A study to determine how faculty, residents, and students rate clinical teacher behaviors in the teaching of Geriatrics in medical schools

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A Study to Determine How Faculty, Residents, and Students Rate Clinical Teacher Behaviors in the Teaching of Geriatrics in Medical Schools.

A dissertation submitted to the faculty of Atlanta University in partial fulfillment of the requirements for the degree of Doctor of Education

by
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Atlanta, Georgia
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A STUDY TO DETERMINE HOW FACULTY, RESIDENTS, AND STUDENTS RATE CLINICAL TEACHER BEHAVIORS IN THE TEACHING OF GERIATRICS IN MEDICAL SCHOOLS

Advisor: Professor Phil A. Bradley
Dissertation dated December 3, 1987

The purpose of this study was to identify effective clinical teacher behaviors in geriatrics as perceived by faculty, residents, and medical students; and to determine whether the ratings of these behaviors were influenced by six variables: professional status (faculty, residents, students), medical specialty of the teacher (Internal Medicine, Family Practice, Psychiatry); courses taken in geriatrics; age, race and sex of the respondent.

Seven factors of clinical teaching incorporated into the study were instructor knowledge, organization and clarity, group instructional skills, enthusiasm and stimulation, clinical competence, modeling and clinical supervision.

An instrument was constructed to measure perceptions of what teacher behaviors should be of those teachers who teach residents and students about caring for elderly patients. In addition, the instrument measured perceptions of how frequent these behaviors were demonstrated. Three hundred fifty three (353) questionnaires were mailed to a sample of a
population of clinical teachers, residents and fourth year medical students at the Morehouse School of Medicine and Emory University School of Medicine.

Findings from this study showed that professional status, courses taken in geriatrics, and sex of the respondent had significant influence on ratings of how frequent effective teacher behaviors were demonstrated. There was a greater difference in ratings between faculty and students than faculty and residents. No significant difference was found between or among the three groups in their ratings of what should be effective teacher behaviors in geriatric teaching.
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Chapter One

Introduction

As demands increase for accountability and documentation of teaching excellence, faculty teaching effectiveness in higher education has become a major concern. The type of teaching addressed in this study is that found in medical schools; more specifically, clinical teaching in the area of geriatrics.

Geriatric education and training in medical schools have not met the public need (Robin, 1982). Numerous national groups (Institute of Medicine, 1978; White House Conference on Aging, 1981; Association of American Medical Colleges, 1983) have identified the development of an adequate cadre of competent teachers and researchers as a priority concern. Faculty Development programs are being developed nationwide. In some cases these efforts are directed at individuals who will be specializing in geriatrics or gerontology. In most cases, these efforts will be adding to the knowledge and skills of persons who will be working with the elderly as a part of their responsibilities as adult care or family physicians.

In order to conduct effective faculty development programs, clear descriptions of effective clinical teacher behaviors in this area are needed. The purpose of this study was to identify effective clinical teacher behaviors in geriatric teaching as perceived by faculty, residents and medical students; and to determine whether ratings of these behaviors are influenced by six variables: 1) professional status (faculty, residents, and medical students); 2) medical specialty (Psychiatry, Family Medicine, or Internal Medicine); 3) courses in geriatrics taken; 4) sex; 5) race; and 6) age. Those behaviors identified as being effective in the teaching of geriatrics will be used for faculty development purposes. According to Ford (1983), variables can be
identified which reflect excellence in teaching, regardless of time, place, or locale.

Problem Statement

A. Scope of the problem nationally.

The "Graying of America" as coined by Sommers (1981) is no longer news. Currently 12 percent of the United States population is over the age of 65. The fastest growing segment of the elderly population is the over 85 age group, presently consisting of 2.5 million people (Rowe, Grossman, Bond, 1987). It is estimated that the number of people over 85 will double by the end of this century.

It is also projected that the minority elderly will increase more rapidly than the total population. The number of black and other non-white persons 65 years and over is projected to increase by almost 50 percent between the years 1980 and 2000. At the same time, the increase in the comparable white population is projected at about 35 percent (Rice, and Feldman 1983).

As more people live longer, health, social, economic and other problems associated with aging is certain to increase. The projections are that the number of elderly with limitations on the activities of the daily living - such as walking, bathing, dressing and eating will also increase (National Center for Health Statistics, 1980).

Several investigators have addressed the impact of this increasing population of older people on the health care system. Rice and Feldman (1983) in their analysis of the demographic changes and future health needs of the elderly, contribute a greater use of organized medical care services to 1) more elders living alone and without children, and 2) to the elderly being more educated and therefore more likely to seek more health services. Rowe
et al (1987) summarized well the magnitude of the impact of the projected change in this population on the health care system when they stated that:

Sheer numbers alone, however, understate the impact of an increasing population of older people on the health care system because their use of health care is disproportionately greater. Currently, the 12 percent of the U.S. population that is over the age of 65 accounts for more than 33 percent of physician's time, 25 percent of medications [prescriptions], and 40 percent of acute hospital admissions. In 1980, people over the age of 65 made 165 million visits to physicians. Assuming no major change in the structure of our health care system, this number is expected to increase by 40 percent by the year 2000, when the use of short-term hospital care by older people will have risen by 50 percent and more than a million more older people will be receiving long-term care. (p. 1425).

These data indicate that there will be an increased demand for persons with knowledge and skills in geriatrics and gerontology to help care for this growing population. In order to prepare physicians for the care of this population, the Institute of Medicine (1978) recommended that medical schools incorporate appropriate content on aging in their basic and clinical science courses. This recommendation reflected a concern that medical students were graduating with very little knowledge of the broad scope of problems being experienced by the elderly population. As a consequence, it was that organization's evaluation that older people were not receiving adequate health care. It identified deficiency in academic resources (faculty) for teaching geriatrics as the major reason for this lack of knowledge. It concluded that substantial improvement in teaching on the process of aging and the problems of the aged was required at all levels of medical education. In order to address this deficiency, many schools have recently initiated education and training activities in gerontology and geriatrics.

The Department of Medicine at the University of California, Los Angeles (UCLA), conducted several surveys to determine the extent of geriatric offerings at U.S. medical schools. In 1981, it found that about two-thirds of
the schools were offering instruction in the subject; over half of these activities had been initiated since 1979; and a majority of these were elective with relatively few enrollees; less than 10 percent were a regular part of the curriculum. Again in 1984, UCLA conducted a similar study to find a modest, but important increase in the number of programs which were being offered in the clinical curriculum. Since UCLA’s previous study, the total number of programs had doubled. However, only two of the programs were required, 21 were selective and the remainder were electives.

While data on the status of current efforts and resources are incomplete, available information indicates that still only a small fraction of the schools have required curricula in geriatrics and gerontology (Robin, 1982).

A number of estimates have been made on the number of medical educators with expertise in geriatrics that would be necessary to staff medical schools adequately. A 1981 Rand Corporation publication presented estimates of at least 1,350 physician faculty members would be needed to meet the schools’ educational responsibilities in aging. Other estimates were made that called for 700 - 2,500 geriatricians for teaching in medical schools, teaching hospitals and related activities (Libow, 1978). The latest information available indicates that the current staffing of medical schools in geriatrics is well below these estimates (Barry & Ham, 1985).

Faculty members with expertise in geriatrics provide leadership for high quality programs in teaching, research and patient care. They also became role models for students and can encourage other medical school faculty to devote additional attention to aging issues throughout the curriculum. A large portion of the efforts of these faculty will be directed toward the training of residents preparing for careers in Family Practice, Internal
Medicine and Psychiatry; areas which tend to spend a lot of their time caring for the elderly patient (Report on Educ. & Training, NIA, 1984). These specialty areas are encouraging medical residents to add to their knowledge and skills in geriatrics and are sponsoring continuing education activities on this topic for their members who are in practice (Robin, 1982).

B. Current status of teaching and training in geriatrics at the Morehouse School of Medicine, Atlanta, Georgia:

Presently, the Morehouse School of Medicine has no faculty member formally trained in geriatrics. Additionally there are no courses in the curriculum on the subject, required, selective or elective. However, efforts are being made to incorporate teachings on selective topics in geriatrics and gerontology into the basic and clinical sciences. Faculty development workshops in geriatrics and gerontology are being planned for those faculty members who involve elderly patients in their teaching of residents and medical students.

A Teaching Nursing Home Project has been established to provide interdisciplinary learning experiences in long-term care for residents, medical students, and students from other health professions.

C. Clinical teachings in medicine:

1. Teaching diversity in medical school.

Teaching in medical schools is different from other types of schools in higher education. Usually, most courses in higher education are taught by a single instructor in a classroom or group discussion setting. However, in clinical teaching, as it occurs in medical school, all but the first two years of the four years of medical school and the three years of post-graduate residency training are spent in settings such as hospitals, out-patient clinics
and private physicians' offices. Although some lectures and group discussions are used, most of the teaching is experiential.

The faculty who teach in medical schools are for the most part physicians who carry a significant patient load. These patients form the basis for clinical instruction along with the faculty member's clinical expertise (Irby, 1977). The faculty's teaching responsibility to residents and students is basically supervisory. He/she selects appropriate patients problems for the student or resident to see and/or manage, observes and evaluates their progress.

Irby and Dohner (1976) pointed out that faculty evaluation of student/resident clinical performance is a complex task due to the diversity of patient problems seen by the student or resident, the limited number of faculty observations of student contact with patients, the general lack of clinical objectives, and frequently vague evaluation instruments.

Another potential source of complexity and diversity is that clinical teaching in medical school is patient-centered. The content is taught in relation to patient problems encountered by the students. Thus many variables may complicate the instructional process such as, the patient's personality and cooperation; student's perception of the problem and his/her skill level; faculty/student relationship; faculty/patient relationship; value systems differences; and the faculty's ability and availability to observe student/patient interaction for teaching purposes.

2. Diversity in teaching skills and behaviors:

Traditionally, medical faculty members learned to teach by remembering how they were taught, by receiving guidance from senior faculty members and by practicing on students and residents in training. However, in this age of student influence in the academic world, criticism of
teaching may call for re-examination of a practice long taken for granted. The teaching skills of the faculty in medical schools have surfaced as a concern in medical education.

Medical and educational researchers have been attempting to define specific behaviors which facilitate learning in clinical teaching situations. We now benefit from their efforts. Guidelines for faculty to increase and improve their instructional skills have been developed utilizing expertise from the fields of psychology, organizational development and communications as well as from medicine. These guidelines are in most cases generic in nature and do not address a specific medical specialty.

As yet, significant efforts have not been given to the systematic development of teaching skills programs (workshops, seminars, etc.) for medical faculty (Cowart, 1982,). According to Alexander and Haldene (1981), even when courses on teaching are available, the prevailing attitude seems to be that competence as a teacher is a by-product of other skills and attributes. However, those individuals concerned with medical education have recognized that a competent physician is not necessarily an effective medical educator. Dorman and Hoover (1972) concur with this notion and state that individual's competence as a physician-scientist does not qualify him/her as a clinician-teacher.

Several investigators have studied clinical teaching patterns and teacher characteristics through observation, and interview (Scully, 1974); and through survey of teaching behaviors as perceived by teachers themselves, by their peers, and by students (Irby, 1977; Meleca, 1983). Additionally, research has shown that perceptions influence personal and, by inference, professional behavior (Power, 1973).
The personal attributes of the teacher, as a person, plays a significant role in defining the teacher's behavior. According to Boy and Pine (1971) teaching behavior is an extension of one's expression of self. The teacher's view of his/her world, life, values, attitudes and emotional capacities, the manner in which his/her relationship with self is perceived all represent the teaching essence.

D. Clinical teaching in Geriatrics:

The health care needs of the aging population differ substantially from those of younger patients (Schneider et al., 1986). The physical, social, and behavioral changes associated with aging are combined with the debilitating effects of multiple acute and chronic diseases. Both the presentation of illness and its responses to treatment are altered at old age.

According to Corey (1982), most students need assistance in four major areas of geriatrics: altered clinical strategies in the elderly, special problems of the chronically ill, assessment skills, and perspective of the american health care system.

The past emphasis in the training of many practicing physicians and the current emphases in the training of student physicians bear little relationship to the needs of the older patient (Calvert, 1979; Rowe, 1987). Medical education stresses mostly acute care treatment and cure. The older patient has chronic conditions and other ailments which may not be amendable to cure. Additionally, clinical strategies must often be altered when one is dealing with the very old patient. The standard work-up must be tailored to apply to the often fragile physiologic reserve of the patient. A simple diagnostic test can have significant side effects in the elderly because of the dehydration and debility that may result from the studies (Corey, 1982).
Persons involved in the teaching of medical students and residents about geriatrics have described the complexities of geriatric care as creating a very difficult area in which to teach (Ford & Wallace, 1987). These authors report that these teachers struggle with finding more effective ways to teach and facilitate learning in their students while also trying to motivate them to seeing geriatrics as an important, but somewhat different component of health care. Learning is unlikely to occur unless the resident/student is motivated to learn.

The adult learner's motivation to participate in the learning process depends upon many factors including: need for self-esteem (Maslow, 1954; Tough, 1971); perception of the value of learning a subject (Super, 1980); acceptance of how and what to learn; need for social affiliations with others (Haller, 1982); and life expectations in general.

The teacher's ability to promote learning is one of the most crucial factors in the education process. The teacher's actions from a holistic perspective (educationally and personally) influence the resident/student not only as it pertains to the acquisition of knowledge, but also, as it pertains to interests, appreciations, attitudes and performance. Teachers can positively and/or negatively influence learners. Some teachers can make learning experiences challenging, interesting, rewarding and intriguing. On the other hand, some teachers exhibit teaching behaviors which impede, and even extinguish learning.

To complicate matters, motivation of the teachers themselves towards the subject of geriatrics appears to be a problem. In 1982, the American Medical Association surveyed interest of physicians in caring for and teaching about the elderly patient and found that only a few of those responding expressed such as interest.
Objective and reliable instruments are needed in order to collect information on clinical teaching effectiveness in geriatrics. Without such instruments, diagnostic data are not available to faculty for self-improvement purposes. Such an instrument for data collection is presently not available except for Irby (1977) and Stritter et al (1975). Most data collection instruments currently in use for effective teaching are designed for a single instructor, classroom setting.

Significance of the Study

A. Nationally:

Changes in population trends indicate that there will be a considerable increase in the number of elderly patients in future primary care medical practices. This increase creates an imperative in medical education to teach students and practicing physicians more about the care of the elderly patient.

To provide insight into effective and ineffectively clinical teaching, the characteristics of good, effective teachers of geriatrics must be identified. One objective of this study was to identify what is considered to be effective teacher behaviors in this area.

This study also attempted to identify the perceptions of effective clinical geriatric teaching held by faculty, residents and medical students. Medical students and residents are adult learners and teachers must therefore be concerned about their views of what they need and how it should be taught in order to maximize what is learned (Knowles, 1977; Cross, 1981). A congruence of viewpoints between teachers and their students about educational preference and expectations might be expected to enhance clinical learning. A lack of agreement, by contract, might be expected to inhibit learning (Stritter, 1983).
The second objective of this study was to determine the influence of six variables on perceptions of effective teaching in geriatrics. Knowing what these influences are should enhance the teachers ability to plan a course of study that would in turn enhance the learning process.

The results of this study can be used in the development of faculty development workshops in schools with primary care residency training programs and primary care specialty departments.

B. To Morehouse School of Medicine.

The Morehouse School of Medicine has as its mission to educate and train physicians to practice quality primary care, especially in underserved rural and inner-city communities. This is, in fact, the School's raison d'etre. The School's primary efforts are directed toward recruiting, enrolling, and educating able black and other minority students for careers as primary care physicians.

A RAND Corporation study reported in 1980 that primary care physicians were responsible for about 86 percent of all encounters made to physicians in non-hospital settings by elderly patients each year. Projections are that the minority elderly population will increase more rapidly than the total elderly population. It is therefore imperative that graduates from Morehouse be well trained to care for an age group which statistics show will comprise a large portion of their patient population. In order to prepare its graduates for this responsibility, Morehouse must develop the academic resources necessary. Faculty development workshops which enhance teacher effectiveness in geriatric teaching are important. The results of this study will provide the basis for teaching the clinical instructors, or for any instructor
responsible for the training of students who, in turn are responsible for service to a geriatric patient or client.
C. Significance of the Study to the Researcher.

Presently, I am responsible for developing and coordinating the teaching and learning activities in geriatrics for the Department of Community Health and Preventive Medicine at Morehouse School of Medicine. One of the activities on the drawing board is the development of Geriatrics Teaching Skills Workshops for primary care physicians who are interested in improving their skills in the area of geriatric teaching. Other participants in these workshops would be clinical fulltime faculty and residents from the two residency training programs at Morehouse, Family Practice and Public Health/Preventive Medicine.

In order to develop these workshops, the competences needed and the teacher behaviors considered to be the most effective enhancers of learning must be known. Therefore, this study provided important empirical data upon which decisions about the structure and content of these workshops can be made. For example, some of these workshops will be attended by some of the respondents to the questionnaire in this study.

Research Questions

The research questions which this study attempted to answer were:

1. Are there teacher behaviors which are specific to the effective teaching of geriatrics?
2. Is there a difference in the perceptions of effectiveness in teaching clinical geriatrics in three medical specialties (Family Medicine, Internal Medicine, and Psychiatry)?
3. Is there a difference in the perception of effective teaching in geriatrics relative to professional status (faculty, residents, medical student)?
4. Is there a difference in the perception of effective teacher behaviors in geriatrics relative to whether one has had formal courses or training in geriatrics?

5. Is there a difference in the perception of effective teacher behaviors in geriatrics between different sexes?

6. Is there a difference in the perception of effective teacher behaviors in geriatrics between different races?

Definition of Terms

The following concepts were utilized in this study:

A. Professional Status: Professional status refers to the stage at which each respondent in the study had reached towards being or becoming a physician. There were three categories of status investigated:

1. Faculty: Faculty in this study was defined as clinical faculty in medical school with M.D. degrees who have some responsibility for teaching residents and students about some aspect of medicine. Three types of faculty were surveyed:
   a. Full-time faculty are those physicians who are paid by the institution to teach on a regular basis content relevant to a specific area of specialty. This type of faculty usually does not see patients outside of the university affiliated setting. They are assigned to a particular department of the school and participate in regularly scheduled classroom and clinical courses.
   b. Part-time faculty are paid by the institution on a part-time basis and teach residents and medical students on a periodic schedule. These faculty usually have patient care responsibilities exclusive of the teaching setting.
c. Adjunct or Preceptor-type faculty are not paid by the medical school. These are usually physicians with private practices who volunteer their time to teach residents and students in a hospital or clinic setting. They are usually attending physicians of patients who are admitted to hospitals where the medical school has a teaching affiliation. In this situation, they allow students and residents to participate in the care of their patients as a learning experience. Often this type of faculty is used to precept students and residents in their private practices.

2. Residents: Residents have completed four years of medical school and hold M.D. degrees. They are participants in a post-graduate medical education program called a residency in a particular medical specialty. These residencies usually require three to five years to complete. Residency programs have three levels of training: first, second, and third year. As one passes through these levels of training the responsibility for the care of patients increases. The same is true of teaching. Although residents are learners, they frequently assume responsibility for teaching other residents and medical students. In fact, as many researchers show, the primary responsibility for the teaching of medical students in the hospital setting is that of the resident.

3. Medical Students: Medical students are working on the doctorate of medicine degree (M.D.). This is a general medicine degree which allows the holder to practice as a general practitioner. In order to obtain this degree, one must complete four years of medical school and successfully pass a set of nationally required
board examinations. In order to specialize in a particular area of medicine, one must complete a residency in that area.

In the first two years of medical school, students basically study the basic sciences. During the third year, students begin their clinical training in the hospital and are assigned to four to eight week rotations on a particular specialty. These rotations are a part of a required curriculum for all students nationally. In the fourth year, students are able to take mostly electives in their areas of interest. It is also in the fourth year when students decide what specialty they want to choose as a career.

D. Clinical Teaching: Clinical teaching involves learning through supervised experience with patients (Gragg, 1973). Teaching takes place in the clinical setting and usually occurs through one-on-one faculty supervision, patient-centered rounds, and problem-centered conferences. While clinical experience begins on a limited basis in the first year of medical school, the majority of clinical teaching is done at the clerkship (3rd and 4th years of medical school) and residency (post-graduate) levels.

In medicine, the major purposes of clinical education are generally those of preparing students to integrate previously acquired basic science information with performance-oriented skills and competencies associated with the diagnosis, treatment and care of patients and to acquire the kinds of professional and personal skills, attitudes, and behaviors thought essential for entering the health care system and embarking on continuing forms of education (IRBY, 1977).

E. Teacher Behaviors: 22 specific teacher behaviors were included in the study. These were derived from prior research, opinions of a panel of
judges, and field testing (see appendix D). Each behavior was placed on a 6 point scale of effectiveness. A score of 6 indicated that a behavior was considered by the respondent to the most descriptive of what a teacher’s behavior in geriatrics should be. A score of 1 indicated that the respondent considered that behavior to be the least descriptive or not at all descriptive of what a teacher’s behavior in geriatrics should be.

F. Dimensions of Clinical Teaching: 7 dimensions under which the 22 teacher behaviors logically grouped were identified through prior research and factor analysis (Irby, 1977). These dimensions were:

1. Instructor knowledge.
2. Organization/clarity of presentations.
3. Enthusiasm/Stimulation
4. Group Instructional Skill.
5. Instructor Clinical competence.
7. Clinical Supervision.

G. Medical Specialty. Medical specialty refers to the specialize training of a physician three to five years beyond medical school. It becomes one’s area of expertise. The three medical specialties studied here were Family Practice, Internal Medicine, and Psychiatry. In this study, respondents were asked to identify the role and specialty of the teachers who they thought taught them the most about geriatrics.

Limitations of the Study

The purpose of this study was to identify teacher behaviors which were descriptive of the “ideal” clinical teacher in the area of geriatrics as perceived by medical school faculty, residents and students. As an examination of
perceptions, neither the process nor the outcomes of clinical teaching in geriatrics were assessed. Observations of clinical teachers, measurement of the impact of teacher behaviors on student learning, and studies of environmental factors in the clinical setting were all beyond the scope of this research.

Generalizations can be made only to the population of this study, namely faculty with M.D. degrees, residents in university-affiliated hospitals and fourth-year medical students at the Morehouse School of Medicine and the Emory University School of Medicine. The faculty and residents surveyed only represented the specialties of Family Practice, Internal Medicine, and Psychiatry.

Finally, the validity of the survey instrument is restricted to the results obtained from this study.
Chapter Two

Literature Review

Teacher Behaviors

Characteristics of teacher behaviors in the clinical setting were identified from a review of the research on teaching effectiveness in colleges and universities, particularly that done in medical school. Most of this research reviewed was based on the differences among student and faculty ratings of teacher effectiveness and the variables which influenced those ratings.

A. Research methods employed:

In a review of research on what constituted effective teaching, Irby (1977) found that a variety of research methods had been employed to develop constructs related to effectiveness in teaching. The most prominent of these methods included: 1) factor analysis in studies (Blazek, 1974; Pohlman, 1975; and Greenwood et al., 1973) that dealt with student's perceptions of teachers; 2) correlation studies where relationships were established between selected variables and measures of teacher effectiveness, i.e., student achievement (Rosenshine and Furst, 1971; 1973). The contemporary work of MacDonald and Bass (1983) supported the utility of this method with their findings of a positive correlation between teacher behavior and type of medical practice; 3) direct observation of the teaching process by trained observers in clinical settings (Scully, 1974); and 4) the critical incident method used particularly in nursing as demonstrated by Rauen (1974). This method was supported later in the contemporary work of Meleca (1983).

Several researchers have reported teacher behaviors identified by medical students as most desirable in ideal clinical teachers (Stritter, 1975; Irby, 1978,

B. Construct/factors Unique to Clinical Teaching:

Several constructs of teaching effectiveness have been identified and validated by empirical research.

Factor I: Organization/clarity

This factor was identified as being key in teaching effectiveness (Hildebrand et. al., 1971; Pohlman, 1975; Irby, 1977; Irby & Rakestraw, 1981.). Items descriptive of organization/clarity included:

1. Explains clearly.
2. Is well prepared.
3. Gives lectures that are easy to outline.
4. Is careful and precise in answering questions.
5. Summarizes major points.
6. States objectives for each session.
7. Identifies what he considers important.

Factor II: Group Instructional Skill

This refers to the teacher's sensitivity to class response and encouragement of student participation. Hildebrand and Irby found that the items comprising this factor included:

1. Encourages class discussion.
2. Invites students to share their knowledge and experiences.
3. Clarifies thinking by identifying reasons for questions.
4. Invites criticism of his own ideas.
5. Has students apply concepts to demonstrate understanding.
6. Gears instruction to student's level of readiness.
7. Showed a personal interest in students.
Other investigators labeled this dimension variously:

1. Active student participation (Stritter, et al., 1975).
2. Instructor openness (Blazek, 1974).
4. Instructor group interaction (Hildebrand et al., 1971).

These studies suggest that effective faculty are those who can establish rapport with a class, are skillful in interacting with them, and are sensitive to class response.

Factor III: Enthusiasm/Stimulation

This factor related to the flair and infectious enthusiasm of the faculty member that comes with confidence, excitement for the subject, and pleasure in teaching (Irby, 1977).

Hildebrand and Associates (1971) termed this factor Dynamism/Enthusiasm and included these items in their study:

1. Is a dynamic and energetic person.
2. Has an interesting style of presentation.
3. Seems to enjoy teaching.
4. Is enthusiastic about his subject.
5. Seems to have self-confidence.
6. Varies the speed and tone of his voice.
7. Has a sense of humor (p. 17).

A series of studies examined the role of the "Dr. Fox effect" -- the experimental manipulation of teacher seductiveness and charisma (Naftaline, et al., 1973; Ware and Williams, 1975; Williams and Ware, 1975). These studies supported the thesis that highly enthusiastic lectures are related to greater student achievement. On the other hand, the authors cautioned that nonsubstantive lectures using double talk and contradictory statements can receive favorable
ratings from students. Irby et al. (1976) concurs with this notion and states that the most effective teacher is one who combines both an enthusiastic presentation with a high level of information.

**Factor IV: Instructor Knowledge**

This factor relates to scholarship with an emphasis upon breadth, analytic ability and conceptual understanding.

Items included in this factor by Irby (1977) in his study of clinical teaching were:

1. Revealed broad reading in his/her medical specialty.
2. Related topics to other disciplines.
3. Discussed current developments in his/her field.
4. Directed me to useful literature in the field.
5. Discussed points of view other than his/her own (p. 126).

Stritter and colleagues (1975) in a study of effective teacher behaviors in clinical instruction identified six constructs which they labeled: active student participation; preceptor attitude toward teaching; emphasis on applied problem-solving; student-centered instructional strategy; humanistic orientation; and emphasis on content and research.

From a review of studies of classroom and clinical teaching, Irby (1977) identified four constructs of teaching effectiveness which were common to both settings. These were: organization and clarity of presentations; group instructional skills; enthusiasm and stimulation; and instructor knowledge. In addition to the commonly shared constructs, he identified three constructs as unique to clinical instruction. These were: clinical supervision of student performance; instructor clinical competence; and modeling professional standards
and values. Some of the items which Irby found to be most descriptive of these factors included:

**Factor V: Clinical supervision**

1. Provided practice opportunities.
2. Demonstrated clinical procedures and techniques taught.
3. Provided frequent feedback on performance.
4. Corrected mistakes without belittling.
5. Provided professional support and encouragement. (p. 127)

**Factor VI: Instructor clinical competence**

1. Worked effectively with health care team members.
2. Maintained rapport with patients.
3. Objectively defined patient problems.
4. Utilized clinical consultations effectively.
5. Managed clinical emergencies effectively. (p. 126)

**Factor VII: Modeling**

1. Showed respect for other medical specialties and professions.
2. Demonstrated sensitivity to the needs of others.
3. Expressed his/her own feelings and values when appropriate.
4. Did not appear arrogant.
5. Recognized own limitations. (p. 127).

The work of Irby and Rakestraw (1981) supported the uniqueness of these constructs to clinical teaching.

C. Behaviors Unique to Teaching Geriatrics:

This review of the literature up to 1987 revealed no empirical studies on the competencies or behaviors needed of effective teachers of geriatrics. However, Reichel (1979) outlined in a paper, presented at a conference on Family Medicine curriculum and the care of the elderly, what he considered to be very
essential aspects critical to effective clinical teaching of geriatrics. These were: compassion and humanism; continuity of care; bolstering family and home care; communication skills and building the doctor-patient relationship; and intelligent treatment - the principle of minimal interference.

Also in 1979, Casbergue and Calvert conducted a workshop to identify the requisite pedagogical knowledge and skills for effective teaching of geriatrics. Workshop participants identified the characteristics of effective and ineffective teachers in geriatrics they saw as important. Twenty-one characteristics or behaviors were identified as effective and sixteen as ineffective. Figure 1 has been constructed for this review as a summary of those behaviors.
Effective
1. empathy.
2. good interdisciplinary relationships.
3. positive regard for the elderly.
4. good listening skills
5. comfortable in dealing
6. utilizes allied health professionals
7. makes geriatrics interesting
8. comfortable with own life cycle.

Ineffective
1. talks too much.
2. fails to orient student to differences between generations in health care.
3. discomfort with ability to significantly impact on problems of aging.
4. fails to utilize community resources to teach students more about geriatric care.
5. deals mainly with acute care problems and fails to stress improvement of functioning as a health care goal.

Figure 1: Characteristics of effective and ineffective teachers in geriatrics.
Source: Adapted from Casberque, J., Calvert, J. Faculty Development considerations in geriatric care education. in, Family Medicine Curriculum and Care of the Elderly, Proceedings, Michigan State University, Dept. of Family Medicine, 1979, pp. 100-101.

C. Evaluating the Teacher’s Effectiveness:
In recent years there has been much controversy regarding the value of student evaluation of teaching. Rippey (1975) points out that the value of student evaluations are debated for at least three reasons:
1. Contradictory evidence has been generated in the research on student ratings;
2. They have been considered as a threat to faculty standards and faculty security;
3. The utility of such ratings has been questioned.

Some researchers support the notion that student evaluations are of little value (Robin & Robin, 1973), while others indicate that student ratings of teaching are valid (Doyle & Whitley, 1974). Rippey (1975) concurs with this latter notion and states that

... student evaluations of teaching can be useful particularly in the improvement of instruction. However, in order to use such evaluations, improved methods of data collection and analysis are needed. p. 951.

Morris (1978) and McKeachie (1971) agree that eliciting from students their perceptions concerning the factors which, in their opinions, are contributing to their performance can provide both valid and reliable input concerning problem areas affecting their learning.

In a study on student ratings of clinical teaching, Irby and Rakestraw (1981) found such ratings to be highly consistent and as reliable as those reported in classroom settings. Again in 1982, Irby found that the use of student ratings data and semiannual departmental faculty development workshops improved the overall ratings of all faculty members during a four year period. Repeating his study in 1983, Irby found that evaluation of teaching data had a positive impact on promotions for faculty members who placed greatest importance on teaching rather than research or services.

D. Potential Sources of Diversity in Perceptions of Effective Clinical Instruction:

1. Professional Status. Several studies suggest that differences in perception of teaching effectiveness may exist among faculty, and student groups.
The teaching performance of selected medical school faculty were rated by students and department and chairman in one study (Gromisch, et al., 1972); by students and faculty in another study (Wolken, 1974) and by clinical faculty and residents in another (Stritter, 1983). There was lack of agreement on effective teacher behaviors between the groups of raters in all three cases. Irby (1977) however, studied the effects of professional role (faculty, resident and student) and found no significant difference on how they rated teacher behaviors.

While no strong correlation between students' achievement and their perception of the quality of teaching has been found, Notzer and Yadser (1986) found a positive correlation which highlights the role of the department head in the instructional process. In that study, the activity of a head or department who played an intensive part in the actual teaching, resulted in a significant positive correlation with students' achievements.

Aleamoni and Hexner (1980) found no significant relation between senior rank and student achievement in other types of schools of higher education. However in medical schools, the professional model of the senior teacher has an important weight in the formation of the students' professional behavior (Shuval, 1980). The senior teacher is assumed to influence students' learning through role model imitation.

The literature on graduate medical education indicates a broad consensus that teaching is an important function of the resident. Estimates of time spent by the resident in teaching range up to 25 percent (Brown, 1972; Stenfanu et al., 1975; Greenberg et al., 1984).

Resident's teaching skills are not valued on par with other professional competencies (Toneck, 1979). Toneck found that in the
majority of medical education settings there is no explicit evaluation of the resident’s teaching performance suggesting that the teaching role is perceived as a transitional one, much the same as the role of a student; that is, it is more a part of becoming a physician than of being a physician. According to Toneck this view permits the resident to acknowledge that he or she may be a very poor teacher who dislikes and avoids that function and yet maintain a sound self-image as a superior physician.

Results of several studies (Meleca & Schimpfhauser, 1976; Daggett, 1977; Greenberg et al., 1984) suggest that residents have ambivalent feelings about teaching as a primary responsibility. Significant percentage of residents in these studies reported that medical students made their clinical responsibilities more difficult. While agreeing that teaching is important, conflicting demands of the delivery of patient care results in teaching being a lower priority. On the other hand, residents reported that teaching improved their clinical acumen and intellectual skills, and many would prefer to teach more if time allowed (Toneck, 1970; Zeleznick & Brucker, 1980).

Residents who felt comfortable with their information base were also confident about their teaching. However, few residents, in the Greenberg study felt that their knowledge was more than adequate; a perception more pronounced with first year residents. These studies found that most residents felt that faculty and preceptors were more suited than residents for teaching because of the faculty’s extent of training and experience.

While no research has been done to date in the area of geriatric teaching which compares the perceptions of medical school students,
residents and faculty, existing evidence suggests that the specific criteria of measuring teaching effectiveness employees by each group may be different. For example, Hall and Starkman (1979) found good agreement between medical students and residents' ratings of the effectiveness of the infusion of the teaching by gerontologist into their curricula. Halpert (1983) reported that student perception of and reaction to the incorporation of gerontology into the medical curriculum at one school was very different from the faculty's perception of what student reactions would be.

2. Medical Specialty of the Teacher. Another variable which may influence ratings of teaching effectiveness is the departmental affiliation of the faculty. Miller (1974) found minor differences in ratings among faculty in different departments, and Klafehn (1973) reported that faculty in the natural sciences received lower ratings of effectiveness than other departments and schools.

Differences among medical specialty groups and departments have been noted on cognitive and non-cognitive variables as well. Using the Edward Personal Preference Schedule, Birkman Attitudes Schedule and Medical College Admissions Tests, Collings and Roessler (1975) compared Family Practice residents with residents in Internal Medicine, Surgery, Obstetric-Gynecology, and Pediatrics. Family Practice residents were in most instances significantly different from the other groups.

Irby (1977) however, investigated the effects of departmental affiliation of faculty on the perceptions of teaching effectiveness and concluded that there was no significant differences between specialities.

Holtzman and associates (1979) study findings suggest that students selecting family medicine as a specialty preference were
somewhat more humanistic and emphatically oriented in regard to the aged than their peers who preferred other specialties.

Training of residents preparing for careers in Family Practice, Internal Medicine and Psychiatry is especially important because practitioners in these specialties tend to spend much of their time caring for the elderly and most of the elderly seek care from physicians in these fields (Robbins, 1982). Difference of opinions exist among these specialties however, as to who is best trained to care for the elderly patient. A position paper of the American College of Physicians (1985) stated that certification in Internal Medicine reflects expertise in geriatric medicine. however, Hogan (1985) in a letter to the editor of the same journal refuted this claim by stating that in the Internal Medicine program where he trained, there was no emphasis on geriatrics. Commenting on the role of the Family Practice physician in geriatrics, Reichel (1979) states,

... family practice has utilized a holistic and humanistic approach and has made major contributions in the area of geriatric care, teaching and research...someone suggested that perhaps we have to play the same type of role as we have in ambulatory care. That is, that Family Practice can demonstrate to internal medicine where its deficiencies have been. (p. 9).

Coe (1981), however, found ratings of interests in geriatrics higher for faculty members in Psychiatry.

3. Courses Taken in Geriatrics. Several investigators advanced the hypothesis that medical school tends to make students more negative in their attitudes toward the aged than when they entered school (Butler, 1975; Watson, 1982).

Geirger (1978) in a comparative analysis of social work, law, and medical students' preference for working with age groups, found that
none of the future professionals gave first preference to working with the elderly in their future careers. An examination of the curriculum in the three professional schools revealed that there was no required courses which dealt specifically with gerontological content.

Warren and associates (1983) and Shimamato (1987) investigated the effects of an educational program on the attitudes of groups of medical students and found a relationship between these courses and greater interest in gerontology and geriatrics.

Wattis and associates (1986) compared medical students attitudes towards older people at two medical schools, one with a department of health care of the elderly and the other without. The study showed that students in the medical school with the department of health care of old people were more positive in their attitudes to the medical care of the elder than those students from the school without such a department.

Wooliscro., Calhoun, Maxim, and Wolf (1984) studied the effects of teaching about geriatrics on the attitudes of medical students towards the elderly. They found that by incorporating training at appropriate community facilities for the elderly into existing curricula significantly improved student’s attitudes concerning the functioning, integrity, and personal acceptability of the elderly at all sites, except the nursing homes.

Research suggest that perception of effective teaching may be related to the attitude of the teacher towards the subject and that this attitude may be related to a lack of formal training and courses in the subject. This lack results in teacher bias and stereotypes. Plovnick (1975) found in his study that teacher bias against certain types of areas affected the students attitudes towards that subject. Students
interviewed in his study reported that faculty frequently alluded in lectures, in discussions, and even in written case studies to the "incompetence" of "nonspecialists". In reference to primary care or Family Practice, although a specialty, any initial inclinations students had towards that area were strongly questioned by many of their peers and many medical school faculty.

Crane (1975) and Kosberg and Harris (1978) supported Plovnick's findings in their studies. They found that negative stereotypes modeled by health professions teachers were accepted by their students and expressed through negative attitudes toward geriatric patient care. These studied suggest the negative attitudes of these teachers toward older people have a significant effect on the quality of care they receive.

According to Butler (1975), the educational experience of those preparing for professional careers may result in "ageism".

Even if basically unprejudiced to begin with, American doctors are introduced to ageism and stereotyping of the old when they receive their medical training. Among medical students and their professors, a "crock" is an undesirable patient, usually a middle age woman or an older person with a multiplicity of complaints. (p. 166).

Watson (1982) concurs with this notion.

Working with a geriatric population may be perceived as representing the antithesis of health care training and practice. Dramatic conditions which respond to fast curves are more exciting and quickly satisfying. Professionally, physicians may be uninterested in that aspect of medicine most crucial to the old, the care of chronic conditions. Previous studies have suggested that health care workers exhibit negative attitudes toward the aged and believe work with this group to
be undesirable and unrewarding (Wolk & Wolk, 1971; Cyrus-Lutz & Gaitz, 1971; Butler, 1975).

In a society such as the United States, which emphasizes attractiveness, productivity, youth and activity, the elderly are not highly valued (Riley, 1980; Silverman, 1983.). Rather, elderly people increasingly find themselves without roles and functions as a result of social policies and practices (Riley, 1980; Dowd, 1980; Sontag, 1979). It is within this societal context of a prevailing negative view of elderly individuals that those in the helping professions develop their values and orientations.

4. Age of the Professional. Prior research has shown various effects of age in relationship to attitudes and desire to work with elderly patients. For example, Cyrus-Lutz and Gaitz (1972) found that younger psychiatrists expressed a willingness or preference for working with older patients more frequently than did older psychiatrists. Hass and Bain (1980) in their investigations compared family physicians with practices of large geriatric patient numbers to those with younger patient populations. They found that physicians with larger numbers of geriatric patients tended to be older and had been in practice longer than their colleagues who saw fewer elderly patients. Secondly, those physicians seemed to devote more time and effort to the management of chronic diseases than did other family physicians. The researchers offered two competing theories for the age differences between physicians in geriatric and nongeriatric practices. On the one hand, according to the authors, doctors and their practices may grow old together, assuming that the physician has been for some time accepting few of any new younger patients. Alternatively, this cohort of physicians may have had a greater
interest in working with the elderly as a result of their training or other factors and thus may have always maintained this type of practice. The authors suggested that this group of physicians merited further study.

In studies of nurses, researchers had varied results. Campbell (1971) found age not to be relevant. Gillis (1973) found that older nurses were more positive toward the aged. Nolan (1985) and Shimamoto (1978) found that the younger the nurse, the more positive the attitude towards the elderly. However, to Shimamoto, this difference was believed to be related more to culture and age since most of the younger nurses in that study were of Asian culture, a culture where the elderly are highly valued (Plath, 1983).

5. Race of the Professional. Burge (1976) in a study utilizing a sample of caucasians, pacific asians, chinese and japanese, found greater interests in working with the elderly among the pacific asian. She attributed this to a reflection of greater reverence for the aged in that culture. Also, black nurses were found to be more stereotyped in their attitudes toward the aged from white nurses. In a study designed to determine the utilization patterns and satisfaction levels of blacks in nursing homes, Schaft (1979) found that black physicians were seldom found to serve the black elderly in such facilities. Almost all of the black patients in the nursing homes studied were under the care of white physicians.

6. Sex. In a study to assess the attitudes of health workers toward old people and to test their acceptance of geriatric stereotypes, Solomon and Vickers (1979) found that females emerged with so many differences from other groups that they were viewed as having special problems in relation to maintaining stereotypes of the elderly. The groups tested were medical students, residents, and members of a mobile
psychogeriatric screen team. Medical students and residents were predominately male, whereas geriatric staff members were predominately female.

Summary

In the review of literature on effective teacher behaviors in clinical teaching, there appears to be a consensus on the most important factors or constructs of behaviors. The common factors identified were:

1. Organization and Clarity of Presentation;
2. Group Instructional Skill;
3. Enthusiasm/stimulation
4. Instructor Knowledge;
5. Clinical Supervision;
6. Instructor Clinical Competence; and
7. Modeling.

Additionally, several characteristics were identified as being important for teachers of geriatrics to possess. These were: compassion and humanism; continuity of care; communication skills; good doctor-patient relationship; use of the principle of minimal interference. These characteristics, though implied by many in geriatrics; were not supported by empirical research.

The variables which may influence teacher effectiveness ratings were also identified. These were:

1. Professional Status;
2. Medical Specialty of the Teacher;
3. Courses in Geriatrics;
4. Age of Respondent;
5. Sex of Respondent; and
A major source of diversity in clinical instruction was found in the three primary participants themselves: faculty, residents, and students. Each of these groups has different perspectives and experiences with clinical teaching, yet there was a paucity of studies which investigated and compared the perceptions of clinical teaching by faculty, residents and medical students. No study was found which compared the perceptions of these groups relative to geriatric teaching.

Research findings suggested that the specialty affiliation of the teacher may bear crucial influence on the student's perception of effective teaching. In addition, it was suggested that the specialty may bear crucial influence on the perceptions of effective teaching by peers. On the other hand, no significant difference was found between specialities. While no research was found which assessed the extent to which faculty specialty influences perceptions of geriatric clinical teaching, there were suggestions that differences in specialty affiliation of the faculty may influence student perceptions of effective teaching in geriatrics.

There was evidence in the literature that a low preference for working with older people is often related to inadequate knowledge of aging. Several researchers found a positive correlation between courses in gerontology/geriatrics and student interest in working with elderly patients. It was believed that a medical school which attaches sufficient importance to health care of the elderly to develop a course or create a division in geriatrics generates a more favorable attitude towards old people than a school without such provisions.

There was a paucity of studies investigating the influence of age, sex, and race on attitudes towards the elderly. No studies were found which investigated the relationship between these variables and perception of effective teacher behaviors. There was also a paucity of research on evaluation instruments for measuring clinical teacher behaviors. Several instruments were found which measured teaching in the classroom and these included items which were also common to
clinical teaching. Three instruments had been developed and validated which measured teaching effectiveness in the clinical setting, but these were generic to medicine in general. No instrument was found which measured specifically teacher behaviors unique to geriatrics.
Chapter Three
Theoretical Framework

Statement of Purpose and Assumptions

As the literature review shows, investigations have compared student and teacher perceptions of what constitutes effective clinical teaching in medicine. Differences have been found between students and teacher views. It had also been reported that teachers and students agree on some behaviors and disagreed on others. Other conclusions were that medical students, residents and faculty did not differ at all in their rating of clinical teaching behaviors. The evidence was, at best, inconclusive.

Substantial research and development work has been done based on the evaluation by students of teaching in higher education. In marked contrast to extensive research on the reliability of student ratings of classroom teaching, there has been little published research on the consistency of student ratings of clinical teaching. No published research on the utility of this type of data in relation to clinical teaching of geriatrics was found in the literature. However, as the literature does show, society and students will hold medical educators accountable for student achievement in this area of patient care.

The purpose of this study was to identify effective clinical teacher behaviors in geriatrics as perceived by faculty, residents, and students; and to determine whether the rating of these behaviors are influenced by six (6) variables: 1) professional status; 2) medical specialty of the teacher; 3) courses taken in geriatrics; 4) age of the respondent; 5) race of the respondent; and 6) sex of the respondent.
Figure 2 depicts the expected relationship between these variables:

<table>
<thead>
<tr>
<th>INDEPENDENT VARIABLES</th>
<th>DEPENDENT VARIABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Professional Status.</td>
<td>1. Perception of Effective Teacher Behaviors in Geriatric Clinical Teaching</td>
</tr>
<tr>
<td>2. Medical Specialty of the Teacher</td>
<td></td>
</tr>
<tr>
<td>3. Course Taken in Geriatrics.</td>
<td></td>
</tr>
<tr>
<td>4. Age of the Respondent</td>
<td></td>
</tr>
<tr>
<td>5. Race of the Respondent</td>
<td></td>
</tr>
<tr>
<td>6. Sex of the Respondent</td>
<td></td>
</tr>
</tbody>
</table>

Figure 2: Variables influencing the perception of effective clinical teaching in geriatrics

The hypotheses in this study were based on the following assumptions:

1. Clinical teaching is multi-dimensional and a composite of independent but related skills and personal qualities.

2. There are certain clearly defined factors or dimensions of effective clinical teaching. Any evaluation of teacher effectiveness in the clinical setting should be developed on the basis of these dimensions.

3. The instructional skills of effective clinical teaching can be taught.
4. While there are effective teaching behaviors generic to all clinical teaching, there are also specific behaviors which are most effective in the teaching of clinical geriatrics.

5. Since the approaches to evaluating and managing an elderly patient are significantly different from those involved in evaluating a younger patient, the instructor skills and behaviors might also be different.

6. The evaluations of a teacher by peers and students are based on the rater's perceptions of what is and is not effective in enhancing learning. These perceptions are influenced by factors internal and external to the teacher's control and to the school's environment. Some of these factors are:

   A. Professional status. There are several stages to becoming a physician (four years of medical school, three to five years as a graduate trainee in a specialty residency, then as a board certified physician). Of the many skills needed in order to successfully pass through each of these stages, teaching skills are valued as a low priority.

   Upon completion of all the stages, one can be a very poor teacher and yet maintain a sound self-image as a superior physician. Therefore, one can assume that students, with their tendency to be more idealistic and the need for more guidance in synthesizing vast amounts of information, would be more critical of teaching behaviors in the clinical setting than those in more advanced stages of their professional development and further removed from the need for teacher-directed learning.

   B. Medical Speciality of the teacher. The manner in which some medical specialities are practiced seem more sensitive to the needs of the geriatric patient, i.e., the orientation towards management of chronic diseases. Teachers in such specialities should be more critical of how
geriatrics is taught and should have greater expectations of students relative to their rapport and approach to elderly patients.

C. Courses taken in geriatrics. Those raters who had formal courses or training in geriatrics are more likely to be more knowledgeable about aging and therefore more perceptive of what constitutes effective teaching in that area.

Null Hypotheses

From the assumptions made, the following hypotheses, stated in the null form, will be tested in this study.

1. There will be no significant differences between faculty, residents and medical students in how they rate effective teacher behaviors in geriatrics in relation to their professional status.
2. There will be no significant differences between faculty, residents, and medical students in how they rate effective teacher behaviors in geriatrics in relation to medical specialty of the teacher.
3. There will be no significant differences between faculty, residents, and medical students in how they rate effective teacher behaviors in geriatrics in relation to the number of courses they have had in geriatrics.
4. There will be no significant differences in the rating of effective teacher behaviors between faculty, residents, and medical students in relation to their age.
5. There will be no significant differences between faculty, residents, and medical students in how they rate effective teacher behaviors in geriatrics in relation to their race.
6. There will be no significant differences between faculty, residents, and medical students in how they rate effective teacher behaviors in geriatrics in relation to their sex.
Population of this study

The population of this study was the Morehouse School of Medicine and Emory University School of Medicine: faculty with M.D. degrees from the Departments of Internal Medicine, Family Practice, and Psychiatry whose primary teaching responsibility is to teach residents and third and fourth year medical students (N = 595); residents in Internal Medicine, Family Practice, and Psychiatry whose major training takes place at Grady Memorial Hospital, Emory Hospital, V.A. Medical Center, or Southwest Community Hospital (N = 252); and fourth year medical students of the two schools (N = 137).

The Morehouse School of Medicine was established in 1975 as the School of Medicine at Morehouse College. In 1981, the Medical School became independent of Morehouse College. Originally a two-year educational program in the basic medical sciences, Morehouse School of Medicine is now a four year, M.D. degree-granting institution, fully accredited by the Liaison Committee on Medical Education. The School's primary efforts are directed toward recruiting, enrolling, and educating able black and other minority students for careers as primary care physicians.

Presently the school enrolls 127 medical students. Although approximately 70% of these students are from Georgia, the remaining student population is from a wide geographical area. There are presently 108 clinical faculty members in the departments of Internal Medicine, Family Practice and Psychiatry. 20 of these are full-time, the remainder are part-time or volunteer (preceptors). This year's fourth year class of students total 27.

Clinical instruction for medical students and for residents occurs in affiliated facilities. Third year students do clinical required clerkships at Grady Memorial Hospital where they are taught with Emory University School
of Medicine students by both Emory and Morehouse School of Medicine faculty. Fourth year medical students do their required and elective rotations at Grady, the V.A. Hospital in Tuskegee, Alabama, Southwest Community Hospital, and various other locations throughout the U.S.

At the present time, Morehouse has only two residency training programs, Family Practice and Public Health/Preventive Medicine. The Family Practice Residency Program was established in July 1981. Its mission is to educate and train physicians to practice quality primary care, especially in underserved rural and urban communities in Georgia. The program is headquartered in Southwest Community Hospital which is located approximately 10 miles from the medical school in a large middle and upper middle class black community. The Public Health/Preventive Medicine Residency Program was established in July 1986. There are presently 15 Family Practice residents and 6 Public Health/Preventive Medicine residents. The latter does not have the responsibility for patient care but concentrate their efforts to public health research and investigation. The Morehouse School of Medicine is the seventh and newest member of the Atlanta University Center. The Center is a consortium of seven independent institutions which constitutes the largest predominantly black private educational complex in the world.

The Emory University School of Medicine is involved in an extensive program of teaching, research and service that involves approximately 1,850 faculty members and 1,150 medical students and residents. The central purpose of the school's program is to offer the best possible learning opportunities in clinical medicine and research programs to young people who wish to qualify as physicians. Unlike Morehouse, its primary efforts are directed towards specialization. There are 23 residency programs at the medical school.
The forerunner of the school dates from 1854, when the General Assembly of Georgia granted a charter for the Atlanta Medical College. In 1898, this college merged with the Southern Medical College to form the Atlanta College of Physicians and Surgeons. Fifteen years later this college merged with the Atlanta School of Medicine (founded in 1905). In 1915 the amalgamated school became the School of Medicine of Emory University.

Emory University was founded in 1836 and has grown to an enrollment exceeding 8,000. A coeducational, privately controlled university affiliated with the United Methodist Church, Emory awards over 2,000 degrees annually. In addition to the School of Medicine, the University comprises Emory College and Oxford College, the Graduate School of arts and Sciences, and Schools of Business Administration, Law, Theology, Nursing as well as the divisions of Allied Health Professions and Library and Information Management.

Presently there are approximately 440 medical students, 110 of whom are in the fourth year. The Internal Medicine Residency Program has approximately 150 residents, Psychiatry approximately 50. There is no Family Practice Residency Program at Emory. The School's principal clinical teaching base for undergraduate medical students and residents is Grady Memorial Hospital. Emory, through a contractual arrangement, provides all professional services to the hospital.

Grady Memorial Hospital with a bed capacity of over 1000, is among the largest hospitals in the Southeast. Operated under the Fulton-DeKalb Hospital Authority for the care of indigent patients of the two counties, Grady cares for some 500,000 outpatients annually, has about 46,000 patient admissions with more than 300,000 total patient days of care annually.
Emory University Hospital is owned and operated by the University and located on the campus. It is a 604 bed general hospital caring for over 21,000 patients a year. The Emory Clinic is a private partnership of physicians all of whom are members of the Emory University School of Medicine. This clinic is a referral clinic accepting the patients of referring physicians for diagnosis and treatment of complicated medical problems.

Table 1 contains data relevant to the population of each school for all clinical faculty, residents and medical students.

Table 1

Distribution of population by profession status and school

<table>
<thead>
<tr>
<th>School</th>
<th>Faculty</th>
<th>Residents</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emory</td>
<td>1850</td>
<td>710</td>
<td>440</td>
</tr>
<tr>
<td>Morehouse</td>
<td>118</td>
<td>21</td>
<td>127</td>
</tr>
<tr>
<td>Subtotals</td>
<td>1968</td>
<td>731</td>
<td>567</td>
</tr>
<tr>
<td>Total</td>
<td>3266</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The total population of faculty, residents and medical students for both schools is 3266. As Table 1 presents, Emory has the largest percentage in each of the three groups.
**Chapter Four**

Research Methods

**Type of Study**

This was a descriptive study which used the survey method to first, identify effective clinical teacher behaviors as perceived by three different groups; secondly, to determine whether there was a significant difference among/ between how each group rated effectiveness on six pre-determine variables.

**Population Size**

The population for this study consisted of the clinical faculty (fulltime, part-time, and preceptor (adjunct)) of the Departments of Internal Medicine, Family Medicine, and Psychiatry at the Morehouse School of Medicine and Emory University School of Medicine whose primary responsibility with the schools is to teach 4th year medical students and residents; 2) residents from the three aforementioned specialities; and 3) fourth year medical students from the two schools. The population distribution of the three groups studied can be viewed in Table 2.

**Table 2**

**Distribution of Population in each School by Professional Status and Specialty**

<table>
<thead>
<tr>
<th>Medical Specialty</th>
<th>Morehouse</th>
<th></th>
<th></th>
<th>Emory</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Faculty</td>
<td>Residents</td>
<td>Students</td>
<td>Faculty</td>
<td>Residents</td>
<td>Students</td>
</tr>
<tr>
<td>Family Practice</td>
<td>15</td>
<td>14</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Internal Medicine</td>
<td>58</td>
<td>0</td>
<td>461</td>
<td>150</td>
<td>26</td>
<td>50</td>
</tr>
<tr>
<td>Psychiatry</td>
<td>10</td>
<td>0</td>
<td>26</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subtotals</strong></td>
<td><strong>83</strong></td>
<td><strong>14</strong></td>
<td><strong>27</strong></td>
<td><strong>487</strong></td>
<td><strong>200</strong></td>
<td><strong>110</strong></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>921</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The largest group in the population was that of the faculty, especially at Emory. The smallest medical specialty group was that of Psychiatry.

Sample Selection and Size

Sample Selection for the population studied was completed in 2 stages.

Stage I: The population for faculty and residents studied was stratified by professional status and taken from the three medical specialties shown in the literature as being most important to the care of the elderly patient: Family Practice, Internal Medicine, and Psychiatry

Stage II: Sample Size

The sample size for each group was determined primarily on the basis of a desired number of respondents that would be representative of the total population. Table 3 illustrates the determination of sample size.

Table 3
Minimum Sample Size for Each Strata

<table>
<thead>
<tr>
<th>Strata</th>
<th>Percent of Total</th>
<th>Minimum Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty</td>
<td>59.5</td>
<td>115</td>
</tr>
<tr>
<td>Residents</td>
<td>26.5</td>
<td>51</td>
</tr>
<tr>
<td>Students</td>
<td>14.2</td>
<td>30 *</td>
</tr>
<tr>
<td>Totals</td>
<td>100.0</td>
<td>187</td>
</tr>
</tbody>
</table>

(*14.2% is less than 30 subjects, therefore 30 instead of 26 was used.)

A minimum size of 20 percent of the total population was desirable which equaled 187 subjects. A minimum number of subjects for each strata was established by determining the percentage of the total population each
strata represented, then calculating the percentage of each strata in the minimum sample desired.

Once the minimum size of the sample to be surveyed was determined, the actual sample size was established. Table 4 indicates the resulting sample size for both schools.

Table 4
Sample Size (Faculty, residents, students)

<table>
<thead>
<tr>
<th>Medical Specialty</th>
<th>Professional Status</th>
<th>Faculty</th>
<th>Resident</th>
<th>Student*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal Medicine</td>
<td>Faculty</td>
<td>121</td>
<td>55</td>
<td>0</td>
</tr>
<tr>
<td>Family Practice</td>
<td>Resident</td>
<td>15</td>
<td>14</td>
<td>0</td>
</tr>
<tr>
<td>Psychiatry</td>
<td>Student*</td>
<td>36</td>
<td>30</td>
<td>0</td>
</tr>
</tbody>
</table>

Subtotals 172 99 82

* Students had not received resident training program placements at the time of this study.

For those groups with populations of 100 or greater, a sample of 20 percent was chosen; for groups with populations less than 100, a sample size of 50 percent or not less than 30 subjects was chosen; for those groups with populations less than 50, the total population was surveyed.

Research Instrument

The instrument in this study was developed specifically to test the hypotheses stated in Chapter Three. This process occurred in four successive stages. These were:
Stage I - Construct Identification:

Dependent Variable. The dependent variable used in the study was “effective clinical teacher behaviors.” Fifty-one (51) teacher behaviors characteristics of clinical teaching in general and in geriatrics were identified from the review of the literature and in consultation with experts in the field.

At the outset of the study, 7 factors of clinical teaching were hypothesized from a review of the literature. These included:

Clinical supervision - provided guidance and direction in the clinic.
Instructor knowledge - was knowledgeable and up-to-date in his/her specialty.
Instructor-group skills - established rapport and interacted skillfully with residents and students.
Clinical competence - provided competent patient care.
Enthusiasm/stimulation - was enthusiastic and stimulated interest in the subject.
Organization/clarity - gave clear and organized presentations.
Modeling - demonstrated positive professional behaviors and values.

Stage II - Content Validation:

The 51 clinical teacher behaviors sampling these 7 factors were developed into a draft questionnaire (See Appendix A) assessed for content validation by a review of its items by a panel of judges. These judges are considered experts by their peers in the area of geriatric teaching. The criterion for acceptance of any item into the study was a two-thirds agreement among the judges on the descriptiveness of each item of effective clinical teaching in geriatrics. This process resulted in the deletion of 15 items. This list of items was further narrowed by an educational specialist who was familiar with
clinical teaching. Deletions or duplications, resulted in a final list of teacher behaviors totaling 25 items (See Appendix B).

Stage III - Questionnaire Development:

The independent variables for the study were identified from the literature review and included:

1. Professional status
2. Medical specialty of the teacher
3. Courses taken in geriatrics
4. Age of respondent
5. Sex of respondent
6. Race of respondent

Items testing for each variable were developed from reviewing previous research. The resulting questionnaire, entitled Clinical Geriatric Teacher Effectiveness Inventory, consisted of 67 items. The items of the dependent variables were placed on a 6 pt Likert-like scale ranging from "not at all descriptive" to "very descriptive." The respondent was directed to rate how descriptive each item was of what he/she thought a teacher's behavior should be who utilized geriatric patients in their teaching.

Also, the respondent was asked to rate how frequent each of these behaviors were demonstrated by those clinical teachers in medical school who had taught him/her about caring for elderly patients. The faculty respondents were asked to rate how frequently they were able to demonstrate these behaviors in their teaching.

Stage IV - Item Analysis and Validity:

A pilot-survey to test the clarity and item validity of the questionnaire was conducted in September, 1987, on a sample of 20 subjects, similar to the sample to be studied. The questionnaires with a cover letter explaining the
purpose and asking for comments were distributed by first class and campus mail to each subject. A return rate of 70% was achieved with all but one of the questionnaires being usable. Figures 3 and 4 show the pilot test evaluation and comments received. (Appendix C shows the results of the item analysis done of the 25 items included under the dependent variable to determine whether each was a valid item.)

As a result of this pilot-study, the final instrument consisted of 6 independent variables and one dependent variable. A total of 50 items tested these variables (See Appendix D).
Test Name: Effective Clinical Geriatric Behaviors

Estimated Test Time: ______ hr 30 Mins. ______ sec.

Pilot Sample Size: 20 Date September 1, 1987

Setting: Hospital Wards, Doctor's Offices

Grade each: A (excellent), to E (very poor)

<table>
<thead>
<tr>
<th>Grade</th>
<th>Comments*</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>YES</td>
</tr>
<tr>
<td>B</td>
<td>YES</td>
</tr>
<tr>
<td>B</td>
<td>YES</td>
</tr>
<tr>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>YES</td>
</tr>
<tr>
<td>B</td>
<td>YES</td>
</tr>
</tbody>
</table>

5. Actual test completion for sample group
   Time: ______ hr 25 min ______ sec

Figure 3: Pilot Study Evaluation

Figure 3 shows that the completion time for the questionnaire was 5 minutes less than predicted. Overall, the questionnaire received a grade of B+.
Respondents were asked to write comments in reference to the categories evaluated in Figure 3. Figure 4 summarizes these comments. These comments were considered in the construction of the final instrument. The value of each comment was determined by the number of respondents expressing similar concerns.
*COMMENTS* (Refer to previous 6 points)

1. Confidentiality issue not stress enough.

2. Questions 8, 9, 10, 12, 13, 14 need to be on the same rating

3. Question 11 was unclear and confusing to most respondents and should probably be eliminated.

4. Construct validity had already been established for the seven dimensions of teacher characteristics/behaviors used in the questionnaire by previous research through factor analysis. Each item of teacher behaviors was evaluated in relations to the response pattern within the group tested. Tables 1 and 2 describes these relationships between the means of each items and the test means. None of the items had mean scores below the test mean. Therefore, all of the items were considered good ones.

   Items 5 and 10 are redundant and should probably be combined.

   Item 9 was inquired about for clarity frequently and probably needs to be rewritten.

5. Test took about five minutes less to compete than expected.

6. Halo effect possible on questions 18 through 22. Possibly due to the positive direction of all of the questions. Possible need to reverse wording on these questions.

Figure 4: Comments on Pilot Survey by Respondents
The confidentiality issue was addressed in the cover letter which accompanied the final study. In order to decrease the Halo Effect, the items testing for perceptions of drug prescriptions behavior was reversed to read "is imprudent in prescribing drugs." The testing for perceptions of feedback on performance was also reversed to read "seldom provides residents/students feedback on performance. Each of these items were reversed again in the positive direction during data analysis for consistency of the rating scale.

The final instrument found in Appendix D contains several items testing for variables which were not used in this study. Items measuring the independent variable were items 1, 2, 3, 4, and 8 of Part I. All 22 items of Part IV were used to test for the dependent variable.

Data Collection Procedure

A total of three hundred fifty three questionnaires were mailed to subjects selected from the population sampled. Each subject received a questionnaire, a cover letter, and an addressed first-class postage-paid or inter-campus envelope. Each questionnaire was coded for identification. The cover letter (See Appendix D) was signed by Beverly Taylor, M.D., Assistant Professor and Director for the Public Health and Preventive Medicine Residency Program, Department of Community Health and Preventive Medicine, Morehouse School of Medicine. The letter explained the purpose and need for the study, the sample selection, identified the investigator, and assured confidentiality of response.

Ten questionnaires were returned unanswered. The major reasons appeared to be that some subjects were no longer with the schools or were not interested in participating. One respondent indicated that he did not
## Table 5
Questionnaire Response Rate and Percentages

<table>
<thead>
<tr>
<th>Groups</th>
<th>Number in Sample</th>
<th>Surveys returned</th>
<th>Response rate %</th>
<th>Usable surveys</th>
<th>Non-respondents surveyed (10%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internal medicine</td>
<td>121</td>
<td>57</td>
<td>.47</td>
<td>54</td>
<td></td>
</tr>
<tr>
<td>Family practice</td>
<td>15</td>
<td>11</td>
<td>.73</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Psychiatry</td>
<td>36</td>
<td>10</td>
<td>.28</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>Residents</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internal medicine</td>
<td>55</td>
<td>15</td>
<td>.27</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Family practice</td>
<td>14</td>
<td>13</td>
<td>.93</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Psychiatry</td>
<td>30</td>
<td>10</td>
<td>.33</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>4th Year Students</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emory</td>
<td>55</td>
<td>23</td>
<td>.42</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>Morehouse</td>
<td>27</td>
<td>16</td>
<td>.59</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>353</td>
<td>160</td>
<td>.41</td>
<td>146</td>
<td>12</td>
</tr>
</tbody>
</table>
believe that a difference existed between teacher behaviors demonstrated for elderly patients and their younger cohorts, "If you are sincere in practicing medicine, patients are patients".

A follow-up letter, a copy of the questionnaire and an address first class postage paid envelope was sent to all subjects in low response groups who had not responded by October 15, 1987. The follow-up letter encouraged the subjects to respond by explaining the importance of the study and obtaining representative sample. A copy of the follow-up letter is found in Appendix D.

To permit sufficient time for returns, October 30, 1987 was selected as the final date for questionnaire returns. Table 5 presents the total questionnaire response rate. A response rate of 50% was sought and 41% was achieved.

The largest number of returned came from the faculty group; the smallest from the resident group. The largest number of unusable returns came out of the Internal Medical resident group.

To determine if the non-respondents differed significantly from the respondents, 12 non-respondents were randomly selected for a follow-up interview. The interview form is found in Appendix E. The nonrespondents interviewed were asked if they had received the survey and why they had not responded. Three subjects stated that they had already returned it. Others replied that they weren't interested because they receive too many surveys, and that there were too many questions.

Those who were willing to be interviewed (7) were asked to indicate their age, race, sex, professional status, and then to respond to 7 to 8 teacher behavior items relative to effective teaching.
Treatment of the Data

All computations were performed on the Atlanta University Center's Digital Equipment Corporation System PDP 11/40 Computer using the Statistical Package for the Social Sciences (SPSS) (Nie et al., 1975). To determine if there was a relationship between any of the independent variables and whether there was a significant difference between the perceptions of effective teaching and the three groups, the multiple regression and ANOVA were used. Significance was set at the .05 level.
Chapter Five

Findings and Analysis

This study investigated the characteristics of the effective teacher behaviors in geriatric training as perceived by faculty, residents, and medical students; and sought to determine whether ratings of these characteristics were influenced by six variables:

1. professional status of the respondent (faculty, resident, medical student).
2. medical specialty of the teacher.
3. courses taken in geriatrics.
4. sex of the respondent.
5. race of the respondent.
6. age of the respondent.

A survey questionnaire was mailed to a total of three hundred fifty-three (353) faculty, residents, and medical students at the Morehouse School of Medicine and Emory University School of Medicine, both in Atlanta, Georgia. One hundred and sixty (160) questionnaires were returned; one hundred and forty-five (145) of these were usable.

This chapter presents the results of this survey along with a discussion of the findings.

Demographics of the Respondents

This section summarizes general characteristics by the percentage for each group (male, female) of the respondents. Table 6 shows the frequency distribution of the respondents according to their sex. The number in each category of female, male, and sex not indicated is represented by the
designations. The percentage of subjects who responded to the item on sex in designated as the valid percent.

Table 6

Frequency Distribution by Sex of the Respondents

<table>
<thead>
<tr>
<th>Sex</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>23</td>
<td>15.9</td>
<td>16.8</td>
</tr>
<tr>
<td>Male</td>
<td>114</td>
<td>78.6</td>
<td>83.2</td>
</tr>
<tr>
<td>Not indicated</td>
<td>8</td>
<td>5.5</td>
<td>Missing</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>145</strong></td>
<td><strong>100.0</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Table 6 shows that 137 of the respondents indicated their sex. 16.8 percent of the 137 were female, while 83.2 percent were male. While disproportionate, the number of females respondents is representative of the population studied and consistent with the percentage of females in medicine. This sample of the population included three medical specialties, Internal Medicine, Family Medicine, and Psychiatry. Other specialties which normally included a large number of females, such as Pediatrics and Obstetrics/Gynecology, were not investigated.

The distribution frequency of race is seen in Table 7 (67.8 percent of the respondents were white; 32.2 percent of the respondents were non-white (Black, Asian, American Indian, and Hispanic).
Table 7

Frequency Distribution by Race of the Respondent

<table>
<thead>
<tr>
<th>Race</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian</td>
<td>3</td>
<td>2.1</td>
<td>2.1</td>
</tr>
<tr>
<td>White</td>
<td>97</td>
<td>66.9</td>
<td>67.8</td>
</tr>
<tr>
<td>Black</td>
<td>37</td>
<td>25.5</td>
<td>25.9</td>
</tr>
<tr>
<td>American Indian</td>
<td>1</td>
<td>.7</td>
<td>.7</td>
</tr>
<tr>
<td>Hispanic</td>
<td>3</td>
<td>2.1</td>
<td>2.1</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>1.4</td>
<td>1.4</td>
</tr>
<tr>
<td>Not indicated</td>
<td>2</td>
<td>1.4</td>
<td>missing</td>
</tr>
</tbody>
</table>

Although these figures are more than representative of the population studied, they tend to be misleading in reference to the representation of minorities in medicine. The percent of minorities students in medical schools is currently at 8.2 percent nationally with a decline of 13 percent from the 1986 in the enrollment. The higher percentage of minorities in this study is because the Morehouse School of Medicine is a predominately black school whose mission is to enroll and train minority students.

Table 8 reports the frequency distribution of respondents among six (6) age groups. Only 10.2 percent of the respondents were over 55.
Table 8
Frequency Distribution by Age of the Respondent

<table>
<thead>
<tr>
<th>Age</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 25</td>
<td>13</td>
<td>9.0</td>
<td>9.2</td>
</tr>
<tr>
<td>25 - 35</td>
<td>62</td>
<td>42.8</td>
<td>44.0</td>
</tr>
<tr>
<td>36 - 45</td>
<td>34</td>
<td>23.4</td>
<td>24.1</td>
</tr>
<tr>
<td>46 - 55</td>
<td>17</td>
<td>11.7</td>
<td>12.1</td>
</tr>
<tr>
<td>56 - 65</td>
<td>11</td>
<td>7.6</td>
<td>7.8</td>
</tr>
<tr>
<td>Over 65</td>
<td>4</td>
<td>2.4</td>
<td>2.4</td>
</tr>
<tr>
<td>Not Indicated</td>
<td>4</td>
<td>2.4</td>
<td>missing</td>
</tr>
<tr>
<td>TOTAL</td>
<td>145</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 8 shows that the largest clusters of respondents are found in the 25 - 35 and 36 - 45 age groups. This finding is because the majority of the sample groups studied fell into these age groups. Medical students were mostly between the ages of 25 to 35; residents between the ages of 30 to 35; and faculty between the ages of 30 to 45.

Characteristics of Effective Clinical Teacher Behaviors in Geriatric Teaching.

The first objective of the research was to identify teacher behaviors which were characteristics of effective clinical teachers in geriatrics. This was achieved through the respondents ratings of the 22 teacher behaviors in Part IV of the questionnaire. First, faculty, residents, and students rated how
descriptive a set of 22 behaviors were of what they perceived behaviors of teachers who involved geriatric patients in their teaching. Secondly, the respondents were asked to rate how frequently this set of behaviors were actually demonstrated by teachers who taught them about the care of the geriatric patient.

Table 9 reports the ten (10) behaviors rated as most effective by faculty, residents, and students. The behavior rated number 1 on the list was "prudent in prescribing drugs." Multiple prescription drug consumption is a major problem in the elderly patient population.
### Table 9

**Ten most effective teacher behaviors in geriatrics as perceived by faculty, residents, and medical students ranked by mean score and standard deviation.**

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Behaviors</th>
<th>Ranking</th>
<th>Sum of Means</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>Prudent in prescribing drugs.</td>
<td></td>
<td>5.6</td>
<td>.252</td>
</tr>
<tr>
<td>19</td>
<td>Provides students/residents feedback on their preference.</td>
<td></td>
<td>5.2</td>
<td>.153</td>
</tr>
<tr>
<td>11</td>
<td>Utilizes community resources in managing patient problems.</td>
<td></td>
<td>4.9</td>
<td>.208</td>
</tr>
<tr>
<td>4</td>
<td>Shows enthusiasm for the subject.</td>
<td></td>
<td>4.9</td>
<td>.265</td>
</tr>
<tr>
<td>18</td>
<td>Demonstrates a positive regard for elderly patients.</td>
<td></td>
<td>4.9</td>
<td>.351</td>
</tr>
<tr>
<td>16</td>
<td>Shows respect for other medical professional including allied health.</td>
<td></td>
<td>4.9</td>
<td>.361</td>
</tr>
<tr>
<td>20</td>
<td>Demonstrates clinical skills and procedures.</td>
<td></td>
<td>4.8</td>
<td>.208</td>
</tr>
<tr>
<td>3</td>
<td>Is empathetic to the needs of others</td>
<td></td>
<td>4.8</td>
<td>.245</td>
</tr>
<tr>
<td>12</td>
<td>Stresses the pscho-social aspects of illnesses</td>
<td></td>
<td>4.7</td>
<td>.088</td>
</tr>
<tr>
<td>2</td>
<td>Is clear and organized in his/her teaching</td>
<td></td>
<td>4.7</td>
<td>.289</td>
</tr>
</tbody>
</table>

Each of the ten (10) behaviors are ranked according to mean scores (on a scale of 1 to 6) and standard deviations. The ratings of these behaviors are consistent with the opinions of experts in the field of geriatrics (see page 102).
of Appendix A). The high rating of items 4 and 2 are consistent with the findings of Irby (1977).

Table 10 ranks (on a scale of 1 - 4) the ten most frequently demonstrated teacher behaviors as perceived by faculty, residents and medical students. The sum of the means and the standard deviation is given for each item.
### Table 10

**Ten Most Frequently Demonstrated Teacher Behaviors as Rated by faculty, Residents, and Students.**

<table>
<thead>
<tr>
<th>Behaviors</th>
<th>Ranking</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sum of Means</td>
<td></td>
</tr>
<tr>
<td>13. Prudent in prescribing drugs.</td>
<td>3.2</td>
<td>.436</td>
</tr>
<tr>
<td>20. Demonstrates clinical skills and procedures.</td>
<td>2.9</td>
<td>.200</td>
</tr>
<tr>
<td>10. Is comfortable in dealing with patients with multiple health problems.</td>
<td>2.9</td>
<td>.265</td>
</tr>
<tr>
<td>4. Shows enthusiasm for the subject.</td>
<td>2.9</td>
<td>.351</td>
</tr>
<tr>
<td>2. Is clear and organized in his/her teaching.</td>
<td>2.9</td>
<td>.493</td>
</tr>
<tr>
<td>16. Shows respect for other medical professionals including allied health.</td>
<td>2.9</td>
<td>.557</td>
</tr>
<tr>
<td>18. Demonstrates a positive regard for elderly patients.</td>
<td>2.8</td>
<td>.321</td>
</tr>
<tr>
<td>7. Actively involves students/residents in discussions and procedures.</td>
<td>2.8</td>
<td>.351</td>
</tr>
<tr>
<td>19. Provides students/residents feedback on their performance</td>
<td>2.8</td>
<td>.462</td>
</tr>
<tr>
<td>1. Demonstrates knowledge of the subject</td>
<td>2.7</td>
<td>.321</td>
</tr>
</tbody>
</table>

Seven of the ten most frequently demonstrated behaviors were also common to the behaviors rated by the same groups as being the most descriptive of ideal behaviors in geriatric teaching. These were behaviors 13, 20, 4, 2, 16, 18,
and 19. All seven of the constructs are factors of effective clinical teaching (Irby, 1977) are represented by at least one list of ten behaviors. (See Appendix A for a complete list of these factors and the corresponding behaviors used in this study). These factors were: instructor knowledge, organization and clarity, enthusiasm and stimulation, group instructional skills, instructor clinical competence, modeling, and clinical supervision.

Analysis of Factors Influencing Ratings of Effective Clinical Teaching in Geriatrics

The influence of the six (6) variables on each respondent's rating of the twenty-two (22) clinical teacher behaviors was investigated. The first concern of the research was to determine whether a relationship existed between each independent variable and the dependent variable; and to determine the probable form and strength of that relationship. This was achieved by performing a multiple regression analysis and an analysis of variance on the variables.

The rating of the dependent variable, effective teacher behaviors, was divided into two categories: "ideal" behaviors and "actual" behaviors. Each respondent was asked to rate how descriptive each of the twenty-two behaviors were of what they thought the behaviors of teachers of geriatrics should be (ideal). Additionally, they were asked to rate how frequent these behaviors were demonstrated (actual).
A. Ideal Behaviors:

Table 11 shows the results of the multiple regression analysis performed on the independent variables with the dependent variable category, "ideal" teacher behaviors.

Table 11
Regression Matrix: Ideal Teacher Effectiveness

<table>
<thead>
<tr>
<th></th>
<th>Teachspe</th>
<th>Profstat</th>
<th>Courses</th>
<th>Sex</th>
<th>Race</th>
<th>Ideaff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachspe</td>
<td>1.00000</td>
<td>.00268</td>
<td>.05958</td>
<td>.01792</td>
<td>.08203</td>
<td>-.10505</td>
</tr>
<tr>
<td>Profstat</td>
<td>.00268</td>
<td>1.00000</td>
<td>.04253</td>
<td>-.21880</td>
<td>.24106</td>
<td>.02721</td>
</tr>
<tr>
<td>Courses</td>
<td>.05958</td>
<td>.04253</td>
<td>1.00000</td>
<td>.06476</td>
<td>.22915</td>
<td>-.02558</td>
</tr>
<tr>
<td>Sex</td>
<td>-.01792</td>
<td>-.21880</td>
<td>.06476</td>
<td>1.00000</td>
<td>-.07674</td>
<td>-.03326</td>
</tr>
<tr>
<td>Race</td>
<td>-.08203</td>
<td>.24106</td>
<td>.22915</td>
<td>-.07674</td>
<td>1.00000</td>
<td>-.11378</td>
</tr>
<tr>
<td>Ideaff</td>
<td>.10505</td>
<td>-.02721</td>
<td>.01558</td>
<td>.03326</td>
<td>.11378</td>
<td>1.00000</td>
</tr>
</tbody>
</table>

The results of the regression shows that, except for a weak relationship with medical specialty of the teacher and race of the respondent, there were no significant relationships between the independent variables and how the respondents rated the "ideal" teacher behaviors for those who teach about geriatric patients. All of the independent variables have a weak relationship to the dependent variable (ideal effectiveness) and most are inverse.
An analysis of variance was performed to determine the strength of any relationship that may have existed. Table 12 shows the results of that procedure.

Table 12
Analysis of Variance on "Ideal" Teacher Behaviors for All Independent Variables

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>724.4</td>
<td>5</td>
<td>144.88</td>
<td>.762</td>
</tr>
<tr>
<td>Residual</td>
<td>24716.5</td>
<td>130</td>
<td>190.12</td>
<td></td>
</tr>
</tbody>
</table>

The calculated F value of .762 is not significant at the .05 level of significance. In total, the independent variables had no significant relationship on the way respondents rated the "ideal" teacher behaviors in geriatric teaching.

B. Actual Behaviors:

Table 13 shows the results of the multiple regression analysis performed on the independent variables with the dependent variable category, "actual" teacher behaviors demonstrated by those who teach about geriatric patients. These results are presented in a regression matrix showing the relationship between the dependent variable and the six independent variables: professional status, medical specialty of the teacher, courses taken in geriatrics, and sex, race, and age of the respondents.
Table 13

Regression Matrix: Actual Teacher Behaviors

<table>
<thead>
<tr>
<th></th>
<th>Profstat</th>
<th>Sex</th>
<th>Courses</th>
<th>Actbeha</th>
<th>Race</th>
<th>Teachspe</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profstat</td>
<td>1.00000</td>
<td>-.19697</td>
<td>-.03080</td>
<td>-.32003</td>
<td>.21018</td>
<td>.00145</td>
<td>-.48605</td>
</tr>
<tr>
<td>Sex</td>
<td>-.19697</td>
<td>1.00000</td>
<td>.07973</td>
<td>-.24537</td>
<td>-.08361</td>
<td>-.03391</td>
<td>.22802</td>
</tr>
<tr>
<td>Courses</td>
<td>-.03080</td>
<td>.07973</td>
<td>1.00000</td>
<td>-.15825</td>
<td>.22667</td>
<td>.09714</td>
<td>.06082</td>
</tr>
<tr>
<td>Actbeha</td>
<td>.32003</td>
<td>.24537</td>
<td>.15825</td>
<td>1.00000</td>
<td>.00992</td>
<td>.03714</td>
<td>.07199</td>
</tr>
<tr>
<td>Race</td>
<td>-.21018</td>
<td>.08361</td>
<td>-.22667</td>
<td>.00992</td>
<td>1.00000</td>
<td>.04158</td>
<td>-.33331</td>
</tr>
<tr>
<td>Teachspe</td>
<td>-.00145</td>
<td>.03391</td>
<td>-.09714</td>
<td>.03714</td>
<td>.04158</td>
<td>1.00000</td>
<td>.08032</td>
</tr>
<tr>
<td>Age</td>
<td>-.48605</td>
<td>.22802</td>
<td>.06082</td>
<td>.09594</td>
<td>.33331</td>
<td>.08032</td>
<td>1.00000</td>
</tr>
</tbody>
</table>

The results show that there was a direct relationship between how respondents rated the frequency of demonstration of effective teacher behaviors and three of the variables: professional status, sex, and courses. No significant relationship was demonstrated between race, age, or medical specialty of the teacher. Table 14 below represents a summary of the regression results for the three most significant variables.
Table 14
Summary: Step-wise actual behaviors by professional status, sex and courses

<table>
<thead>
<tr>
<th>Variable</th>
<th>R Square</th>
<th>Coefficient</th>
<th>P ≤ .05</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Status</td>
<td>.1358</td>
<td>.3200</td>
<td>**</td>
</tr>
<tr>
<td>Sex</td>
<td>.1882</td>
<td>.2453</td>
<td>**</td>
</tr>
<tr>
<td>Courses</td>
<td>.2130</td>
<td>.1582</td>
<td>**</td>
</tr>
<tr>
<td>Total</td>
<td>.4012</td>
<td></td>
<td>** P ≤ .001</td>
</tr>
</tbody>
</table>

These results show that these variables had a significant relationship on the way respondents rated the frequency of demonstration of each of the twenty-two (22) teacher behaviors.

Null Hypotheses 1:

There will be no significant difference between faculty, residents, and medical students in how they rated effective teacher behaviors in geriatrics in relation to their professional status.

A. Ideal Clinical Teaching Behaviors.

Tables 11 and 12 (see pages 68 & 69) indicate that professional status was not a significant factor in how the three professional status groups rated the “ideal” clinical teacher behaviors in geriatric teaching. The regression value was -.02721. Therefore, the null hypothesis could not be rejected from the evidence presented by this study. This finding supports the earlier work of Irby (1977) who found no significant differences between the three groups in their ratings of effective teacher behaviors in medicine.
B. Actual Clinical Teacher Behaviors.

The multiple regression analysis showed that a significant relationship existed between professional status of the respondent and ratings of the actual clinical teacher behaviors demonstrated. Table 15 shows the results of the analysis of variance performed to determine the significance of this relationship.

Table 15

Analysis of Variance on "Actual" Clinical Teacher Behavior Demonstration as Perceived by Professional Status Groups

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>2884.8</td>
<td>1</td>
<td>2884.8</td>
<td>20.43*</td>
</tr>
<tr>
<td>Residual</td>
<td>18351.0</td>
<td>130</td>
<td>141.1</td>
<td></td>
</tr>
</tbody>
</table>

* Significant at the .001 level

The calculated F value of 20.43 was significant at the .001 level. P was initially set at .05 and the table value for F at the degrees of freedom indicated was 3.90. These results indicate that there was a significance difference between professional status and the rating of the frequency of demonstration (actual) of effective teacher behaviors. Additionally, there was a significant difference between the professional status groups (faculty, residents, and students) and how each rated actual behaviors. Therefore, the null hypothesis was not accepted.
Null Hypothesis 2:

There will be no significant differences between faculty, residents, and medical students in how they rate effective teacher behaviors in geriatrics in relation to the medical specialty of the teacher.

Table 11, page 68, shows that there was no significant relationship between the medical specialty of the teacher and the way each professional status group rated the "ideal" clinical teacher behaviors in geriatric teaching. The regression value was .10505. Table 13, page 70, shows that there was no significant relationship between the rating of "actual" teacher behaviors demonstrated and professional status. Therefore, the null hypothesis could not be rejected.

Null Hypothesis 3:

There will be no significant differences between faculty, residents, and medical students in how they rate effective teacher behaviors in geriatrics in relation to the number of courses they have had in geriatrics.

A. "Ideal" Clinical Teacher Behaviors.

The results of the multiple regression analysis on the "ideal" teacher behaviors in geriatrics is displayed in Table 11, page 68. The obtained regression value of .02558 indicated that there was no significant relationship between courses taken and how each professional status group rated what effective teacher behaviors should be for those who teach about geriatric patients. The analysis of variance for all of the independent variables in the regression also indicated that there was no significant relationship. That F value was .762 at the degrees of freedom indicated. The table value of significance for F was 2.28. Therefore, the null hypothesis could not be rejected.
B. "Actual" Clinical Teacher Behaviors.

The multiple regression analysis results shown on page indicated that a relationship existed between how the respondents rated the actual demonstration of effective clinical teacher behaviors and the courses they had taken in geriatrics. In order to determine the strength of this relationship, in conjunction with the other variables, a step-wise analysis of variance was performed. Table 16 shows the results of this procedure.

Table 16
Analysis of Variance on Actual Demonstration of Effective Teacher Behaviors by Courses.

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>4524.0</td>
<td>3</td>
<td>1508.0</td>
<td>11.58</td>
</tr>
<tr>
<td>Residual</td>
<td>16711.8</td>
<td>128</td>
<td>130.5</td>
<td></td>
</tr>
</tbody>
</table>

* Significant at the .001 level

Table 16 shows that the calculated value for F was 11.5 at the .001 level of significant. The F limit that is significant at the .05 level for the degrees of freedom indicated is 2.68. This result indicated that there is a strong relationship between the rating of effective teacher behaviors actually demonstrated by teachers who involve geriatric patients in their teaching and the courses taken in geriatrics.
In order to determine whether a difference existed between faculty, residents, and students in relation to courses taken in geriatrics, an analysis of variance was performed on the scores for each group. Table 17 shows the results of that procedure.

### Table 17

**Analysis of Variance Between Groups by Courses Taken in Geriatrics**

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Among groups</td>
<td>8.43</td>
<td>2</td>
<td>4.21</td>
<td>29.71</td>
</tr>
<tr>
<td>Error</td>
<td>11.35</td>
<td>80</td>
<td>0.14</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>19.78</td>
<td>82</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 17 shows a calculated F value of 29.71 at the .05 level of significance. The F limit that is significant at the .05 level of significance for the degrees of freedom indicated is 3.11. There is a significant difference between the three groups in how they rated the frequency of demonstration of effective teacher behaviors. Therefore, the null hypothesis is not accepted.
**Null Hypothesis 4:**

There will be no significant differences in the rating of effective teacher behaviors between faculty, residents, and medical students in relation to their age.

The multiple regression analysis performed showed that there was no significant relationship between the age of the respondent and how they rated both the "ideal" and the "actual" teacher behaviors in geriatrics (See Tables 11 and 13, pages 68 and 70). The null hypothesis could not be rejected based on the evidence presented in this study.

**Null Hypothesis 5:**

There will be no significant difference between faculty, residents, and medical students in how they rate effective teacher behaviors in geriatrics in relation to their race.

Table 14, page , shows the multiple regressions value obtained for race in relation to the other five independent variables and the dependent variable category of "actual" teacher behaviors. Since this value was .00992, race was not considered a significant variable in studying the relationship of its influence on the ratings of the frequency of demonstration (actual) of the twenty-two teacher behaviors.

Table 11, page 68, shows that the multiple regression value obtained for race in relation to the other variables in the equation for the dependent variable category of "ideal" teachers behaviors is .11378. Table 18 below shows a summary of the regression results.
Table 18

Summary: Step-wise Regression Analysis on "Ideal" Teacher Behaviors

<table>
<thead>
<tr>
<th>Variable</th>
<th>R Square</th>
<th>Coefficient</th>
<th>P ≤ .05</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher Specialty</td>
<td>*</td>
<td>.1050</td>
<td></td>
</tr>
<tr>
<td>Professional Status</td>
<td>*</td>
<td>.0272</td>
<td></td>
</tr>
<tr>
<td>Courses</td>
<td>*</td>
<td>.0255</td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>*</td>
<td>.0332</td>
<td></td>
</tr>
<tr>
<td>Race</td>
<td>.0285</td>
<td>.1138</td>
<td>.125</td>
</tr>
</tbody>
</table>

* R Square too small to compute

The results of this table show that of the six variables hypothesized, race was the only variable which had a relationship with the independent variable - ideal teacher behaviors. As the R square and the regression coefficient show, this relationship was not a strong one. Therefore, the null hypothesis of no significant difference could not be rejected.
Hypothesis 6:

There will be no significant differences between faculty, residents, and medical students in how they rate effective teacher behaviors in geriatrics in relation to their sex.

A. Ideal Teacher Behaviors.

One hundred and thirty-seven of the respondents indicated their sex. Of that number, 16.8 percent were female and 83.2 percent were male. The multiple regression on "ideal" teacher behaviors as presented in Tables 11 and 23 indicated that there was no significant relation between the ratings of effective teacher behaviors and the sex of the respondent. The regression value for sex was -.03326. Therefore, the null hypothesis could not be rejected for this category of effective teacher behaviors.

B. Actual Teacher Behaviors.

The multiple regression analysis results for sex showed a R square of .2130 and a regression coefficient of .1582, both significant at the .001 level. This data (see Table 14) shows that the sex of the respondent had a significant influence on how he/she rated the demonstration frequency of the 22 teacher behaviors on the questionnaire.

In order to determine the extent of this influence, an analysis of variance was performed on the scores for each respondent group (faculty, resident, student) by sex. Table 19 reports the results of that procedure.
Table 19
Analysis of Variance on “Actual” Teacher Behavior by Sex

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>Degrees of Freedom</th>
<th>Means Square</th>
<th>F*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>3995.5</td>
<td>2</td>
<td>1997.7</td>
<td>14.94</td>
</tr>
<tr>
<td>Residual</td>
<td>17240.3</td>
<td>129</td>
<td>133.6</td>
<td></td>
</tr>
</tbody>
</table>

* Significant at the .001 level

The calculated F value of 14.94 is significant at the .001 level. There is a significant difference in the way each group rated actual teacher behaviors in relation to their sex. The null hypotheses was rejected. The nature of the difference between the groups was also investigated. Table 20 shows the results of an analysis of variance conducted on the scores of male and female subjects in each group.
Table 20
Rating Differences Among Groups by Sex

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>Degrees of Freedom</th>
<th>Means Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Among</td>
<td>6.01</td>
<td>2</td>
<td>3.00</td>
<td>18.82*</td>
</tr>
<tr>
<td>Error</td>
<td>14.20</td>
<td>89</td>
<td>6.16</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Among</td>
<td>1.26</td>
<td>20.63</td>
<td>4.39 *</td>
<td></td>
</tr>
<tr>
<td>Error</td>
<td>4.01</td>
<td>28</td>
<td>0.24</td>
<td></td>
</tr>
</tbody>
</table>

* Significant at the .05 level

The calculated F value for males was 18.82 which is significantly greater than that of the Table F value of 3.08. The calculated value for females was 4.39 which is also significant at the 0.5 level.
Table 21 shows the means and standard deviation scores for each group by sex and professional status. Scores are presented as group means.

Table 21

Group Means and Standard Deviation by Sex

<table>
<thead>
<tr>
<th>Groups</th>
<th>Means</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faculty</td>
<td>2.90</td>
<td>0.324</td>
</tr>
<tr>
<td>Residents</td>
<td>2.56</td>
<td>0.427</td>
</tr>
<tr>
<td>Students</td>
<td>2.32</td>
<td>0.349</td>
</tr>
<tr>
<td>Male</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faculty</td>
<td>3.09</td>
<td>0.371</td>
</tr>
<tr>
<td>Residents</td>
<td>2.54</td>
<td>0.414</td>
</tr>
<tr>
<td>Students</td>
<td>2.60</td>
<td>0.451</td>
</tr>
</tbody>
</table>

Table 21 shows that there is a greater difference in mean scores between faculty and students than faculty and resident. The data in Tables 20 and 21 shows that there is a significant difference between faculty, residents and students in how they rated the frequency of demonstration of effective teacher behaviors. The greater difference in ratings was between faculty males and student females.
Table 22 shows the sample statistics for the sample of the population studied in relation to how each group rated ideal teacher behaviors. A total mean score is given for each group.

**Table 22**

Description of Data Set, Ideal Teacher Behaviors.

<table>
<thead>
<tr>
<th>Group</th>
<th>Range</th>
<th>Variance</th>
<th>Standard Deviation</th>
<th>Mean*</th>
<th>Median*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty</td>
<td>2.5</td>
<td>.422</td>
<td>.649</td>
<td>5.0</td>
<td>4.9</td>
</tr>
<tr>
<td>Residents</td>
<td>2.6</td>
<td>.515</td>
<td>.717</td>
<td>4.4</td>
<td>4.5</td>
</tr>
<tr>
<td>Students</td>
<td>3.0</td>
<td>.702</td>
<td>.838</td>
<td>5.0</td>
<td>4.9</td>
</tr>
</tbody>
</table>

*(on a scale of 1 - 6)*

As the table shows, the mean scores for each group ranged from 4.4 to 5.0. This indicates that each group considered the 22 clinical teacher behaviors investigated to be descriptive of the characteristics of effective teacher behaviors in geriatrics.
Table 23 reports the sample statistics for the respondents in relation to how they rated the frequency demonstration of the 22 teacher behaviors studied. This table shows that the mean scores for each group differed.

Table 23
Description of Data Set, Frequency Demonstration of Ideal Teacher Behaviors

<table>
<thead>
<tr>
<th>Group</th>
<th>Range</th>
<th>Variance</th>
<th>Standard Deviation</th>
<th>Mean*</th>
<th>Median*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty</td>
<td>1.9</td>
<td>.137</td>
<td>.370</td>
<td>3.0</td>
<td>3.1</td>
</tr>
<tr>
<td>Residents</td>
<td>1.4</td>
<td>.180</td>
<td>.425</td>
<td>2.5</td>
<td>2.6</td>
</tr>
<tr>
<td>Students</td>
<td>1.7</td>
<td>.192</td>
<td>.438</td>
<td>2.5</td>
<td>2.5</td>
</tr>
</tbody>
</table>

(on a scale of 1 - 4)

These results indicate that faculty respondents perceived that they often demonstrated effective teacher behaviors in the teaching of geriatrics. Residents and students, however, perceived that the faculty on a whole demonstrated those effective teacher behaviors sometimes. Students were the most critical of faculty frequency demonstration of effective behaviors than the other groups.
Chapter Six

Summary, Conclusions, and Recommendations

Summary

A. Problem Statement

The purpose of this study was to identify effective clinical teacher behaviors for the teaching of geriatrics as perceived by faculty, residents, and medical students. Additionally, the study sought to determine whether these perceptions were influenced by six (6) variables:

1. Professional status.
   a. faculty with medical degrees.
   b. residents - medical school graduates in residency training programs.
   c. medical students - students in their fourth (4th) year of medical school training.

2. Courses taken in geriatric medicine.

3. Medical specialty of the teacher who each respondent considered to have taught them the most about caring for geriatric patients.

4. Sex of the respondent.

5. Race of the respondent.

6. Age of the respondent.

The need for such a study arose out of a growing concern of medical educators that students were graduating from medical school without an adequate knowledge base for providing care to geriatric patients (patients 65 years of age and over). As a consequence, medical educators believed that elderly people were not receiving adequate health care. Deficiency in academic resources to teach geriatrics was identified as the major reason for
this lack of knowledge. Medical educators concluded that substantial improvement in teaching about the process of aging and the problems of the aged were required at all levels of medical education. In order to address this deficiency, education and training activities in gerontology and geriatrics are being initiated at many medical schools.

The message from population trend studies was clear. The "graying" of America, as coined by Somers (1981), was no longer news as the elderly segment of our population steadily increased to 12 percent. The fastest growing segment of the elderly population is the over 85 age group, presently consisting of 2.5 million people (Rowe, 1987). It is estimated that the number of people over 85 will double by the end of the century. It is also projected that the minority elderly will increase more rapidly than the total population. The number of black and other non-white persons 65 years and over is projected to increase by almost 50 percent between the years 1980 and 2000. At the same time, the increase in the comparable white population is projected at about 35 percent (Rice et al, 1983).

As more people live longer, health, social, economic and other problems associated with aging is certain to increase. The projections are that the number of elderly with limitations on the activities of daily living - such as walking, bathing, dressing and eating - will also increase (National Center for Health Statistics, 1980).

Several investigators (Rowe et al, 1987; Rice et al, 1983; Robins, 1982) have addressed the impact of this increasing population of elderly people on our health care system. Currently the 12 percent of our population that is over the age of 65 accounts for more than 33 percent of physicians' time, 25 percent of the medications prescribed, and 40 percent of acute hospital admissions. In 1980, people over the age of 65 made 165 million visits to
physicians' offices. Assuming no major change in the structure of our health care system, this number is expected to increase by 40 percent by the year 2000.

B. Significance of this Study.

A RAND Corporation study reported in 1980 that primary care physicians were responsible for about 86 percent of all encounters made by elderly patients each year to physicians in non-hospital settings. The Morehouse School of Medicine has as its mission to educate and train physicians to practice quality primary care, especially in underserved rural and inner-city communities. That is, in fact, the School's raison d'être. The School's efforts are directed toward recruiting, enrolling and educating able black and other minority students for careers as primary care physicians. Projections are that the minority elderly population will increase more rapidly than the total elderly population. It is therefore imperative that graduates from the Morehouse School of Medicine be well trained to care for an age group which projections show will comprise a large segment of their patient population.

In order to prepare its graduates for this responsibility, Morehouse must develop the academic resources necessary. Presently, there is no faculty formally trained in the area of geriatrics at the medical school. Additionally, there are no courses in the curriculum for teaching the subject to medical students. However, efforts are being made to incorporate didactic and experiential content into the existing courses. Efforts are also being made to enhance the knowledge base of those clinical faculty who involve elderly patients in their teaching of medical students and residents; mainly those in
the Departments of Family Medicine, Psychiatry, and Internal Medicine. These efforts consist mostly of faculty development workshops.

In order to develop faculty development workshops, the competences needed and the teacher behaviors considered to be the most effective enhancers of learning must be known. Prior to this study such competencies had not been identified. This study provided important baseline information upon which decisions about the structure and content of these workshops can be made. Information obtained from this study will also be used to develop a faculty assessment manual which will include descriptors of the most effective teacher behaviors identified.

C. Literature Review.

In a review of the literature on effective teacher behaviors in clinical teaching (Irby, 1977), there appeared to be a consensus on the most important factors or constructs of behaviors. The common factors identified were:

1. Organization and clarity of presentations.
2. Group instructional skills.
3. Enthusiasm and stimulation towards the subject.
4. Instructor knowledge of the subject.
5. Clinical supervisory skills.
6. Instructor clinical competence.
7. Modeling of high professional standards and values.

Additionally, several characteristics were identified as being important for teachers of geriatrics to possess. These were:

1. Empathy towards others.
2. Good interdisciplinary relationships.
3. Demonstration of a positive regard for the elderly.
4. Good listening skills.
5. Demonstration of comfort in dealing with multiple health problems.
6. Utilization of allied health professionals.
7. Use of the principle of minimal interference.
8. Comfort with own life cycle.

These characteristics, though implied by some in the field of geriatrics (Reichel, 1979; Casgerque & Calvert, 1979), were not supported by empirical research.

A major source of diversity in the literature on clinical instruction was found in its three primary participants: faculty, residents, and medical students. Each of these groups had different perspectives and experiences with clinical teaching. Most of the studies compared faculty with students or faculty with residents. There was a paucity of studies which investigated and compared the perceptions of clinical instruction held by all three groups. No studies were found which compared the perceptions of these groups relative to geriatric teaching.

Research findings suggested that the specialty affiliation of the teacher may bear crucial influence on the student's perception of effective teaching in a particular subject (Coe, 1981; Irby, 1977; Collings et al, 1975). In addition, it was suggested that the specialty may bear crucial influence on the perceptions of effective teaching by peers. On the other hand, no significant differences between specialties was found in other studies. No research was found which assessed the extent to which faculty specialty influenced perceptions of geriatric clinical teaching.

There was evidence in the literature that a low preference for working with elderly people is often related to inadequate knowledge of aging. A
positive correlation was found between courses in gerontology/geriatrics and student interest in working with elderly patients (Shimamato, 1987; Warren et al, 1983; Geiger, 1978).

Several instruments were found which measured teacher effectiveness, but, the majority of these were more appropriate for classroom teaching and involving one teacher and one setting. Only two instruments were found which related to clinical teaching similar to that described in this study. No instruments were found however which specifically assessed the effectiveness of teacher behaviors in geriatrics.

D. Theoretical Framework.

The literature review provided limited agreement among researchers on what constituted effective clinical teaching in medicine. No published research was found on effective teaching in the area of geriatrics. Therefore, the evidence was, at best, inconclusive.

The hypothesized relationship between the variables in this study was: professional status, courses taken in geriatrics, medical specialty of the teacher, sex, race, and age are independent variables which influence the perceptions of effective teacher behaviors (the dependent variable) in geriatrics. In addition, it was hypothesized that a difference existed in the way each respondent group (faculty, residents, students) would rate the effectiveness of these behaviors in relation to the independent variables.

The hypotheses, stated in the null form, tested in this study were:

1. There will be no significant differences between the influence of the professional status, medical specialty of the teacher, courses taken in geriatrics, sex, race, and age in relation to perceptions of effective teacher behaviors in geriatrics.
2. There will be no significant differences between faculty, residents, and medical students in how they rate effective teacher behaviors in relation to their professional status.

3. There will be no significant difference between faculty, residents, and medical students in how they rate effective teacher behaviors in geriatrics in relation to courses taken in geriatrics.

4. There will be no significant difference between faculty, residents, and medical students in how they rate effective teacher behaviors in geriatrics in relation to the medical specialty of the teacher.

5. There will be no significant difference between faculty, residents, and medical students in how they rate effective teacher behaviors in relation to their sex.

6. There will be no significant difference between faculty, residents and medical students in how they rate effective teacher behaviors in geriatrics in relation to their race.

7. There will be no significant difference between faculty, residents and medical students in how they rate effective teacher behaviors in geriatrics in relation to their age.

E. Research Methods.

This was a descriptive study conducted in September, 1987. The method used was a survey which sought to identify perceptions of effective clinical teacher behaviors in geriatric teaching.

The population of this study was the Morehouse School of Medicine and Emory University School of Medicine: 1) faculty with M.D. degrees from the Departments of Internal Medicine, Family Medicine, and Psychiatry whose primary teaching responsibility is to teach residents and fourth year medical students (N = 595); 2) residents in Internal Medicine, Family Practice, and
Psychiatry Residency Training Programs at the two schools (N = 252); and 3) fourth year medical students of the two schools (N = 137).

An instrument had to be developed specifically for this study. Steps followed in this process included:

1. Construct identification. This was achieved through review of the literature and consultation with experts in the areas of clinical teaching and geriatrics.

2. Content validation. This was achieved by having a panel of judges to review and evaluate a draft of items to be included in the instrument.

3. Questionnaire development. The resulting items from steps 1 and 2 above were development into a questionnaire.

4. Questionnaire validation. This was achieved by administering the questionnaire to a pilot group similar in make-up to the proposed study population. Results obtained from the pilot study were analyzed and evaluated. The final questionnaire is reported in Appendix C of this paper.

The sample consisted of randomly assigned subjects from each of the groups (faculty, residents, students) totaling a sample size of 353 subjects. The questionnaire was mailed to each subject in early September, 1987. Follow-up letters were sent out in early October to a 10 percent sample of non-respondents. A 42 percent response rate was achieved from the 353 subjects surveyed which resulted in 145 usable questionnaires.

Follow-up interviews of 12 randomly selected non-respondents were conducted. The purpose of the interview was to ascertain whether the non-respondents differed significantly from respondents. The results of the
interviews indicated that the responses did not significantly differ between the groups.

Treatment of the data obtained from the survey included the use of the SPSS (Statistical Package for the Social Sciences). The specific programs from that package were Multiple Regression Analysis and ANOVA. The level of significance was set at .05.

Conclusions

The results of this study support the following conclusions:

1. The most descriptive characteristics of effective clinical teachers in geriatrics as perceived by faculty, residents and students were (in order of highest rating):
   a. prudent in prescribing drugs.
   b. provides students/residents feedback on their performance.
   c. utilizes community resources in managing patient problems.
   d. shows enthusiasm for the subject.
   e. demonstrates a positive regard for elderly patients.
   f. shows respect for other medical professional including allied health.
   g. demonstrates clinical details and procedures.
   h. is emphatic to the needs of others.
   i. stresses the psycho-social aspects of illness.
   j. is clear and organized in his/her teaching.

2. The most frequently demonstrated behaviors of the 22 effective teacher behaviors as perceived by faculty, residents and students were (in order of highest rating):
   a. prudent in prescribing drugs.
   b. demonstrates clinical skills and procedures.
c. is comfortable in dealing with patients with multiple health problems.
d. shows enthusiasm for the subject.
e. is clear and organized in his/her teaching.
f. shows respect for other medical professionals including allied health.
g. demonstrates a positive regard for elderly patients.
h. actively involves students/residents in discussions and procedures.
i. provides students/residents with feedback on their performance.
j. demonstrates knowledge of the subject.

3. Six variables were hypothesized to have an influence on the way faculty, residents, and students would rate effective teacher behaviors in geriatrics. These were: professional status of respondent; medical specialty of the teacher; courses taking in geriatrics; sex, age, and race of the respondent. Data analysis supported only three of these, professional status, courses and sex, as significant.

4. Seven factors of effective clinical teaching as identified in prior research (Irby, 1977) were supported by this research.

5. Eight of the ten teacher behavior items developed specifically in geriatric teaching evaluation were highly rated and ranked in the top ten list of descriptions. The behaviors not making the list were: "shows willingness to share leadership in patient management with other health professions" and "emphasizes need for physician involvement in long-term care facilities."
6. The hypothesis that students would be more critical of teacher behaviors and residents or faculty was partially supported by the findings of this study. There was no significant difference between the professional status groups in reference to their ratings of what effective teacher behaviors should be in geriatric teaching. However, a very significant difference was found between these groups when their ratings of how frequently these behaviors are actually demonstrated were analyzed. Students were more critical of actual teacher behaviors than the other groups. Student scores were significantly lower than the scores for the faculty.

7. Courses taken in geriatrics was a significant factor in determining how respondents rated teacher behaviors. This finding supports prior research. The frequency of demonstration of effective teacher behaviors were rated more critical by those who had courses in geriatrics.

8. A significant difference was found between faculty, residents and students in how they rated demonstration frequency of effective teacher behaviors. Student females tended to be more critical of teacher behaviors than faculty males.

9. Faculty, residents, and medical students tended to agree on what constituted effective teacher behaviors in geriatrics. There was no significant difference in either group's perception of what the behaviors should be (ideal) of teachers who involve geriatric patients in their teaching of residents and students.

Recommendations for Further Research
Recommendations for further research based upon this investigation, include:

1. Replication of this study at the national level so that the results may be generalized to the larger medical population.

2. Further analysis of the questionnaire data to determine if the missions of the two schools, Morehouse and Emory, influenced perceptions of teach effectiveness.

3. Validation of the teacher behaviors be done by:
   a. conducting observational studies of clinical geriatric teachers using the effective behaviors identified.
   b. developing an assessment tool which would include descriptions of each of the behaviors identified as being effective in the teaching of geriatrics.

4. Further studies of clinical teacher effectiveness be conducted to explore the nature, function and extent of the lack of congruence between faculty and students on the actual demonstration of effective teacher behaviors.

5. Further studies be conducted to determine the influence of other factors on perceptions of effective clinical teaching in geriatrics such as, attitudes towards aging, past experiences with elderly people, personality characteristics of the respondent, and mission of the school.
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APPENDIX A

Draft Questionnaire
**Draft Questionnaire**

<table>
<thead>
<tr>
<th>Statements</th>
<th>Not at all Descriptive</th>
<th>Very Descriptive</th>
<th>Not Applicable</th>
<th>Don't Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Shares feelings and concerns regarding working with geriatric patients.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Comfortable with own life cycle.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Uses teaching methods appropriate for objectives, students and environment</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>4. Demonstrates sensitivity to the needs and feelings of students.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Demonstrates knowledge of the subject area.</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>6. Uses a variety of teaching methods</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Describes how the geriatric patient presents to a physician in different ways</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Makes geriatrics challenging and interesting</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Is clear and organized</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Provides students direction and feedback</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Demonstrates clinical skills and procedures</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Is knowledgeable and analytical</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Is accessible</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Statements</td>
<td>Not at all Descriptive</td>
<td>Very Descriptive</td>
<td>Not Applicable</td>
<td>Don't Know</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
<td>------------------------</td>
<td>------------------</td>
<td>----------------</td>
<td>------------</td>
</tr>
<tr>
<td>14. Explains the basis for his/her action</td>
<td>1 2 3 4 5 6</td>
<td>NA</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>15. Demonstrates positive regard for and reaction to older people</td>
<td>1 2 3 4 5 6</td>
<td>NA</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>16. Effective in interdisciplinary relationships</td>
<td>1 2 3 4 5 6</td>
<td>NA</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>17. Comfortable in dealing with multiple health problems of patients</td>
<td>1 2 3 4 5 6</td>
<td>NA</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>18. Answers carefully and precisely questions raised by students</td>
<td>1 2 3 4 5 6</td>
<td>NA</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>19. Corrects students when wrong without belittling</td>
<td>1 2 3 4 5 6</td>
<td>NA</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>20. Prepares well for rounds and other contact with students</td>
<td>1 2 3 4 5 6</td>
<td>NA</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>21. Summarizes major points</td>
<td>1 2 3 4 5 6</td>
<td>NA</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>22. Utilizes allied health professionals in teaching</td>
<td>1 2 3 4 5 6</td>
<td>NA</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>23. Is empathetic</td>
<td>1 2 3 4 5 6</td>
<td>NA</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>24. Shows enthusiasm in the subject</td>
<td>1 2 3 4 5 6</td>
<td>NA</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>25. Utilizes different teaching roles and strategies effectively</td>
<td>1 2 3 4 5 6</td>
<td>NA</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>26. Identifies the relevance of medicine to humanistic needs</td>
<td>1 2 3 4 5 6</td>
<td>NA</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>27. Demonstrates high professional standards</td>
<td>1 2 3 4 5 6</td>
<td>NA</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>Statements</td>
<td>Not at all Descriptive</td>
<td>Very Descriptive</td>
<td>Not Applicable</td>
<td>Don’t Know</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
<td>------------------------</td>
<td>------------------</td>
<td>----------------</td>
<td>------------</td>
</tr>
<tr>
<td>28. Explores alternatives to institutionalization</td>
<td>1 2 3 4 5 6</td>
<td>NA</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>29. Emphasizes interdisciplinary team care</td>
<td>1 2 3 4 5 6</td>
<td>NA</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>30. Utilizes community resources in patient management</td>
<td>1 2 3 4 5 6</td>
<td>NA</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>31. Listens attentively</td>
<td>1 2 3 4 5 6</td>
<td>NA</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>32. Makes home visits</td>
<td>1 2 3 4 5 6</td>
<td>NA</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>33. Emphasizes illness prevention, health maintenance, and rehabilitation</td>
<td>1 2 3 4 5 6</td>
<td>NA</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>34. Shares decision-making with the patient</td>
<td>1 2 3 4 5 6</td>
<td>NA</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>35. Utilizes hope as a therapeutic tool</td>
<td>1 2 3 4 5 6</td>
<td>NA</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>36. Maintains continuity of health care between the office and other health care settings</td>
<td>1 2 3 4 5 6</td>
<td>NA</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>37. Communicates effectively with patients</td>
<td>1 2 3 4 5 6</td>
<td>NA</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>38. Demonstrates concern for clinical, social, and psychological aspects of illnesses</td>
<td>1 2 3 4 5 6</td>
<td>NA</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>39. Shows respect for other medical professions</td>
<td>1 2 3 4 5 6</td>
<td>NA</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>40. Uses prudence in prescribing drugs</td>
<td>1 2 3 4 5 6</td>
<td>NA</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>41. Provides patients ample opportunity to express problems and reflect upon life situations</td>
<td>1 2 3 4 5 6</td>
<td>NA</td>
<td>?</td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX  B

Factors of Effective Teaching
Factors of Effective Teaching

I. Instructor Knowledge

5. Demonstrates knowledge of the subject area.
7. Describes how the geriatric patient presents to a physician in different ways.
12. Is knowledgeable and analytical.
43. Directs students to useful literature in the field.
50. Emphasizes his/her personal research.

II. Organization and Clarity

6. Uses a variety of teaching methods
9. Is clear and organized.
20. Prepares well for rounds and other contact with students.
21. Summarizes major points
25. Utilizes different teaching roles and strategies effectively.

III. Enthusiasm/Stimulation

8. Makes geriatrics challenging and interesting.
23. Is empathetic.
24. Shows enthusiasm for the subject.
51. Enjoys teaching.
44. Has an interesting style of presentation.
IV. **Group Instructional Skills**

4. Demonstrates sensitivity to the needs and feelings of students.

13. Is accessible to students/residents.

14. Explains the basis for his/her action.

18. Answers carefully and precisely questions raised by students.

19. Corrects students when wrong without belittling.

26. Identifies the relevance of medicine to humanistic needs.

31. Listens attentively.

45. Emphasizes problem-solving approach rather than solutions per se.

46. Actively involves students in discussions
   - Acts as the authority
   - Is a consultant
   - Promotes creativity, ingenuity and problem solving skills through questioning technique.
   - Shows personal interest in students/residents
   - Engages students/residents in a mutually trusting relationship.

V. **Instructor Clinical Competence**

17. Comfortable in dealing with multiple health problems of patients.

28. Explores alternatives to institutionalization.

22. Utilizes allied health professionals in teaching.

30. Utilizes community resources in patient management.

32. Makes home visits.

33. Emphasizes illness prevention, health maintenance and rehabilitation.

34. Shares decision making with the patient.
35. Utilizes hope as a therapeutic tool.

36. Maintains continuity of health care between the office and other health care settings.

37. Communicates effectively with patients.

38. Stresses social and psychological aspects of illness.

39. Provides patients ample opportunity to express problems and reflect upon life situations.

VI. **Modelling**

1. Shares own feelings and concerns regarding working with geriatric patients.

2. Comfortable with own life cycle.

27. Demonstrates high professional standards.

39. Shows respect for other medical professions including allied health.

47. Demonstrates willingness to share the leadership of patient management with other health professionals.

48. Discusses the impact of attitudes on the quality of patient care.

15. Demonstrates positive regard for and reaction to older people.

16. Effective in interdisciplinary relationships.

VII. **Clinical Supervision**

10. Provides students direction and feedback.

11. Demonstrates clinical skills and procedures.

42. Provides students opportunities to practice both technical and problem-solving skills.

49. Emphasizes need for physician involvement in long-term care facilities.
APPENDIX C

1. Pilot-study Results

2. Cover Letter and Final Instrument - Effective Clinical Geriatrics Teaching Inventory.
### Pilot-Study Results: Comparison of the means for sample groups perceptions of effective teacher behaviors.

<table>
<thead>
<tr>
<th>Items</th>
<th>Sample Groups</th>
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<tbody>
<tr>
<td></td>
<td>Faculty</td>
<td>Residents</td>
<td>Students</td>
<td>Totals</td>
<td></td>
</tr>
<tr>
<td>1. Demonstrates knowledge of the subject</td>
<td>5.9</td>
<td>5.0</td>
<td>5.7</td>
<td>5.5</td>
<td></td>
</tr>
<tr>
<td>2. Is clear and organized</td>
<td>5.2</td>
<td>5.0</td>
<td>4.6</td>
<td>4.9</td>
<td></td>
</tr>
<tr>
<td>3. Is empathetic</td>
<td>5.8</td>
<td>5.0</td>
<td>5.0</td>
<td>5.3</td>
<td></td>
</tr>
<tr>
<td>4. Shows enthusiasm for the subject</td>
<td>5.2</td>
<td>5.2</td>
<td>5.0</td>
<td>5.1</td>
<td></td>
</tr>
<tr>
<td>5. Is sensitive to needs and feelings of students</td>
<td>5.0</td>
<td>5.0</td>
<td>5.1</td>
<td>5.0</td>
<td></td>
</tr>
<tr>
<td>6. Is accessible</td>
<td>5.6</td>
<td>4.7</td>
<td>4.1</td>
<td>4.8</td>
<td></td>
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<tr>
<td>7. Explains the basis for his/her actions</td>
<td>5.6</td>
<td>4.7</td>
<td>5.1</td>
<td>5.1</td>
<td></td>
</tr>
<tr>
<td>8. Answers carefully and precisely questions raised by students about pediatrics</td>
<td>4.8</td>
<td>4.5</td>
<td>5.1</td>
<td>4.8</td>
<td></td>
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<tr>
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<td>4.2</td>
<td>4.3</td>
<td>4.0</td>
<td>4.2</td>
<td></td>
</tr>
<tr>
<td>9. Is Authoritative</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Shows personal interest in students/residents</td>
<td>5.4</td>
<td>4.3</td>
<td>4.0</td>
<td>4.6</td>
<td></td>
</tr>
<tr>
<td>11. Is comfortable in dealing with patients with multiple health problems</td>
<td>5.5</td>
<td>5.2</td>
<td>5.0</td>
<td>5.2</td>
<td></td>
</tr>
<tr>
<td>12. Utilizes community resources in managing patient problems</td>
<td>5.3</td>
<td>4.7</td>
<td>3.6</td>
<td>4.5</td>
<td></td>
</tr>
<tr>
<td>13. Maintains continuity of care between office, hospital and other health care facilities</td>
<td>5.6</td>
<td>5.0</td>
<td>4.0</td>
<td>4.8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Description</td>
<td>Mean 1</td>
<td>Mean 2</td>
<td>Mean 3</td>
<td>Mean 4</td>
</tr>
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<td>------------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>14</td>
<td>Stresses the psycho-social aspects of illness</td>
<td>5.0</td>
<td>3.7</td>
<td>4.1</td>
<td>4.3</td>
</tr>
<tr>
<td>15</td>
<td>Uses prudence in prescribing drugs</td>
<td>5.6</td>
<td>5.2</td>
<td>5.7</td>
<td>5.5</td>
</tr>
<tr>
<td>16</td>
<td>Provides patients ample opportunity to express problems and reflect on life</td>
<td>4.6</td>
<td>4.3</td>
<td>4.1</td>
<td>4.3</td>
</tr>
<tr>
<td>17</td>
<td>Shares own feelings and concerns about working with geriatric patients</td>
<td>5.2</td>
<td>4.7</td>
<td>4.0</td>
<td>4.6</td>
</tr>
<tr>
<td>18</td>
<td>Shows respect for other medical professions including allied health</td>
<td>5.2</td>
<td>5.0</td>
<td>4.1</td>
<td>4.8</td>
</tr>
<tr>
<td>19</td>
<td>Shows willingness to share leadership of patient management with other health professions</td>
<td>5.1</td>
<td>5.0</td>
<td>4.1</td>
<td>4.8</td>
</tr>
<tr>
<td>20</td>
<td>Demonstrates positive regard for elderly patients</td>
<td>5.4</td>
<td>5.0</td>
<td>5.7</td>
<td>5.4</td>
</tr>
<tr>
<td>21</td>
<td>Provides students/residents direction and feedback</td>
<td>5.4</td>
<td>5.0</td>
<td>5.0</td>
<td>5.1</td>
</tr>
<tr>
<td>22</td>
<td>Demonstrates clinical skills and procedures</td>
<td>5.8</td>
<td>5.5</td>
<td>5.7</td>
<td>5.7</td>
</tr>
<tr>
<td>23</td>
<td>Emphasizes need for physician involvement in long-term care facilities</td>
<td>5.2</td>
<td>5.5</td>
<td>4.1</td>
<td>4.9</td>
</tr>
<tr>
<td>24</td>
<td>Gears instruction to student level of readiness</td>
<td>5.4</td>
<td>4.7</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td>25</td>
<td>Promotes creativity, ingenuity and problem solving skills through questioning technique</td>
<td>5.4</td>
<td>4.7</td>
<td>4.6</td>
<td>4.9</td>
</tr>
</tbody>
</table>

N = 14, Test mean = 3.5, Highest total score = 5.7, Lowest total score = 4.2
Pilot-study results, effective geriatric teacher behaviors
demonstration frequency ratings

<table>
<thead>
<tr>
<th>Items</th>
<th>Frequency Demonstration Mean Scores</th>
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<td>Faculty</td>
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<tr>
<td>1. Demonstrates knowledge of the subject...</td>
<td>3.0</td>
</tr>
<tr>
<td>2. Is clear and organized</td>
<td>3.0</td>
</tr>
<tr>
<td>3. Is empathetic</td>
<td>3.2</td>
</tr>
<tr>
<td>4. Shows enthusiasm for the subject</td>
<td>3.0</td>
</tr>
<tr>
<td>5. Is sensitive to needs and feelings of students</td>
<td>2.6</td>
</tr>
<tr>
<td>6. Is accessible</td>
<td>3.0</td>
</tr>
<tr>
<td>7. Explains the basis for his/her actions</td>
<td>3.0</td>
</tr>
<tr>
<td>8. Answers carefully and precisely questions raised by students about geriatrics...</td>
<td>3.0</td>
</tr>
<tr>
<td>9. Is Authoritative</td>
<td>3.0</td>
</tr>
<tr>
<td>10. Shows personal interest in students/residents</td>
<td>3.0</td>
</tr>
<tr>
<td>11. Is comfortable in dealing with patients with multiple health problems</td>
<td>3.2</td>
</tr>
<tr>
<td>12. Utilizes community resources in managing patient problems</td>
<td>3.0</td>
</tr>
<tr>
<td>13. Maintains continuity of care between office, hospital and other health care facilities</td>
<td>3.0</td>
</tr>
<tr>
<td>14. Stresses the psycho-social aspects of illness</td>
<td>3.0</td>
</tr>
<tr>
<td>15. Uses prudence in prescribing drugs</td>
<td>3.2</td>
</tr>
<tr>
<td>16. Provides patients ample opportunity to express problems and reflect on life...</td>
<td>2.8</td>
</tr>
<tr>
<td></td>
<td>Description</td>
</tr>
<tr>
<td>---</td>
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<tr>
<td>17</td>
<td>Shares own feelings and concerns about working with geriatric patients</td>
</tr>
<tr>
<td>18</td>
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</tr>
<tr>
<td>25</td>
<td>Promotes creativity, ingenuity and problem solving skills through questioning technique</td>
</tr>
</tbody>
</table>

N = 14  Test Means = 2.5  Highest total means score = 3.33, lowest = 2.20
TO:   
FROM: Beverly Taylor, M.D., Director  
       Public Health/Preventive Medicine  
       Residency Program  
DATE: September, 15, 1987  
RE: Clinical Teaching Effectiveness Research

The Geriatric Education Program of the Department of Community Health and Preventive Medicine is conducting a study of clinical teaching effectiveness in geriatrics. The purpose of the study is to identify effective teacher behaviors of those who involve geriatric patients in their teaching of medical students and residents. The study will also attempt to determine the effects of certain variables on how these behaviors are rated. This information will be used to develop a workshop in the teaching of geriatrics.

You and a selected number of your colleagues are being asked to participate in this study by filling out and returning the enclosed questionnaire. Since your responses will represent the experience and perception of a large number of other medical professionals, your participation is very important.

The questionnaire was developed from observations of clinical teaching, prior research and consultation from experts in the field of clinical teaching and geriatrics. Confidentiality of responses will be strictly maintained.

Please complete the questionnaire prior to October 13 and return it in the enclosed self-addressed envelope. Mrs. Mary Williams is coordinating the data collection process. If you have any questions about the study, please call her at (404) 752-1626. Thank you for your cooperation.

Enclosures: Questionnaire  
            Return envelope
PART I

Directions: Please respond as accurately as possible to each of the statements by checking the appropriate response.

1. Please indicate your present professional status.
   - A. Fourth Year Medical Student
     What is your preferred medical specialty?
   - B. Resident. What is your residency program?
     First Year
     Second Year
     Third Year
   - C. Faculty. What is your specialty?
     Full-time
     Part-time
     Preceptor (volunteer)
     Consultant

2. Indicate your age: ________ Sex: F____ M____

3. Indicate your race:
   - a. Asian
   - b. White
   - c. Black
   - d. Spanish American
   - e. American Indian
   - f. Other (specify__________).

4. Please estimate the average income of your family of origin (parents):
   - a. Less than 10,000.
   - b. 10,000 to 20,000.
   - c. Greater than 20,000.
   - d. Less than 50,000.
   - e. Greater than 50,000.

5. Please indicate the number of years of school completed by your:

   Mother
   - >8
   - 8
   - >12
   - 12
   - 12+
   - 16
   - 16+

   Father
   - >8
   - 8
   - >12
   - 12
   - 12+
   - 16
   - 16+
6. Occupation of your:
   Father ________________________.
   Mother ________________________.
   * If retired, indicate previous occupation.

7. Formal courses or training in geriatrics you have had during your medical school and/or residency and post-residency education.
   — a. No courses.
   — b. Only occasional lectures.
   — c. 1 or more courses.
   — d. Clerkship.
   — e. Fellowship.
   — f. Workshops and other continuing education programs.

8. Identify the professional role of the clinical teacher who you think taught you the most about the special problems of caring for the elderly patient during your training.
   — a. An Attending.
   — b. A Resident.
   — c. A Consultant.
   — d. A Preceptor.
   — e. Other health profession (other than M.D.)
   What was that person's medical specialty?

9. (Faculty only). What percentage of your patients are over 65 years of age?
   — a. Less than 10%.
   — b. 10 to 20%.
   — c. Greater than 20%.
   — d. Less than 50%.
   — e. Greater than 50%.

PART II

Directions: Read each question below and put a check in the space which tells how your feel about yourself.

1. Do you feel that as you get older you are less useful?
   — a. Yes.
   — b. No.
2. As you get older, are things
   — a. better than
   — b. worse than
   — c. same as
      you thought they would be?

3. Are you as happy now as you were when you were younger?
   — a. Yes.
   — b. No.

Please indicate below your opinion about the things that happen
most to people during their lifetime.

4. Do you believe that:
   — a. many of the unhappy things in people's lives are due
to bad luck,
or
   — b. are they due to each person's mistakes?

5. Do you feel that:
   — a. you have a lot of influence over the things that happen
to you,
or
   — b. do you believe that chance or luck plays an important
      role in your life?

6. Do you feel that:
   — a. people are lonely because they don't try to be friendly,
or
   — b. is there little use in trying hard to please people; if
      they like you, they will like you, no matter what you
      do.
PART III

Directions: For each statement below, circle the number which best describes how you would rate each item.

i.e., Statement Scale

<table>
<thead>
<tr>
<th>Statements</th>
<th>Extremely poor/none</th>
<th>Extremely good/great deal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The amount of contact I had with elderly people during my childhood was</td>
<td>2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>2. The quality of my contact with elderly people during childhood was</td>
<td>2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>3. The amount of interest I have in including elderly patients in my future practice is</td>
<td>2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>4. The amount of fear I associate with dying myself is</td>
<td>2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>5. The amount of fear I associate with someone close to me dying is</td>
<td>2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>6. The amount of fear I associate with talking with dying patients is</td>
<td>2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>7. The general attitude of my teachers in medical school towards elderly patients was</td>
<td>2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>8. As methods/settings for teaching geriatrics, I would rate the following as:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Hospital rounds</td>
<td>2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>b. Doctor's office</td>
<td>2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>c. Classroom lectures</td>
<td>2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>d. Group discussions</td>
<td>2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>e. Computerized program instructions</td>
<td>2 3 4 5 6</td>
<td></td>
</tr>
</tbody>
</table>
9. As a preferred style of learning, I would rate the following as:
   a. Learning through direct experiences .................. 1 2 3 4 5 6
   b. Working with inanimate objects (i.e., tools, machines).... 1 2 3 4 5 6
   c. Working with people .......... 1 2 3 4 5 6
   d. Learning through reading..... 1 2 3 4 5 6
   e. Working with numbers ........ 1 2 3 4 5 6
   f. Learning by observation .... 1 2 3 4 5 6
   g. Working with written material ....................... 1 2 3 4 5 6

10. For the common sources for obtaining the news in my family when I was growing up, I would rate the following as:
   a. T.V. .......................... 1 2 3 4 5 6
   b. Daily newspaper............. 1 2 3 4 5 6
   c. Family discussions........... 1 2 3 4 5 6
   d. Magazines .................... 1 2 3 4 5 6
### PART IV

Directions: Below are statements which reflect some of the ways clinical teachers can be described. Think back over the experiences you have had which involved elderly patients. For each statement, circle the number which best describes your perception of what a clinical teacher's behavior should be who involves elderly patients in his/her teaching. Also, indicate how frequent you are able to demonstrate each of these behaviors in your teaching of residents and students about elderly patients.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Not all descriptive</th>
<th>Very descriptive</th>
<th>Demonstration frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>S</td>
<td>O</td>
</tr>
<tr>
<td>1. Accessible</td>
<td>1   2  3  4  5  6</td>
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<td></td>
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</table>

<table>
<thead>
<tr>
<th>Statements</th>
<th>Not at all descriptive</th>
<th>Very descriptive</th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>S</td>
<td>O</td>
</tr>
</tbody>
</table>

1. Demonstrates knowledge of the subject
2. Is clear and organized in his/her teaching
3. Is empathetic to the needs of others
4. Shows enthusiasm for the subject
5. Is accessible to students/residents for guidance and supervision
6. Explains the basis for his/her actions
7. Actively involves students/residents in discussions and procedures
8. Generally authoritarian and teacher-oriented in his/her teaching style
9. Shows personal interest in students/residents
10. Is comfortable in dealing with patients with multiple health problems
11. Utilizes community resources in managing patient problems
12. Stresses the psycho-social aspects of illnesses
13. Imprudent in prescribing drugs
<table>
<thead>
<tr>
<th></th>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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</thead>
<tbody>
<tr>
<td>15.</td>
<td>Shares own feelings and concerns about working with old patients</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>16.</td>
<td>Shows respect for other medical professionals including allied health</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17.</td>
<td>Shows willingness to share leadership of patient management with other health professionals</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18.</td>
<td>Demonstrates a positive regard for elderly patients</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19.</td>
<td>Seldom provides students/residents feedback on their performance</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20.</td>
<td>Demonstrates clinical skills and procedures</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>21.</td>
<td>Emphasizes need for physician involvement in long-term care facilities</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>22.</td>
<td>Gears instruction to student's level of readiness</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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</table>

Provides patients ample opportunity to express problems and reflect on life events.
APPENDIX D

Follow-up Interview Form
Clinical Teaching Effectiveness in Geriatrics
Follow-up Interview Form
Respondents profession status:
faculty __ resident __ student __
Date ____________________

Hello, my name is ____________________. I am with the Department of Community Health and Preventive Medicine at the Morehouse School of Medicine. I am calling regarding a Survey of Clinical Teaching Effectiveness in Geriatrics which was mailed to you earlier this summer. I am calling a randomly selected number of those who did not respond in order to determine if the responses which we did receive were representative of the total sample. Would you be willing to take a few minutes to answer a few short questions?

____ No. Could I call you at a more convenient time or place? ____________________

____ Yes. Thank You.

1. Did you receive the questionnaire?
   ____ Yes  ____ No

2. What was the reason for not returning it ____________________

3. The purpose of this study is to identify effective teacher behaviors of those who teach about elderly patients. I am going to read some statements which reflect some of the ways clinical teachers can be described. Think back over the experiences you have had during your medical training that involved elderly patients. On a scale of 1 to 6, with 6 being the highest, how descriptive do you think the following behaviors are of what clinical teacher behaviors should be who teach about elderly patients?

   ___ Prudent in prescribing drugs.
   ___ Provides students/residents feedback on their preference.
   ___ Utilizes community resources in managing patient problems.
   ___ Shows enthusiasm for the subject.
— Demonstrates a positive regard for elderly patients.
— Shows respect for other medical professional including allied health.
— Demonstrates clinical skills and procedures.
— Is empathetic to the needs of others.
— Stresses the pscho-social aspects of illnesses.
— Is clear and organized in his/her teaching.

4. Have you had formal courses, lectures, or clerkships in geriatrics?
   ___ Yes  ___ No

5. What was the medical specialty of the teacher who you think taught the most about caring for the elderly patient?
   Internal Medicine ___  Family Medicine ___  Psychiatry ___  Other ___

6. What is your age ___  race ___  sex ___