performance of the profession and the direction their profession as a whole is going. This results in a lively give and take of ideas continously both at a personal level and at all levels within the profession. This often seems lacking in the educational preparation of the physical therapist and seems lacking throughout the profession. I am not advocate of an adversary relationship between different groups within the profession but it seems that in physical therapy many of the concerns of different groups are never discussed thoroughly within the profession. The amount of interation between the clinicians and faculty about the education, research and other issues is extremely limited.

It seems clear that the clinician has suffered many

problems due to the lack of a clear direction for development of the profession. Both groups agree that clinical competence and role expansion are important to the clinician but historically there has been little help offered the clinician to accomplish this. There seems to be little incentive offered to clinicians to obtain graduate education and to return to the clinical setting and apply it. Also the profession has failed to develop clinical specialties or a method to become a clinical specialist. Physical therapy completely lacks the development of educational programs similiar to medical residencies where the educational process takes place at the site where the skills needed are most likely to be able to be taught, learned and practiced - the clinical setting. It appears that the clinician currently does not have the expertise to carry out this development alone. Faculty of existing programs at both the graduate and undergraduate level are going to have to help the clinician develop specialty educational programs. Somehow those physical therapists with graduate educations are going to have to be attracted to staying in the clinical setting in larger numbers.

The results of the semantic differential for the concept words showed that the clinician group had very similiar overall means for the words clinical practice and teaching (Table 8). The faculty had a higher mean for teaching than

for clinical practice or research. The mean for clinical practice was only slightly higher than the mean for research for the faculty group.

The profiles for the concept words showed the trends of which word pairs were most likely to be scored high or low in relationship to the concept words. The profiles for "clinical practice" show a consistently different profile than the other two concept words (Fig. 1, 2, 7). For "clinical practice" the word pairs superior-inferior, leader-follower, and independent-dependent were consistently scored the lowest with a shift of the profile to the left for these words. The shift is more pronounced for the faculty and for faculty males especially (Fig. 1, 2 & 7).

The profiles for teaching show the faculty consistently scoring all the word pairs high for this concept word. The clinician groups show a shift to the left on word pairs flexible-rigid and independent-dependent (fig 3, 4 & 8)

As predicted the concept research received the least favorable treatment in the SD scores from both groups. The fact that the mean scores were as high as they were probably reflects something of an attitude similiar to those toward "motherhood" and "apple pie", both of which are automatically thought to be good. The profiles for research show a shift to the left for both groups with the word pair flexible-rigid showing a large shift especially

for faculty females. Both groups also show a shift for the cooperative-competitive word pair (Fig. 5, 6, and 9).

The fact that both groups scored the lowest on the word pairs superior-inferior, independent-dependent and follower-leader for clinical practice may reveal something about how clinical practice *is* perceived by the physical therapist. Physical therapists do not practice independently since referral from a physician is required. Historically this referral was considered to be prescriptive. The referring physician stated what the treatment was to be and the therapist carried it out. Worthingham's study (1970, a) revealed that for all practical purposes the physical therapist was planning the patients treatment program since most referrals were of such a general nature that this was the only practical way the therapist could function. Also the APTA has recently promoted the importance of a referral rather than a prescriptive relationship with the physician community. Since the APTA has done this the abilities of the therapist in the area of patient evaluation and treatment planning have necessarily had to be improved. There continues to be much confusion in the educational programs about how to develop the clinical skills needed by the therapist. In many of the larger medical centers, there

are physicians with specialty training in physical medicine who strongly believe in prescriptive and not referral relationships with physical therapists. In these medical centers is often where a physical therapy educational programs major clinical facilities are. The student therapists in their early clinical education phase are then often exposed to a clinical environment where the clinician is least likely to be ....."independent, a leader and superior".

Students may be exposed to dynamic physical therapy faculty who teach their subject well, but who are also saying less than dynamic things about the clinical environment, who since they left this environment may persist in holding up an image of clinical practice which is less than challanging, not emphasizing the clinicians responsibility to create their own environment. It seems that many physical therapist have not learned that the professional creates his own environment, not other professionals in other fields. In looking at the questionaire and SD results it seems possible that the clinical practice and teaching roles have developed separately for the faculty member more so than for the clinician. Clinicians obviously are involved in clinical practice and nearly all have a teaching role with patients, staff or other professionals. Faculty members do not have an obvious clinical

practice role but do have a strong teaching role. Since the teaching role becomes so strong the faculty is most likely to see the needs of the profession through the teaching role. This may explain the preponderance of graduate programs that developed as faculty recruitment methods rather than as ways for the clinician to learn to do what he does better or in more depth. The educators in the field have certainly stayed away from the clinical environment as far as development of educational programs with a clinical emphasis and in a clinical setting until very recently.

The findings of this research project support those who have criticized the current structure of the profession and who have called for reshaping of the therapists educational and clinical roles and for the development of the research role (Johnson, 1974,a; Pascasion, 1966, 1969; Worthingham, 1970, b; Hislop, 1968, a, d).

The educational placement of professional programs in physical therapy which is primarily at the baccalaureate level may be a primary reason for the failure of the development of the clinicians role to more demanding and responsible levels. This also is a factor in the lack of development of the research role. Graduate programs have absorbed most of the therapists with advanced degrees into faculty-teaching roles. The growth of the educational en-

terprize in physical therapy may be coming to a slow down with the effect that those seeking graduate education may be more inclined to return to the clinic. If the educational programs in fact stop growing at the present rate and the numbers of students and faculty become more stable there may be a change in both student and faculty recruitment. At the present time it seems likely that the faculty recruits students in its own "image". The needs of clinical practice becomes secondary in the recruitment of students and the recruitment of those who are "like" the faculty becomes primary. As more clinicians receive advanced education and remain in the clinical setting and expand their roles and project an image of dynamic growth in the clinical environment a new respect for the clinician may be exhibited by the faculty - hence they would project a more favorable image to students during the academic years of the clinician. When faculty and clinicians begin to view each other as equal partners then two things might happen. The faculty would be more inclined to seek clinician imput into basic educational programs and the clinician might seek to use the expertise of the faculty more frequently in helping with clinical problems. Also when both groups now have had the benefit of advanced education perhaps

both groups will participate more freely in research of a cooperative nature. As things are currently regarding clinical research, the faculty may have the background information in research design and statistics and the clinician has the patients and the clinical problems to deal with. As the clinician seeks to expand the clinical role and seeks additional education his teaching role may be expanded further. The demands and expectations for both clinical and basic research are going to remain. Hopefully it will gradually be realized that professional practice requires a balance of skills needed for all three of these basic roles for most individuals in a clinical practice setting to function at their fullest capacity. The same will become true for faculty members in general with the demand for more participation in clinical affairs and research tending to require a better balance of all three roles in faculty members. A major obstacle to growth of the above type of clinician and faculty member has been the staffing of programs. The clinician has such heavy demands on his time for patient care activities that the other professional roles suffer from neglect. The faculty member in turn has such high teaching demands made on his time that no time is left for research or clinical activities. In the future better staffing at both clinical and faculty

levels must be accomplished.

A very strong and seemingly sound case has been made for masters degree programs as entry level programs for physical therapy practice. The case has been made that this would help accomplish the goals of increased clinical competency and also allow for the development of research abilities. It is easy to agree with this proposition but some other considerations require consideration for this to happen. The first of these is the structure of this level of programs. It is not clear from examination of the curriculum how a two year program at the masters level differs greatly from the last 2 years of a bachelors program. The problem is that two years for the professional portion of a persons training remains two years regardless of the degree offered. The more mature student in the masters program should be expected to work harder and longer mastering the basic elements more quickly and allowing time for other activities and more depth of understanding. A clearly demonstrated superiority of the masters degree programs has been shown at the present time. Another ingredient might be needed to make these programs superior - this is the need for more depth and possibly time for turning out a clinically competent and well rounded therapist. Perhaps more of the prerequisite sciences specifically needed could

be required before entry into the professional portion of the program at the masters level. Other alternatives could be explored such as a three and three program with the B.S. at the end of the fourth year, and masters at the end of the sixth year or variations on this theme.

The other consideration is cost. At the present time colleges and universities are involved in financial problems and bachelors programs are less expensive than masters programs. Also federal funding of allied health programs and of physical therapy in particular are committed to the status quo of primarily baccalaureate programs. HEW is very emphatic about funding of new programs in physical therapy at the bachelors level. One official stated that HEW was not interested in financing a students indecision about his future work and that all a masters program did was provide vocational training for those with undergraduate degrees in one of the sciences who could not make up their minds what field they wished to work in.

The general inertia of changing the whole emphasis of the educational enterprize and the current shortage of funds in colleges and universities in general do not seem to be encouraging signs for the further development of masters degree programs for entry level at this time. The field of physical therapy then should look at other ways to promote better development of the physical therapist role. As discussed earlier this most likely will be

through graduate education for increasing numbers of clinicians with an increasing portion of this education taking place with the cooperation of the clinician in the clinical setting.

The conclusions of the study were that there are differences in role perceptions of physical therapists who are clinicians and who are faculty members. These role perceptions are such that clinicians hold clinical practice, followed by teaching in high regard with research being held in less esteem. Faculty members hold teaching to be the most important role followed by clinical practice, then research. This ranking of roles was predicted by the literature of the field. These differing perceptions of roles are one cause of the problems existing in the field of physical therapy which effect all phases of the profession from educational preparation to clinical practice and research activities. Further studies of the effects of these role differences is indicated so that the profession can begin to examine these issued and take some positive steps to improve the situation as it relates to all three roles but especially as it relates to the research role which has been demonstrated to be weakly developed in both clinician and faculty groups.

APPENDIX A

December 20, 1974

Dear Physical Therapist:

Enclosed is a questionaire, a data base form and a 3-page instrument called a "semantic differential". Also enclosed is a set of instructions for these forms.

I would appreciate your cooperation in answering these quetsionaires and forms. This is a part of a research study on opinions and attitudes of therapists.

I realize the length of the questionaire and forms may seem to require a lengthy time to fill out, but as the enclosed instructions state, you should work quickly and record your initial response and be done with the task in 15 minutes or less.

If you are interested in the results of this study, please send me a post card with your name and address.

All replies to the questionaire and other enclosures will be kept in strict confidence. No names or other personal identification will be revealed in the results of the study.

I would appreciate your returning the forms in the enclosed self addressed envelope by January 30, 1975.

Thank you for your cooperation.

Sincerely,

John L. Echternach,
Chief, Physical Therapy Dept

JLE:mad

Date Base - No name is required - Fill in information requested completely

FORM 1

AGE _____ SEX _____

PRESENT JOB TITLE _____

NUMBER OF YEARS IN PRESENT JOB _____

WHAT WAS YOUR FIRST JOB IN PHYSICAL THERAPY _____

_____

_____

NUMBER OF YEARS OF CLINICAL EXPERIENCE _____

PERCENT OF TIME SPENT

TEACHING ____ CLINICAL PRACTICE ____ RESEARCH ____

WRITING/ EDITING ____ CONSULTING ____ ADMINISTRATION ____

HIGHEST DEGREE HELD IN PHYSICAL THERAPY _____

IF HIGHEST DEGREE HELD IS NOT IN PHYSICAL THERAPY, WHAT FIELD AND

WHAT IS HIGHEST DEGREE HELD? _____

_____

QUESTIONNAIRE

CIRCLE YOUR RESPONSE TO EACH ITEM ON THE SCALE OF 1-5
WORK QUICKLY RECORDING YOUR INITIAL RESPONSE
ANSWER ALL QUESTIONS. THERE ARE 20 TOTAL QUESTIONS.

1. Clinical practice (direct patient care) should be the basic purpose in the field of physical therapy.

1	2	3	4	5
AGREE STRONGLY	AGREE	NEUTRAL	DISAGREE	DISAGREE STRONGLY

2. Clinical research is so important that every clinician should be performing at least some clinical research.

1	2	3	4	5
AGREE STRONGLY	AGREE	NEUTRAL	DISAGREE	DISAGREE STRONGLY

3. The most important aspect of graduate study is the preparation for becoming a faculty member.

1	2	3	4	5
AGREE STRONGLY	AGREE	NEUTRAL	DISAGREE	DISAGREE STRONGLY

4. Clinical competence and expansion of the physical therapist role in patient care should be a major concern for all clinicians.

1	2	3	4	5
AGREE STRONGLY	AGREE	NEUTRAL	DISAGREE	DISAGREE STRONGLY

5. Further graduate study is essential for increasing clinical competence.

1	2	3	4	5
AGREE STRONGLY	AGREE	NEUTRAL	DISAGREE	DISAGREE STRONGLY

6. All faculty members should be actively engaged in research.

1	2	3	4	5
AGREE STRONGLY	AGREE	NEUTRAL	DISAGREE	DISAGREE STRONGLY

7. Leadership in the professional organization should be held by faculty members rather than clinicians.

1	2	3	4	5
AGREE STRONGLY	AGREE	NEUTRAL	DISAGREE	DISAGREE STRONGLY

CIRCLE YOUR RESPONSE TO EACH ITEM ON THE SCALE OF 1-5
WORK QUICKLY RECORDING YOUR INITIAL RESPONSE
ANSWER ALL QUESTIONS. THERE ARE 20 TOTAL QUESTIONS.

8. Faculty should devote their major efforts to teaching rather than spreading their interest over research and clinical activities as well.

1	2	3	4	5
AGREE STRONGLY	AGREE	NEUTRAL	DISAGREE	DISAGREE STRONGLY

9. Teaching skills are not important for the physical therapist in the clinical setting.

1	2	3	4	5
AGREE STRONGLY	AGREE	NEUTRAL	DISAGREE	DISAGREE STRONGLY

10. Clinical activities and patient care are not important for faculty members to engage in.

1	2	3	4	5
AGREE STRONGLY	AGREE	NEUTRAL	DISAGREE	DISAGREE STRONGLY

11. Most research related to physical therapy should be carried out by those in other fields, e.g., medicine, basic scientist rather than by therapists.

1	2	3	4	5
AGREE STRONGLY	AGREE	NEUTRAL	DISAGREE	DISAGREE STRONGLY

12. Therapists do not engage in research because their education does not prepare them for this function.

1	2	3	4	5
AGREE STRONGLY	AGREE	NEUTRAL	DISAGREE	DISAGREE STRONGLY

13. Faculty teaching loads and other duties should not prevent them from devoting time to research activities.

1	2	3	4	5
AGREE STRONGLY	AGREE	NEUTRAL	DISAGREE	DISAGREE STRONGLY

14. It is essential for faculty members to maintain a clinical contact and be actively involved with patient care.

1	2	3	4	5
AGREE STRONGLY	AGREE	NEUTRAL	DISAGREE	DISAGREE STRONGLY

CIRCLE YOUR RESPONSE TO EACH ITEM ON THE SCALE OF 1-5
WORK QUICKLY RECORDING YOUR INITIAL RESPONSE
ANSWER ALL QUESTIONS. THERE ARE 20 TOTAL QUESTIONS.

15. It is essential that faculty members serve as consultants to clinical departments.

1	2	3	4	5
AGREE STRONGLY	AGREE	NEUTRAL	DISAGREE	DISAGREE STRONGLY

16. Faculty members should put in more hours per week than the clinical physical therapist.

1	2	3	4	5
AGREE STRONGLY	AGREE	NEUTRAL	DISAGREE	DISAGREE STRONGLY

17. Faculty members should experience pressures from the clinician to prepare students differently than they are presently being prepared for clinical practice.

1	2	3	4	5
AGREE STRONGLY	AGREE	NEUTRAL	DISAGREE	DISAGREE STRONGLY

18. Faculty members must be more up-to-date on new developments in the field than clinicians.

1	2	3	4	5
AGREE STRONGLY	AGREE	NEUTRAL	DISAGREE	DISAGREE STRONGLY

19. Faculty members of departments of physical therapy are likely to be held in as high esteem as other departments on campus.

1	2	3	4	5
AGREE STRONGLY	AGREE	NEUTRAL	DISAGREE	DISAGREE STRONGLY

20. Teaching is a highly important function of the clinical therapist.

1	2	3	4	5
AGREE STRONGLY	AGREE	NEUTRAL	DISAGREE	DISAGREE STRONGLY

INSTRUCTIONS FOR SEMANTIC DIFFERENTIAL

There are 3 pages to this section - at the head of each page is a "concept" word, e.g., teaching, etc. For each of these words there are 10 word pairs which are opposites.

Please rate each word pair in relationship to the concept word and place an X on the line which you feel corresponds with your feeling about the concept word.

AN EXAMPLE IS ILLUSTRATED BELOW:

If you feel that the concept at the top of the page is VERY CLOSELY RELATED to one end of the scale, you should place your X mark as follows:

fair : X : : : : : : : unfair

fair : : : : : : : X : unfair

If you feel that the concept is QUITE CLOSELY RELATED to one or the other end of the scale (but not extremely), you should place your X mark as follows:

strong : : X : : : : : : weak

strong : : : : : : X : : weak

If the concept seems ONLY SLIGHTLY RELATED to one side as opposed to the other side (but is not really neutral), then you should X as follows:

active : : : X : : : : : passive

active : : : : : X : : : passive

The direction which you check, of course, depends upon which of the two ends of the scale seem most characteristic of the thing you're judging.

If you consider the concept to be NEUTRAL on the scale, both sides of the scale EQUALLY ASSOCIATED WITH the concept, or if the scale is COMPLETELY IRRELEVANT, unrelated to the concept, then you should place your X mark in the middle space:

safe : : : : X : : : : unsafe

IMPORTANT:

(1) Place your X marks in the MIDDLE OF THE SPACES, not on the boundaries:

THIS NOT THIS
X X

safe : : : : : : : : unsafe

(2) Be sure you check every scale for every concept--DO NOT OMIT ANY.

(3) Never put more than one X mark on a single scale.

Sometimes you may feel as though you've had the same items before. This may be the case, so DO NOT LOOK BACK AND FORTH through the items. Do not try to remember how you checked similar items earlier. MAKE EACH ITEM A SEPARATE AND INDEPENDENT JUDGEMENT. Work at fairly high speed through this test. Do not worry or puzzle over individual items. It is your first impressions, the immediate "FEELINGS" about the items, that I want. On the other hand, please do not be careless, because I want your true impressions.

SEMANTIC DIFFERENTIAL

CLINICAL PRACTICE

1.	Intelligent	: : : : : : : :	Stupid
2.	Worthless	: : : : : : : :	Valuable
3.	Flexible	: : : : : : : :	Rigid
4.	Dull	: : : : : : : :	Interesting
5.	Superior	: : : : : : : :	Inferior
6.	Follower	: : : : : : : :	Leader
7.	Independent	: : : : : : : :	Dependent
8.	Important	: : : : : : : :	Unimportant
9.	Cooperative	: : : : : : : :	Competitive
10.	Systematic	: : : : : : : :	Disorganized

SEMANTIC DIFFERENTIAL

TEACHING

1.	Valuable	:	:	:	:	:	:	:	:	Worthless
2.	Unimportant	:	:	:	:	:	:	:	:	Important
3.	Follower	:	:	:	:	:	:	:	:	Leader
4.	Intelligent	:	:	:	:	:	:	:	:	Stupid
5.	Dull	:	:	:	:	:	:	:	:	Interesting
6.	Flexible	:	:	:	:	:	:	:	:	Rigid
7.	Inferior	:	:	:	:	:	:	:	:	Superior
8.	Systematic	:	:	:	:	:	:	:	:	Disorganized
9.	Independent	:	:	:	:	:	:	:	:	Dependent
10.	Cooperative	:	:	:	:	:	:	:	:	Competitive

SEMANTIC DIFFERENTIAL

RESEARCH

1.	Inferior	: : : : : : : :	Superior
2.	Leader	: : : : : : : :	Follower
3.	Independent	: : : : : : : :	Dependent
4.	Dull	: : : : : : : :	Interesting
5.	Important	: : : : : : : :	Unimportant
6.	Worthless	: : : : : : : :	Valuable
7.	Rigid	: : : : : : : :	Flexible
8.	Cooperative	: : : : : : : :	Competitive
9.	Systematic	: : : : : : : :	Disorganized
10.	Stupid	: : : : : : : :	Intelligent

REFERENCE LIST

Barber, B. Some problems in the sociology of professions. In K.S. Lynn (Ed.). The professions in America. Boston: Houghton Miflin Co, 1964.

Beard, G. Foundations for growth, a review of the first forty years in terms of education, practice and research. Physical Therapy Review, 1962, 41, 843-861.

Blair, L. Past experiences project future responsibilities. Physical Therapy, 1972, 52, 493-499.

Brinton, J.E. Deriving an attitude scale rrom semantic differential data. Public opinion quarterly, 1961, 25, 289-295.

Campbell, S.K., Hogue, R.E., & Harden, R.S. Graduate education, individual experiences of therapists. Physical Therapy, 1970, 50, 378-381.

Carnegie commission on higher education. Higher education

and the nations health, policies for medical and dental education, a special report and recommendations, New York: McGraw - Hill, October 1970.

Carroll, J.B. Review of the measurement of meaning. Language, 1959, 35, 58-77.

Cheek, N. J. The social role of the professional. In M. Abrahamson (Ed.) The professional in the organization. Chicago: Rand McNally & Co. 1967.

Clinkingbeard, J. Are we being professional charlatans? (Editorial). Physical Therapy, 1974, 54, 343-344.

Conine, T.A. & Ramsden, E.L. Masters degree programs in physical therapy. Physical Therapy, 1970, 50, 365-369.

Conine, T.A. A survey of the graduates of a professional physical therapy program. Physical Therapy, 1972, 52, 855-861

Conine, T.A. Teacher preparation based on functions and opinions of educators. Physical Therapy, 1973, 53, 876-882.

Corwin, R.G. The professional employee: a study of conflict

in nursing roles. In Abrahamson, M. (Ed.) The Professional in the organization. Chicago: Rand McNally & Co. 1967.

Crocker, L.M. Lets reduce the understanding gap, guidelines for preparing a research article. Physical Therapy, 1974, 54, 971-976.

Daniel, W.W. & Coogler, C.E. Some quick and easy statistical tests for physical therapists. Physical Therapy, 1974, 54, 135-140.

Daniels, L. Tomorrow now: the masters degree for physical therapy education. Physical Therapy, 1974, 54, 463-473.

Dawes, R. Fundamentals of attitude measurement. New York: John Wiley and Sons, 1972.

Decker, R. Physical therapy education, the past. Physical Therapy, 1974, 54, 27-31.

Educational programs leading to professional qualification in physical therapy. Physical Therapy, 1974, 54, 755-759.

Flexner, A. Medical education in the United States and Canada.

A report of the Carnegie Foundation for the advancement of teaching. Bulletin No. 4. Carnegie Foundation, 1910.

Glazer, N. Conflicts in schools for the minor professions. Minerva, 1974, XII, 346-364.

Gonnella, C. Lets reduce the understanding gap, Part II, The method, what and why. Physical Therapy, 1970, 50, 382-385.

Gonnella, C. Lets reduce the understanding gap, Part IV: Data presentation, guidelines for authors. Physical Therapy, 1973, 53, 871-875.

Gonnella, C. Designs for clinical research. Physical Therapy, 1973, 53, 1276-1282.

Gossett, R.L. Assistant utilization, a pilot study. Physical Therapy, 1973, 53, 502-506.

Grace, G.R. Role conflict and the teacher. London: Routledge and Kegan, 1972.

Green, R.F. & Goldfried, M.R. on the bipolarity of semantic space. Psychological Monographs, 1965, 79

(whole no. 599).

Greenfield, H.I. with assistance of Brown, C.A. Allied health manpower: trends and prospects. New York: Columbia University press, 1969.

Gregg, W.E. Several factors affecting graduate student satisfaction. Journal of Higher Education, 1972, XLIII, 483-498.

Griffin, J.W. Educational integration in physical therapy. Physical Therapy , 1973, 53, 402-414.

Hamburg, J. Core curriculum in allied health education. Journal of the American Medical Association, 1969, 210, 111-113.

Heise, D.R. Semantic differential profiles for 1,000 most frequent english words. Psychological Monographs, 1965, 79 (whole no. 601).

Heise, D.R. The semantic differential and attitude research. In Summers, G.F. (Ed.) Attitude Measurement. Chicago: Rand McNally, 1970.

Hillebrandt, F.A. Graduate study - a key to professional development: research and writing. Physical Therapy Review,

1960, 4, 257-260.

Hightower, A. Continuing education in physical therapy. Physical Therapy, 1973, 53, 17-24.

Hislop, H.J. & Worthingham, C. an analysis of physical therapy education and careers. Physical Therapy Review, 1958, 38, 228-241.

Hislop, H.J. Post graduate education: residency training (Editorial). Physical Therapy, 1967, 47, 591.

Hislop, H.J. Where do we go from here? (Editorial). Physical Therapy, 1968a, 48, 5-6.

Hislop, H.J. The unbent twigs. (Editorial). Physical Therapy, 1968 b, 48, 1082.

Hislop, H.J. The university environment and development of the physical therapy profession (Editorial). Physical Therapy, 1968 c, 48, 1193-1194.

Hislop, H.J. The doctorate in physical therapy (Editorial). Physical Therapy, 1968 d, 48, 1325-1326.

Hogue, R. Physical therapy education: the present. Physical Therapy, 1974, 54, 32-36.

Hughes, E.C., Hughes, H.M., & Deutcher, I. Twenty thousand nurses tell their story. Phila: J.B. Lippencott Co, 1958.

Hughes, E.C. Professions. In K.S. Lynn (Ed.) The professions in America. Boston: Houghton Mifflin Co, 1964.

Jacobson, B. Role modeling in physical therapy. Physical Therapy, 1974, 54, 244-250.

Jaeger, D.L. Preparation of the physical therapy teacher: balancing breadth and depth. Physical Therapy, 1970, 50, 1352-1354.

Jones, J. & Stuart, R. Expanded role for the physical therapist: screening musculoskeletal disorders. Physical Therapy, 1975, 55, 121-131.

Jencks, C. & Reisman, D. The academic revolution. New York: Doubleday, 1968.

Johnson, G.R. Physical therapy education: the future.

Physical Therapy, 1974 a, 54, 37-42.

Johnson, G.R. Curriculum design, a process in creative planning. Physical Therapy, 1974 b, 54, 383-386.

Kerlinger, F.N. Foundations of behavorial research, 2nd edition. New York: Holt, Rinehart and Winston, Inc., 1973.

Kuhli, R.C. Department of allied medical professions and services, division of medical education, AMA. In McTernan, E.J. & Hawkins, R.O. Jr. (Ed.) Educating personnel for the allied health professions and services; administrative considerations. New York: C.V. Mosby Co, 1972.

Lawrence, M. Preparing for research in physical therapy. Physical Therapy, 1966, 46, 42-45.

Lee, J.E. & Shepard, K.E. a comparison of biographical data of physical therapy students in California. Physical Therapy, 1973, 53, 272-281.

Lehmkuhl, D. Lets reduce the understanding gap, Part III: the experimental design. Physical Therapy, 1970, 50, 1716-1720.

Lehmkuhl, D. Lets reduce the understanding gap, Part I: the question, what and why. Physical Therapy, 1970, 50, 61-63.

Light, I. Development and growth of new allied health fields. Journal of the American Medical Association. 1969, 210, 114-120.

Likert, R. The method of constructing an attitude scale. In M. Fishbein (Ed.). Readings in attitude theory and measurement. New York: John Wiley and Sons, Inc. 1967.

Likert, R. A technique for the measurement of attitudes. Archives of Psychology, 1932, 140, 1-55.

Mayhew, J.B. Changing practices in education for the profession. Atlanta: Southern Regional Education Board, 1971 (SREB Research Monograph No. 17).

McMullen, J. & Delehanty, M.J. Graduate education, individual experiences of therapists. Physical Therapy, 1970, 50, 525-528.

McTernan, E. J. Introduction and organizing for upward mobility. In McTernan, E.J. & Hawkins, R.O. (Ed.) Educating personnel for the allied health professions and services, administrative considerations. New York: C.V. Mosley & Co., 1972.

Medical Education in the United States. Section V Education programs in areas allied with medicine. Journal of the American Medical Association, 1969, 210, 1524-1527.

Michels, E. on closing the creditability gap. (Editorial) Physical Therapy, 1968, 48, 1081-1082.

Michels, E. The 1969 presidential address. Physical Therapy, 1969, 49, 1191-1200.

Michels, E. The 1970 presidential address. Physical Therapy, 1970, 50, 1579-1590.

Michels, E. on not turning out physical therapists, a critical issue for education in physical therapy. Physical Therapy, 1972, 52, 1292-1296.

Michels, E. The 1973 presidential address. Physical Therapy, 1973, 53, 1165-1172.

Milacek, B.R. advising the physical therapist about graduate study. Physical Therapy, 1968, 48, 991-998

Moffat, M. Lets reduce the understanding gap, Part V:

analysis, interpretation, summary and conclusions in research. Physical Therapy, 1974, 54, 379-382.

Moffroid, M.T. & Hofkosh, J.M. Development of a research section. Physical Therapy, 1969, 49, 1208-1214.

Moore, M.L. & Flowers, S.E. New staffing pattern for education, service and development. Physical Therapy, 1974, 54, 141-146.

Moore, W.E. in collaboration with Rosenblum, G.W. The professions: roles and rules. New York: The Russell Sage Foundation, 1970.

Murphy, G. & Likert, R. Public opinion and the individual, a psychological study of student attitudes on public questions, with a retest five years later. New York: Russell & Russell, 1938, Reissue 1967.

Osgood, C.E., Tuci, G.T. & Tannenbaum, P.M. The measurement of meaning. Urbana, Illinois: University of Illinois Press, 1957.

Osgood, C.E., Cognitive dynamics in the conduct of human affairs, In M. Fishbein (Ed.), Readings in attitude theory and measurement, New York: John Wiley and Sons, 1967.

Parsons, T. & Platt, G.M. The american University. Cambridge, Mass., 1973.

Pascasio, A. Crystal ball gazing: lets look ahead together. Physical Therapy, 1969, 49, 15-18.

Pascasio, A. Education for the physical therapist of the future (Doctoral dissertation; University of Pittsburgh, 1966). Dissertation Abstracts International, 1966.

Pearlin, L.I. Alienation from work: a study of nursing personnel. In M. Abrahamson (ed.), The professional in the organization. Chicago: Rand McNally Co., 1967.

Pennell, M.Y., Proffitt, J.R. & Hatch, T.O. Accreditation and certification in allied health manpower. (U.S. Public Health Service - National Institutes of Health, Bureau of Health Manpower Education publication no. 71-192) Washington, D.C.: U.S. Government printing office, 1971.

Perry, J. Professionalism in physical therapy. Physical Therapy, 1964, 44, 429-434.

Perry, W. The allied health professions, change is the name of the game. Physical Therapy, 1968, 48, 1115-1121.

Perry, W. Career mobility in allied health education. Journal of the American Medical Association, 1969, 210, 107-110.

Physical therapy faculty roster 1973-74, Programs leading to professional qualification in physical therapy. Washington, D.C. Department of Educational Affairs, American Physical Therapy Assoc. 1974.

Presidential addresses reprinted. Physical Therapy, 1971, 51, 619-682.

Prothero, J.E. & Keehn, J.D. Stereotypes and semantic space. Journal of Social Psychology, 1957, 197-209.

Robinson, J.P.; Alhanasiou, R. & Head, K.B. Measures of occupational attitudes and occupational characteristics. (appendix A to measures of political attitudes). Ann Arbor, Michigan: Survey Research Center, Institute for Social Research, University of Michigan, 1969.

Robinson, J.P & Shaver, P.R. Measures of social psychological attitudes. (appendix B to measures of political attitudes). Ann Arbor, Michigan: Survey Research Center, Institute for Social Research, University of Michigan, 1969.

Rodgers, S.S. Accreditation: a salutary process in education for physical therapy. Physical Therapy, 1967, 47, 608-611.

Rokeach, M. Beliefs, attitudes and values, a theory of organization and change. San Francisco: Jossey-Bass Inc., 1968.

Rosenfield, M.E. Organizing for allied health education in educational institutions. In E.J. McTernan and R.O. Hawkins (Eds.), Educating personnel for the allied health professions and services: administrative considerations. New York: C.V. Mosby Co., 1972.

Sentera, J.M. Professionalization in a health occupation. Physical Therapy, 1972, 52, 385-391.

Singleton, M.C. A place for physical therapy (editorial). Physical Therapy, 1968, 48, 933-934.

Shaw, M.E. & Wright, J.M. Scales for the measurement of attitudes. New York: McGraw-Hill Book Co., 1967.

Sharof, M. & Levinson, D. The quest for omnipotence in professional training. In M. Abrahamson (Ed.), The

professional in the organization. Chicago: Rand McNally Co., 1967.

Snider, J. Profiles of some stereotypes held by 9th grade pupils. Alberta Journal of Educational Research 1962, 147-156.

Standards for basic education in physical therapy. adopted by board of directors, APTA, June, 1971. Physical Therapy, 1972, 52, 521-525.

Tannenbaum, T. Initial attitudes toward source and concept as factors in attitude change through communication. Public Opinion Quarterly, 1956, 20, 413-425.

Thomas, E. & Biddle, B. The nature and history of role therapy. In B. Biddle & E. Thomas (Eds.), Role Theory: Concepts and Research. New York: John Wiley and Sons, 1966.

Thurstone, L.L. attitudes can be measured, In M. Fishbein (Ed.), Readings in attitude theory and measurement. New York: John Wiley and Sons, 1967.

Vogel, E.E. The history of physical therapists, United States Army. Physical Therapy, 1967, 47, 1015-1025.

Watts, N.T. Implications of SASHEP for the health professions. Physical Therapy, 19/3, 53, 637-642.

Wiggins, N. & Fishbein, M. Dimensions of semantic space: a problem of individual differences. In J. Tinder & C. Osgood (Eds.), Semantic Differential Techniques: A Sourcebook. Chicago: Aldine Publishing Co., 1969.

Wilhaus, M. a professional inventory. Physical Therapy Review, 1958, 38, 813-818.

Worthingham, C.A. The development of physical therapy as a profession through research and publication. Physical Therapy Review, 1960, 40, 573-577.

Worthingham, C.A. What is the future of physical therapy education. Physical Therapy, 1963, 43, 645-649.

Worthingham, C.A. Study of basic physical therapy education, I. curriculum patterns for basic physical therapy education compared with six selected undergraduate fields, Physical Therapy, 1968, 48, 7-15.

Worthingham, C.A. Study of basic physical therapy education, II, Environment for basic physical therapy education - 1965-

1966: The academic or theoritical stage. Physical Therapy, 1968 a, 48, 935-962.

Worthingham, C.A. Study of basic physical therapy education, III. Clinical environment for basic physical therapy education - 1965-1966: Part I. Facilities. Physical Therapy, 1968 b, 48, 1195-1215.

Worthingham, C.A. Study of basic physical therapy education III, Clinical environment for basic physical therapy education - 1965-1966, Part II. Staff. Physical Therapy, 1968 c, 48, 1353-1382.

Worthingham, C.A. Study of basic physical therapy education, Part IV. The 1961 and 1965 graduates for the physical therapy schools. Part I. 1961 graduates. Part II. 1965 graduates. Physical Therapy, 1969, 49, 476-499.

Worthingham, C.A. Study of basic physical therapy education, Part V. Request (prescription or referral) for physical therapy, Physical Therapy, 1970 a, 50, 989-1031.

Worthingham, C.A. Study of basic physical therapy education: Part VI. Findings of the study in relation to trends in patient care and education. Physical Therapy, 1970 b, 50, 1315-1331.

Role Conceptions of Faculty and Clinicians in the Field of Physical Therapy

A review of the literature pertaining to the field of physical therapy revealed dissatisfaction with the way the roles of clinical practice, teaching and research were being carried out. Also differences in the attitudes and opinions of faculty and clinicians were noted. It was hypothesized that differences in opinions regarding the roles of clinical practice, teaching and research existed between the two groups with clinicians rating the clinical practice role the most highly; faculty the teaching role most highly and neither group attaching much value to research.

A survey of the attitudes and opinions of 150 randomly selected clinicians and 150 faculty members in the field of physical therapy was performed. The survey included a biographical background regarding age, sex, educational and clinical background, a questionaire using Likert scales and a semantic differential (SD) instrument to investigate the concept words clinical practice, teaching and research. The analysis of the data was carried out by analysis of variance method, covarying for age. The questionaire was also analyzed by percentage responses to the scaled items for each question. The SD was analysis for means of word pairs for each concept and profiles constructed to contrast the differences between the two groups surveyed.

The response rate was 67% of questionaires returned and useable. The biographic data revealed a much higher number of advanced degrees among faculty compared to the clinician group. Significant differences were found on the questionaire and semantic differential on the response of the two groups under study with clinicians holding clinical practice in the highest esteem followed by teaching, then research. The faculty group valued teaching most highly followed by clinical practice and lastly research.

The conclusions were that these differences in role concepts were partially responsible for some of the problems encountered in the field of physical therapy especially in the area of expansion of the clinical role and in the development of research interests and capabilities.

VITA

John Lennox Echternach

Born February 23, 1932 - Media, Pennsylvania

Education

West Chester State College	1949-1953	-B.S.- Health and Physical Education
University of Pennsylvania	1953-1954	-Certificate in Physical Therapy
Columbia University	1955-1956	-School of General Studies
University of Maryland	1958-1965	-M.S. -Human Anatomy