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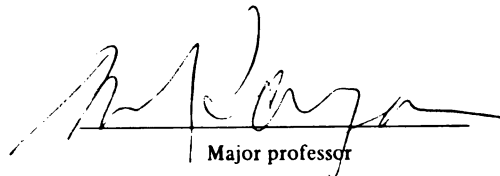
**THE EFFECTS OF TEACHING INTERVIEWING SKILLS AND  
AFFECTIVE SENSITIVITY TO FAMILY MEDICINE  
RESIDENTS: A PILOT STUDY**

presented by

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has been accepted towards fulfillment  
of the requirements for

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Major professor

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BELINDA ROSE NOVIK

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THE EFFECTS OF TEACHING INTERVIEWING SKILLS AND  
AFFECTIVE SENSITIVITY TO FAMILY MEDICINE  
RESIDENTS: A PILOT STUDY

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## ABSTRACT

### THE EFFECTS OF TEACHING INTERVIEWING SKILLS AND AFFECTIVE SENSITIVITY TO FAMILY MEDICINE RESIDENTS: A PILOT STUDY

By

Belinda Rose Novik

The purpose of this study was to evaluate the effectiveness of Interpersonal Process Recall (IPR) as a teaching mode for training in interviewing and affective sensitivity for Family Medicine residents. All the residents in the Duke-Watts Family Medicine Program (n=33) were given a thirty-two hour version of IPR within a one-year period. This was a pilot study done to test the feasibility of IPR in this setting and to analyze the effectiveness of IPR within the design constraints imposed by the setting.

The residents served as their own controls. Pre and post resident-patient interview measurements were taken with the Counselor Verbal Response Scale, Affective Sensitivity Scale, a chart audit of the number of benzodiazepin prescriptions (minor tranquilizers) written by the residents before and after training, and a chart audit of the affect words and other statements on patient charts which might indicate that personal-social issues had been

discussed in the interview. (The shortened form "affect words" will be used to describe all of those statements hereafter.) In addition, the CVRS (the resident-patient interview rating) was taken at a point in time when half of the residents had received IPR training and half had not received the training.

It was hypothesized that physicians would be more likely to note affect words and other statements indicative of a personal-social interview on their patients' charts after IPR training than before training. Because these physicians would be more able to respond as therapeutic agents themselves, it was also hypothesized that they would prescribe less benzodiazepins after training in IPR than before training.

It was hypothesized that residents trained in IPR would increase their Affective Sensitivity Scale scores and that they would have better basic communication skills after training. The final hypothesis was that the CVRS would discriminate between those residents who had IPR training and those who did not.

Analysis of the data was performed using both parametric t tests and non-parametric Wilcoxon matched pairs signed-rank test, and the Mann-Whitney U-test statistics. No difference in the results was found between the two types of statistics. The non-parametrics supported the findings of the parametric statistics in all

cases. A correlation analysis on the measurement instruments was also performed to determine the relationship between them.

Results of the study indicated that residents did improve significantly in their basic communication skills in patient interviews. Also, a subgroup of the residents (the third-year class) decreased their prescription frequency of benzodiazepins significantly pre-to-post training in IPR. It was also found that the affective subscale of the CVRS did discriminate between those residents who had IPR training and those who did not at the time of the testing. There were no significant changes in the number of affect words written by residents on patient charts or on the Affective Sensitivity Scale. The Affective Sensitivity Scale Form D has since been found not to correlate well with other measures of affective sensitivity and has been redone by its authors. The chart audit needs further development and validation. Implications of the study and recommendations were discussed in detail.

The results of this pilot study indicate that IPR did have a significant impact on the residents of the Family Medicine program and that it was a viable teaching mode for basic communication skills and affective sensitivity. It may have an impact on prescribing practices of third-year residents, but this observation needs to be examined in a future study.

To my family,  
friends,  
and teachers--  
For their love,  
trust, and  
wisdom.

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I am especially indebted to Martha Absher who not only edited this paper, but taught me how to edit, and to Katie Glazier for her help in preparing this manuscript.

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## CHAPTER 1

### THE PROBLEM

#### Statement of the Problem

Of the many drugs, instruments, and procedures used by the medical profession today, the most frequently used--and most frequently forgotten--tool is the doctor-patient relationship. The general question which this study addressed was this: Can training increase the therapeutic value of the doctor-patient relationship? Specifically, the purpose of this project was to evaluate the effectiveness of Interpersonal Process Recall (IPR) as the teaching mode for training in interviewing and affective sensitivity for Family Medicine Residents at Duke University. Evaluation was in the form of objective tests, interviews with patients, and diagnosis and treatment plans. The study was based on previous research in IPR as developed by Norman Kagan, Ph.D., at Michigan State University, and from the current body of Family Medicine literature as it relates to medical education.

The next section of this chapter describes the need for the study as evident through a brief review of the literature on the doctor-patient relationship and the teaching of interview skills. Terms which are either new

or are used in a special sense are then defined. A section on theoretical perspectives provides a framework for understanding the communication dynamics of the doctor-patient relationship, from which the hypotheses of the study were developed. A final section reviews the chapter in summary form and provides an overview of the remaining chapters.

### Need for the Study

Medical literature contained many references citing the importance of the doctor-patient relationship and the need for further research and training of physicians in interviewing and affective sensitivity. The following are a few of the authors who most clearly describe the doctor-patient relationship and its importance in the clinical setting.

Bird (1955) considered the doctor-patient relationship a focal point of treatment.

Of all the technical aids which increase the doctor's power of observation, none comes even close in value to the skillful use of spoken words--the words of the doctor and the words of the patient. . . . For these reasons, the technique of talking must be studied and developed. It cannot be left to accidental or incidental learning. (p. v.)

A more recent article also supported the teaching of interviewing skills. Bloch (1973) stated the following about listening:

The main foci are on the unique nature of the relation between doctor and patient, the role of empathy, and a deeper self-awareness in the student. A crucial

facet of achieving this objective lies in the teaching of the interviewing process, particularly the art and technique of listening to the patient. (p.242)

Bloom (1963) stated that self-awareness is an important tool for the physician, and that the meaning of illness varies.

Each illness, in theory, has a clinical unity: it is describable according to identifying signs as one illness or a cluster of illnesses. But the meaning of illness from the view of the patient is more variable. It is not capricious, but it is complex. People perceive illness in different ways.

Clear communication between the doctor and the patient is critical to the formation of an accurate diagnosis and for the development of a treatment plan. Turner, Helper, and Kriska (1974) defined clinical competence as "communication skill, physical exam skill, and interpersonal skill."

This three-phase model dealt first with the doctor's ability to communicate clearly to the patient the diagnoses, medication, and treatment plan in language the patient could understand, while allowing time for the patient to verify instruction or ask questions. The second phase, physical exam skills, was the most closely monitored segment of training already in existence and the one most familiar to "old-time" family doctors. The third area, interpersonal skill, was a somewhat newer addition; its emphasis was on the therapeutic relationship between doctor and patient. Until recently, the good intentions and experience of the practitioner were the only determinants of this therapeutic doctor-patient relationship.

Now it is possible to teach interpersonal skills. Both affective sensitivity and interviewing skills are domains necessary for a competency-based approach to family medicine.

Several authors discussed using the relationship between doctor and patient as a tool aiding diagnosis and treatment. Clyne (1972) stated that traditional diagnosis was said to be illness-centered rather than patient-centered, and that "the best, most detailed and well-founded diagnoses are usually presented at clinical-pathological conferences, after the patient has died." In contrast, the overall diagnosis, which is patient-centered, considers the patient's physical and emotional condition and his relationship with himself and others, including doctors. Overall diagnosis is useful in that it permits the deduction of a detailed treatment plan and prognosis.

Loch (1972) listed five situations which the general practitioner frequently faced:

1. The psychosomatic aspect of illness in its formative stages, often with the opportunity to influence the patient's unconscious conflicts which may be activated at the time.
2. Patients who are in psychological crises
3. Problem patients or the chronically ill
4. Dying patients

5. And . . . "as a result of constant technical progress, leading to an increase in teamwork, the general practitioner will soon be the only doctor with the ability to establish this unique two-person relationship with his patient."

Loch emphasized the human, emotional side to the doctor-patient relationship, rather than the clinical, pathological, or technological sides.

As shown above, there was agreement in the literature on the need for the doctor to handle interpersonal encounters with patients adequately, both with regard to the efficacy of health care and to the process of illness. Family physicians are often the first, and sometimes the only physicians to find out about their patients' emotional well-being. Often patients will present their emotional concerns through physical symptomatology or at the time of a routine examination. If not blocked by their own concerns or unfamiliarity about emotional issues, physicians are in a position to intervene therapeutically through effective communication, understanding, accurate empathy, and appropriate listening skills. Family doctors can thus serve as therapeutic tools in discovering and dealing with the range of concerns that patients present.

This study applied a specific teaching model (Interpersonal Process Recall) to the problem of communication between a physician and a patient. The IPR model was a development in the field of behavioral science, a field now applied to many residency training programs.

The next section defines the terms behavioral science and Interpersonal Process Recall (IPR), preparatory to a theoretical discussion of communication.

### Definition and Discussion of Terms

#### Behavioral Science

Behavioral science, although a term often used in the literature, has no standard meaning. For the purpose of this research, behavioral science was defined as that part of the medical curriculum concerned with the doctor-patient relationship, interviewing and interpersonal skills, affective sensitivity, psychological and psychiatric problems and perspectives, and the use of the spoken word as a therapeutic tool. Behavioral science should not be confused with behavior modification or behaviorism, which are subsets of behavioral science.

#### IPR - The Teaching Tool

IPR is a training model which develops skills in specific interviewing techniques, affective sensitivity, and self-study through videotape recall. While the IPR model used in this study offered a structured approach to the teaching of interviewing and affective sensitivity, there was some latitude in the actual "content" of the course. Much of the material was generated by the trainees as they reflected upon their own perceptions, feelings, strategies, and ideas. In all of the sessions, trainees



were encouraged to focus on real concerns of a personal nature, sharing themselves with their peers and instructor. This level of instruction served to maintain a high level of interest and motivation in the course as well as to give the trainees "real" problems to handle. Even in the cognitive section of the course, examples were requested from the trainees to make it applicable to their immediate circumstances. The theoretical viewpoint in the model was designed to enable the trainees to determine for themselves what was relevant to their self-study. Latitude and permission were given for self-exploration, and a structural framework was provided which enabled trainees to form a cognitive and affective base for their interviewing behavior.

There are three basic parts in a complete IPR course:

1. Basic communication skills are developed through demonstration, practice, and discussion. The basic communication skills taught are exploratory, active listening, affective, and honest labeling response modes. Definitions and examples of the skills can be found in the appendix.
2. The trainee is acquainted with his/her own responses to stressful situations through affect simulation films.

3. Experience is gained through videotaped recall of interviews with other trainees, patients, colleagues, and faculty. The video recall process is the backbone of IPR. In recall, trainees are encouraged to immerse themselves in the immediacy of the videotaped interaction and to relive, in as much detail as possible, the thoughts, feelings, images, fantasies, strategies, and perceptions that were occurring at the time of the interview. The facilitator does not stop the tape to offer criticism or praise, but rather aids in the self-discovery process through non-threatening exploratory leads after the trainee has stopped the tape. Though it seems a tentative approach for a supervisor, the potency of the video feedback stimulates much self-exploration in the recall.

This three-phase course was only slightly modified in order to facilitate learning by a very small group rather than a more traditional classroom approach. With the attention and practice time intensified due to the small instructor-trainee ratio, the course could be shortened slightly in total number of hours without sacrificing group participation or presentation of material. A thirty-two/hour version of the course was used for this study. The IPR method required the instructor to foster an

atmosphere conducive to self-discovery and exploration. The class sequence for this study can be found in the appendix.

### Theoretical Considerations

The relationship between doctor and patient has been explored from a diagnostic and treatment perspective. This section elaborates on the communication dynamics of the relationship and shows how these dynamics can be influenced by the IPR method.

#### The Doctor-Patient Relationship: A Model

Several authors pointed out the difficulties in doctor-patient interactions (Korsch et al, 1968; Scott, Donnelly, Hess, 1973; Golden, Johnston, 1967; Snyder, Lynch, Gruss, 1976). These difficulties were treated as communication distortions. The causes of distortion in communication, and how interviewing skill and affective sensitivity can reduce it are the basis of the following discussion.

Berlo (1960) and Terwilleger (1968) offered validation of the premise that distortion is the natural by-product of interaction. The process of interaction can be simplified into a four-part conceptual model. This model, developed by Berlo (1960), clarifies the concept of distortion. Berlo (1960) designated four components of any communication system: Sender-Message-Channel-Receiver.

The relevance of this model to the medical setting becomes apparent in the following example.

As sender, the patient tries to tell the doctor-receiver what is wrong. The patient uses a channel, perhaps symptomatology or verbal expression, for the vehicle of the message. Distortion can take place when any of the four component parts of the interaction are disturbed. The patient-sender may have a background, vocabulary, and perceptual field different from that of the doctor, and for that reason, the meanings that the patient attaches to words may be different than the meanings the doctor attaches to 'those same words.'

Several articles researched possible causes of distortion. Snyder, Lynch, and Gruss (1976) interviewed 150 randomly selected patients immediately before and after their visit with the doctor. Fifty-four percent of these patients either forgot to mention all their medical problems or they confused or forgot instructions concerning their diagnosis or treatment. This well-controlled study also organized the types of problems that patients had into the following six categories:

1. Misunderstandings about medications
2. Medical problems that were either forgotten or omitted
3. Misunderstandings about treatment instructions
4. Misunderstandings about diagnosis
5. Misunderstandings about diet instructions
6. Misunderstandings about return appointments

This kind of distortion could have serious medical consequences.



A study by Golden and Johnston (1967) reviewed the ethical implications of distorted communication between doctors and patients. These ethical implications centered on this question: Can patients who do not understand what they are being told be said to have given informed consent for medical treatment? In the Golden and Johnston study, transcripts of conversations were evaluated and factors which contribute to clarity and distortion in communication were defined. In cases where distortion was evident, the factors most often cited were inadequate explanation by the physician and serious illness of the patient. It appeared that the patient's anxiety over a serious illness could interfere with the patient's understanding of the doctor's communication, even when an adequate explanation was given to the patient. Although their sample size was not large, an important discovery was made. Ten patients out of the twenty-five questioned showed definite distortion of what they had been told.

Studies of this kind strongly stated the need for improved feedback systems between doctor and patients so that distortion could be detected and modified by additional communication. Some of the consequences of distortion were seen in examples taken from the Snyder, Lynch, and Gruss article.

A 23-year-old woman who was experiencing unwanted side effects from her newly-prescribed oral contraceptives was told to complete this month's cycle

with the pill she was presently taking and then switch to a new prescription. She misunderstood and replied, "I'm to continue taking the same pills until they are all gone, and then in six months, I'm to start with this new prescription."

The next example showed the extent to which a patient's misunderstanding could be carried.

A 28-year-old man looked hesitatingly at the doctor when asked if he understood the instructions he was given. The physician sat down and wrote out sequentially all the dietary and medical instructions. When asked afterwards about what the doctor said, the patient proceeded to misread most of the instructions.

Some causes of distortion and examples of it were cited above. How can Interpersonal Process Recall help when there is a lack of feedback, unchecked assumptions, different meanings for words, and information overload? This question is answered in the following paragraphs.

#### How IPR Checks Distortion

The most direct opportunity for distortion to be checked is for the receiver to paraphrase the message to the sender's satisfaction. This was the aim of the active listening response mode taught in unit one of the IPR series. Trainees practiced listening and restating what they perceived. If this meaning was inaccurate, then the sender had the opportunity to correct the perception or modify the statement to make it clearer. The modification of communication without imposition or loss of face was encouraged through the facilitating atmosphere of IPR. It

is the physician's task to create an atmosphere where the patients are free to ask questions or to restate a treatment plan or medication regime.

The other response modes also encouraged the patient to tell his/her own story in an atmosphere of openness which is conducive to feedback. The affect simulation portion of IPR acquainted the doctor with stressful interpersonal situations and encouraged him/her to examine not only the stimuli, but the responses and messages generated in himself/ herself to this stimuli. In this manner, the physician was made more sensitive to the possible meanings that patients may be trying to communicate, and to the anxiety that may foster distortion. Listening to peers respond to identical stimuli, as they did in this part of the course, exposed physicians to the possibility of multiple interpretations of the same message. This was an invaluable learning situation for trainees to develop an awareness of the range of possible meanings, and to learn their own systems for avoiding certain kinds of patient communications. When a physician has blocked off certain emotionally charged areas of communication because they generate personal stress, it becomes increasingly difficult for the doctor to understand the meaning of the patient's message, and important areas may be overlooked or de-emphasized. The IPR method also offered video recall of interaction, and allowed the



physician to test general principles and to validate his/her perceptions of interpersonal communication. By experiencing the distortion, assumptions, and unspoken questions that inevitably arise when people try to relate to one another, and by receiving feedback from peers, trainees could increase their personal awareness and therapeutic skills.

These were the methods of IPR as they related to the establishment of a dynamic and distortion-free system of interaction between a patient and a physician with respect to the Sender-Message-Channel-Receiver model. This theoretical discussion provided a detailed view of the doctor-patient relationship and how it could be influenced by IPR. From this base the hypotheses of the study can be stated.

#### Hypotheses\*

IPR training has been shown repeatedly, in many different populations, to effect changes in dimensions of affective sensitivity, use of basic communication skills, and accelerated progress in psychotherapy. (For a detailed discussion of IPR literature, see Chapter 2, page 36.) The group of family medicine residents used in this study was screened for intelligence, willingness to work with people, and high scholastic ability as a routine part of

\*Formal research hypotheses can be found in Chapter 3.

admission to the residency.

It was hypothesized that (1) there would be a significant increase pre-to-post IPR training in the basic communication skills (exploratory, affective, active listening, and honest labeling response modes) of residents, and that (2) there would be an increase pre-to-post training on the Affective Sensitivity Scale as residents became more sensitive to themselves and more willing to listen to their patients. It was also expected that (3) as residents became more self-aware and could deal with patients on an improved sensitivity and response level, they would be better able to elicit and to hear patient concerns, particularly emotional ones, and would respond to them verbally, fostering an openness which would make more information available from their patients and thus improve residents' diagnostic capabilities.

Residents who were less aware of patient concerns were less likely to record those observations on patient charts. It was therefore hypothesized that (4) there would be a significantly greater number of affect words noted on charts of residents after IPR training than before training. Finally, with a better understanding of the dynamics of interaction, there was reason to expect that such physicians would be more likely to see themselves as therapeutic agents, thus relying less on the use of minor tranquilizers such as Librium and Valium for their

patients. Therefore, it was hypothesized that (5) there would be significantly less prescribing of these drugs by residents after IPR training than before.

### Summary

This chapter described the purpose of this study, which was an evaluation of the teaching of interview skills and affective sensitivity to family medicine residents. The need for the study was explored, terminology defined, and theoretical perspectives were provided. From this background, the hypotheses were developed.

### Overview

In Chapter 2, a three-part literature review examines methods of teaching interview skills, a perspective of Family Medicine, and the IPR literature. Chapter 3 contains design considerations, sample characteristics, measurement, experimental design, and the research hypotheses. Chapter 4 contains an analysis of the data, and Chapter 5 discusses implications and conclusions, presents recommendations, and summarizes the study. A review of the relevant studies which serve as ground work for this research now follows in Chapter 2.

## CHAPTER 2

### REVIEW OF THE LITERATURE

This chapter consists of three sections, each a review of the current literature in one of the three focal areas specific to this study. These focal areas are: (1) the teaching of interviewing skills to medical personnel; (2) Family Medicine roles, needs, and training; and (3) the IPR method, theory, and research. In each section the material is arranged chronologically, and each section ends with a summary and brief discussion.

#### Teaching of Interviewing Skills to Medical Personnel

The literature contained a number of methods for teaching interviewing skills to medical students and physicians in residency training or beyond. This section reviews those methods.

Coleman (1946) stated that it was unfortunate that the teaching of psychotherapy (the chief tool of the psychiatrist and one that may be invaluable to the general physician) was not started at a much earlier period. He advocated the non-directive, listening approach to psychotherapy. Some of his early statements of psychotherapy served as philosophical groundwork for much of the teaching

in humanistic psychotherapy found today. For example, Coleman stated that

The physician presents to the patient the gifts of time and understanding . . . for the physician, it implies for himself discipline of feeling, speech, and behavior, and the control of impatience, hostility and prejudice.

The teaching of psychotherapy is founded upon individual supervision with study of interview material. Major interest is devoted to the reaction of the patient to the doctor and vice versa. Conference time and case-seminar time is also included along with individual supervision.

Soon after Coleman (1947) suggested that psychotherapeutic skill could counter the authoritarian attitude fostered in medicine, the skills of psychotherapy began to be applied to general medicine and medical evaluation. The Group for the Advancement of Psychiatry (1948) was one of the first groups to propose offering interviewing training to undergraduate medical students. Whitaker (1949) described one of the first postgraduate programs in psychiatry. Doctors were involved in multiple therapy to promote the "ability to develop a more therapeutic doctor-patient relationship." Whitehorn, Jacobsen, Levine, and Lippard (1952) also offered interview training to undergraduate medical students at Cornell. Gill, Newman, and Redlich (1954) suggested specific behavioral guidelines for the interviewer along with listening to audio recordings made by the interviewer.

Responding to the increasing demand on the part of physicians for psychotherapeutic skills, Balint (1954) held case conferences with six to ten doctors, discussing their day-to-day problems with neurotic patients. He introduced the "Balint group" consisting of six to ten practicing physicians who were interested in acquiring psychotherapeutic skills. Balint asserted that the acquisition of these skills consisted not only of learning something new, but of a limited personality change of the doctor. The Balint groups focused on the ongoing practice of the doctor and provided group support, supervision, and a forum for his or her own personal concerns. Doctors desiring individual supervision could request it. Balint emphasized the atmosphere of the group as emotionally free and friendly.

Engle, Green, Reichsman, Schmale, and Ashenburg (1957), at the University of Rochester, taught interviewing skill as part of a clerkship in comprehensive medicine. The instructors used observations of students' initial interviews as their mode. Adam (1958) described a comprehensive clerkship at Western Reserve University where a psychiatric consultant was available.

The most effective way to bring about changes in the way students dealt with emotions and patients, according to Werkman (1960), was to "immerse the student in a new group whose standards represent the attitudes and

behaviors he is to learn." Students were encouraged to participate in interpretive interviews. He discussed the floundering way students often conducted such interviews in terms such as appeal to will power, unconscious jealousy and competitiveness, pussy-footing, retrospective guilt production, magical solutions, and punitiveness. To avoid some of these pitfalls, Werkman suggested role-playing and defining the situation for the student more clearly.

Lester, Gussen, Yamamoto, and West (1962) pointed out student helplessness, anxiety, and hostility as consequences of current teaching methods, and called for the creation of new, more therapeutic methods. Heine, Aldrich, Draper, Meuser, Tippet, and Trosman (1962) described a seventeen-week clerkship at the University of Chicago Psychiatry Outpatient Clinic where students reported gains in insight, confidence, and sensitivity. The students conducted therapy groups under "intensive supervision." However, the data, although favorable, was not objective.

Pfouts and Rader (1962) at the University of Southern California School of Medicine described a program involving case conferences with eight to ten physicians. Demonstrations were followed by discussion of techniques.

Aldrich and Bernhardt (1963) described a four-year sequence for teaching psychiatry to medical students that included a threefold increase in teaching time, seminar case-study instruction, and longer supervised patient

contact. There was no significant difference between these students and students in the traditional program who had less teaching time and patient contact. The authors found that the test instruments, the Problem Cases Test and the Filmed Interview Test, correlated poorly with instructors' grades. They called for more practical tools to measure potentiality in interpersonal relationships.

Enelow, Adler, and Manning (1964) described a teaching clinic where physicians conducted an interview, watched a demonstration conducted by the supervisor, and followed it with discussion. During the course, a shift in the students' conception of the physician's role was noted towards more use of the doctor-patient relationship.

Coggeshall (1965) emphasized the need for medical schools to turn out increasing numbers of students with interpersonal skills enabling them to work with a team of medical specialists, enter into facilitating relationships with their patients, and relate to patients from diverse backgrounds. Coggeshall concluded that "interviewing skill, constructive interpersonal attitudes, flexibility of role definition, and understanding of basic human behavior will be of increasing importance."

Mattarazzo, Wiens, and Saslow (1965) reviewed the teaching of psychotherapy in medical schools from 1948 through 1963. They discussed mechanical innovations,



program description summaries, and conceptual frameworks, as well as approaches to experimental study and examples of research in the field.

Matarazzo, Phillips, Wiens, and Saslow (1965) and Matarazzo, Wiens, and Saslow (1966) measured the interviewing behavior of medical students before and after an eight-week psychiatry clerkship, and examined the effects of three different methods of supervision. Over three years, students showed greater improvement each year. The authors suggested that this improvement corresponded to improved teaching techniques.

Thurnblad and McCurdy (1967) summarized the medical school programs supported by the NIMH Human Behavior Grants during the year 1964-65.

Most of the programs have used large group lectures, but often supplement these with small group discussions. Demonstration interviews, films, and videotapes are utilized. Unstructured student groups are often used as laboratories of human behavior and for self-observation. As yet there is no systematic comparison or evaluation of such programs. Apparently few if any of them have become directly involved with teaching the student himself how to interview and/or relate to patients, except as this may be implicit in lectures and "modeling" during demonstration interviews.

Pollach and Manning (1967) described a course offered since 1958 at the University of Southern California where small groups of students met once weekly for twelve weeks with a psychiatrist and a physician to discuss the students' forty-five minute interviews which were previously conducted. This course was given to beginning medical

students to offer patient contact and faculty acquaintance. Through this course, critical incidents and blocks in doctor-patient communication were explored along with student defenses used to guard against these situations.

Hastings (1968) described the teaching of psychiatry "in vivo." The premises of his method were: (1) the "therapeutic use of oneself" as the fundamental psychiatric skill, (2) that this skill was of infinitely greater importance than any scheme of diagnostic classification or psycho-genetic theory, and (3) that it could be taught effectively, although acquisition of this skill was left largely to chance in most medical school curricula. He described a strategy for the teaching of this skill by non-psychiatric personnel using a multidisciplinary, hospital-based home-care unit as its teaching laboratory. The course involved first-year medical students in groups of five assigned as teams to a staff physician and a public health nurse. The students spent one afternoon a week for eight weeks in the program. The student was to be a "family advocate." Before or after each home visit, hour-long seminar discussions were held with the physician and nurse for each group. Home visits were often audio-taped for replay in the group. This method was expensive in terms of time, money, and equipment, but the author justified it by the learning gains of the student concerning cultural differences and societal barriers which were

directly experienced and later discussed.

Muslin, Singer, Mueser, and Leahy (1968) described a course in psychiatric interviewing at the University of Illinois. The experiential learning model had students performing interviews over a three-month period with traditional and video supervision. Teaching and learning goals were in the areas of (1) observational skills, (2) collating skills, and (3) data gathering and therapy skills. These authors also studied the impact of their training program by rating student interviews against the faculty responses to filmed interview segments. Cattell's IPAT Anxiety Scale and the F scale were also criterion measures. Data from this study indicated that simulated clinical situations for examinations did not represent a valid replica of behavior during actual clinical situations. These authors concluded that the "student's actual performance is the only reliable indicator of his learning of clinical psychiatric skills."

Ornston, Chicchetti, and Fierman (1968) compared interview behavior of psychiatry residents with that of experienced psychotherapists. They found that compared to the experienced therapists, novices used short choppy questions and explored specific, narrow content areas.

Froelich (1969) stated that " . . . the focus on family medicine, on comprehensive medicine, and on the demands of the consumer that he be interviewed with skill

and be made to feel that the physician is interested in him . . . are the forces within our society which direct that more training be focused upon the skill of interviewing." He then proposed a sixty-four hour course for learning medical interviewing, comprising six steps:

(1) role-playing, (2) use of a programmed manual on ways of responding, (3) role-playing and programmed patients using video replay, (4) observation of skilled interviewers, (5) interviewing live patients, and (6) writing the history.

Bernstein and Dana (1970) developed a four-hour-per-week course. In the first hour a student interviewed a patient; in the second, students discussed the interview with a tutor; the third hour was a demonstration interview; and the fourth, a discussion period. The Bernstein and Dana book on interviewing served as a formalized guide, providing a framework for the conceptualization of the clinical experience. Instructors provided a point of view from which to conceptualize a patient's behavior. Both nurses and doctors were addressed in an effort to unify their efforts and reduce the incidence of power struggles and communication breakdowns. The authors began with the patient's view of illness and the hospital stay, then effectively discussed the hidden outcomes of dissatisfaction. In the interviewing sections, the authors described five different kinds of response categories--evaluative, hostile, reassuring, probing, and understanding.



Besides the discussion of the response modes, a section on "Conditions for Effective Interviewing" dealt with such concerns as attentiveness, rapport, and freedom from interruption, as well as psychological privacy and emotional detachment.

Kimball (1970) suggested an interviewing course at Yale University School of Medicine specifically designed to teach students working with a preceptor by the use of alternating demonstrations and didactic instruction. He also included trial-and-error exercises which were set up in a stepwise fashion progressing from a five-minute patient interview through a forty-five minute interview. Each step was monitored by the preceptor and a small peer group; discussion followed. The students' interview responsibilities increased at each stage. Subsequent special sessions were added to deal with certain types of patients. This approach sought to integrate a multifaceted approach to patient care, taking into account social as well as biological concomitants to the patient's illness.

Suess (1970), of the University of Mississippi Medical Center, encouraged students to videotape their patient interviews for personal replay. Students were also rated by faculty. Suess presented a rationale for the use of video:

Videotape is a good medium for objective study of the interview process and also offers the possibility of

self-confrontation and observation of what actually happened . . . Although the student may have a theoretical orientation which tends to mold his therapeutic behavior and posture, the videotape recorder is not bound by such restrictions and can faithfully document the here-and-now process of the therapeutic interaction in a non-preferential fashion . . . When viewing the videotape, the student is an observer only, with the opportunity to concentrate fully on the objective data from either himself or the patient and to review by multiple replays . . . This self-discovery becomes more acceptable when it is a result of one's own experience and observation . . . Since the videotape recording contains so much perceptual data, a fifteen-minute segment of an interview contains sufficient information for adequate viewing and evaluation. As in most therapeutic sessions, more material is produced in fifteen minutes than can be exhaustively dealt with in several weeks.

This self-confrontation process can be used with the student alone, with a supervisor present, with the peer group, or with the patient also present in any of those conditions. The students and teachers involved in this process all reported student interviewing gains when these methods were employed.

Adler, Ware, and Enelow (1970) described a study of a programmed instructional method with ten simulated medical interviews and group supervision. In the programmed interviews, students selected among alternative actions of the interviewers and got immediate feedback of either approving or disapproving explanatory remarks by the narrator. This was compared with a form of group supervision where each student video-interviewed a patient and a discussion of the videotape was held by the group. The goal was to teach a non-interrogative interviewing

style. The authors concluded that the programmed instruction was superior to the group supervision in producing certain behavioral changes and in changing attitudes of the learners.

Metarazzo (1971) stated that historically there had been little psychotherapy or interview training outside of psychoanalytic institutes; however, after World War II, most medical schools instituted three-year residency programs.

Stoeckle, Lazare, Weingarten, and McGuire (1971) reported on the use of videotaped recordings of student interviews with outpatients. These interviews served to stimulate the students' interest in their skill and roles as doctors, and to clarify issues distinct to community medicine. These diffuse goals were attempted in a course that took place over two three-hour sessions a week for eight weeks. A student videotaped a patient and returned the next week for a follow-up evaluation session. This follow-up conference was attended by a psychiatrist and the students' peers. Both students and faculty felt the course to be successful in increasing the students' interest in social-psychological issues. Problems encountered in the course centered around some students' fear of being videotaped. Also, some students learned well from their own videotapes, but not from videotapes of other students. There was a curious drop-off of student interest after the



fourth week. The authors believed that the use of videotape in the general education of medical students was limited.

Enelow and Swisher (1972) in their book stated, "We are interested in what data to get, how to get it, and how to synthesize these data into an understanding of the patient's total situation." Their book discussed the nature, process, and theory of medical interviewing. Their focus was not on what information to get from the patient, but on facilitating the communication between professional and patient. Specific techniques such as opening the interview, silence, confrontation, questions, support and reassurance, and avoiding biased questions were described. Along with a discussion of the Problem-Oriented Record, there were chapters on emotional and behavioral responses to illness and the interviewer, interviewing children, the family, and discussing and planning treatment. There was discussion on both patient and professional roles and on some sociological aspects of illness.

Froelich and Bishop (1972) in their book Medical Interviewing, a Programmed Manual described a design "to actively teach the student alternative ways of responding to a patient and to develop a feeling for the appropriate lead." They listed the fourfold purpose of the medical interview: (1) to gather information about the patient

and his illness that is not available from other sources, (2) to establish a relationship with the patient that will facilitate his diagnosis and treatment, (3) to give the patient an understanding of his illness, and (4) to support and direct the patient in his treatment. The manual directs the student to read a brief section and then answer a question or set of questions.

Hopkins (1972) as editor of Patient-Centered Medicine put together a number of papers from the first international conference of the Balint Society in Great Britain on "The Doctor, His Patient, and the Illness." It was an account of many physicians and their associations with patients, focusing on the doctor-patient relationship. There was also a demonstration of a Balint-type group of physicians discussing their patients, and a chapter on illness and its management.

Dobbs and Carek (1972) discussed a conceptual model of the medical interviewing process which was designed to clarify the functions of the interview and demonstrate the problems created. They defined four levels in such an interview process: (1) data gathering, (2) information storage, (3) evaluation and synthesis of data, and hypotheses formation and testing, and (4) education and therapy. The authors illustrated that blocks in any of those areas can lead to inadequate interview sessions. The implication of the model was that instruction

has often concentrated on isolated aspects of the interview rather than the overall process. The authors added that without the aid of videotape it was unlikely that the instructor would have a realistic picture of the students' skills and deficiencies, because a student's report, though well organized, might not be the result of a good interview.

Elstein, Kagan, Shulman, Jason, and Loupe (1972) identified these four goals in their study of medical inquiry:

1. Identify the intellectual strategies and tactics of expert clinicians
2. Generate a psychological theory to explain these features
3. Relate the theory to current theories
4. Develop instructional methods and materials to assist medical students in acquiring their problem-solving skills

They described a systematic program of testing, evaluation, and teaching.

Burra (1972) described a course taught at Queen's University designed to train undergraduate medical students in the psychiatric skills relevant to general practice. Role playing in groups of six to eight students with specific protocol was the teaching mode. They had a total of four one-to-two-hour sessions. After a twenty-to-thirty

minute interview the participants would return for discussion with the rest of the group. Students were asked to compare the role-playing format with a multiple-choice questionnaire format and expressed an "almost unanimous" preference for the role-playing. Researchers also found that the use of a rating scale interfered with and inhibited discussion.

Messner and Schmidt (1974) described a course in family medicine at Harvard Medical School employing a preceptor and including patient conferences recorded on videotape. The use of videotape allowed exposure to many problems not observed during a clerkship. They found that the videotape medium did not lessen the emotional impact of the interviews. The authors also found brief replay of the videotaped sessions meaningful. "The principles involved in the management of these (emotional) problems are often difficult to teach by such traditional methods as lectures and readings." The videotaped segment of the course consisted of a forty-five-to-seventy-five minute session between a patient and a psychiatrist. This was preceded by a case history and discussion by the health-care team. Following the interview, the student, patient, and psychiatrist discussed the situation further. The authors advocated a videotaped library for reference use.

Goroll, Stoeckle, and Lazare (1974) described clinical interviewing as taught to first-year medical

students. In the ten-week course, each student videotaped interviews of six or seven patients and met in weekly conferences to discuss the interviews. The content of the course focused on the four areas of the patient's request to seek help, medical data, psychological data, and social data. Student interviews were rated by two nurse practitioners on an arbitrary one-to-seven scale for each category. Other elements of evaluation were patient opinion of their care, student opinion of their experience, and the effect of the course on clinic operations. Only six students participated in this course and their overall interview performance significantly improved. Conclusions were that preclinical students could learn to interview patients without compromising patient care. However, the training did slow clinic operations.

Bowden and Barton (1975) concentrated on the content of medical student psychiatric education. Goals were organized into six areas: (1) recognition of psychosocial aspects of medical events; (2) developmental adaptation during the life cycle; (3) interactional adaptation; (4) attitudinal, observational, and diagnostic skills; (5) recognition and management of psychopathological disorders; and (6) the physician's role adaptation. Bowden and Barton described non-directiveness, attentiveness to nonverbal behavior, and grasp of the importance of the doctor-patient interaction as necessary interview

skills. They also stated that "because of the critical importance of role modeling in clinical situations, it is important that education of the student in humanistic attitudes involve faculty other than psychiatrists."

Ward and Stein (1975) reviewed the literature on the teaching of interviewing to medical students and psychiatry residents and concluded that the emphasis on teaching must shift from content to process. Their method of teaching students included a seminar focused on reducing the emotional distance between doctor and patient. They emphasized that the teaching of such skills needed to be highly individualized and that "a live patient was necessary because the literature indicates that simulation, reading, or anything less than an authentic interchange between two people would be highly inadequate to learn the subtle process skills required." Considerable description and examples were given of self-confrontation and patient confrontation. Specific objective criteria were not used for determining emotional distance; however, many of the interviewers' comments did relate to Klein's Experiencing Scale.

### Summary and Discussion

This review of the methods of teaching interviewing to medical personnel was an overview of the advances in the field since its beginning after World War II. Most of the literature was descriptive in nature. Included in

the various methods of teaching interviewing were lectures, seminars, small group discussions, case conferences, video feedback, role playing, programmed texts, observation of others, interviewing live and 'simulated' patients, writing a history, and using manuals of interviewing. The studies that did evaluate used a number of novel and creative instruments which deserve attention and more extensive study and validation.

The literature showed medical educators' acceptance of interviewing as a valuable and necessary part of a physician's training. However, the need for follow-up was especially clear concerning the effects of skilled interviewers on their patients and the retention of interviewing skill over time.

Much of the literature was either quite general in its approach to interviewing or very specific in its goals and processes. In contrast to the approaches to interviewing in the past, IPR offers both the specific skills of interviewing technique and a broad-based theoretical perspective. It also offers the student opportunities to study him/herself in action, to practice specific skills, and to generalize the use of these skills to diverse settings. The teaching of interview skills to medical personnel was one aspect of this study. The following section on family medicine discusses whether such a training program can be of particular interest to the family

physician. Following that is a look at the specific IPR literature, its outcome, and its impact.

### Family Medicine: Roles, Needs, and Training

The behavioral science literature in the field of family medicine is limited in quantity and mostly descriptive. The focus for this section is on recent writings in family medicine with relevance to theoretical and training issues in behavioral science.

### Establishing Family Medicine as a Specialty

Before the founding of the Board of Family Medicine, Alpert (1968) discussed the resistance of some medical schools toward accepting Family Medicine as a discipline. Some medical educators, who felt that one physician could not do everything, did not consider family medicine seriously as a specialty. Alpert discussed the need for family physicians: "If medical schools continue to train physicians in the future as at present, the community role of the family physician will be performed by someone else, since the need will not disappear." Alpert contended that the family physician should be available in the office, the hospital, and patient's home, whether the patient was in crisis or not. Alpert suggested research be done to determine who best fulfilled the function of the family physician--perhaps it would be a group practice where physician's assistants deliver the



bulk of patient health care. Alpert stated that the family physician could not practice medicine alone, but that a health-care team of professionals covering a wide range of community resources would be the most efficient method of delivering health care. He called for upgrading the status of family medicine as a specialty. In conclusion, he stated, "There should be no doubt that the function of family medicine exists, but whether it will be provided by the medical education remains to be seen."

Lienke (1970) observed that since the American Board of Family Practice was established in 1969, family practice has found a place as the nation's twentieth specialty and has become formally recognized. One objective of the Board was to bring general practice up to date, standardizing training and certification. Lienke quoted Dr. Lynn Carmichael's concept of Family Medicine as "the organized body of knowledge or the scientific discipline concerned with comprehensive and continuing health maintenance of patients and their families." In his article Lienke defined and discussed the family physician and family practice. The unit in his model on family practice training focused primarily on ambulatory patient care and closely resembled a kind of practice that physicians might experience upon completion of their residency training. Lienke stated that

Comprehensive care given by the family doctor requires his skill in using and coordinating the services of

all the various health specialists and health-related agencies . . . As a full member of a model family practice group, the resident learns the psychological principles and the technical mechanisms for maintaining a durable partnership with its associated advantages for a rich personal and professional life. (p.2099)

Leinke also described the clinic and hospital experience at the University of Oklahoma where the behavioral science area included the following seven goals:

- "1. Extend the trainee's understanding of psychophysiological mechanisms in health and disease
2. Increase skills in interviewing and other aspects of interpersonal transactions, and promote understanding of psychodynamic factors at work in the doctor-patient relationship
3. Show how concepts of health and disease are related to an individual's culture
4. Impart some comprehension of group dynamics and processes, especially as they relate to family life in our culture
5. Develop an understanding of the ways in which each trainee's own attitudes and emotions influence work with patients, and the ways in which the trainee's own family life may affect the understanding and therapeutic capability in dealing with families
6. Assist the trainee in understanding the dynamics involved in doctor-patient relationship and the other interpersonal transactions of family practice
7. Provide analysis and evaluation of the learning process in family medicine as it involves both the individual trainee and the structure of the program as a whole; and analyze the effectiveness of the program in terms of the relative merits of this approach to health education and patient care as compared with other strategies" (p. 2100)

Lienke concluded that family practice residency formalized the teaching of total assessment and management of patient care.

Darley (1970) emphasized the patient-care-team concept for the future education of those in family practice. He stressed that patient care teams be organized around goals of continuing, comprehensive patient- and family-centered medicine.

Kieley (1971) stressed the role of family physician as psychotherapist in maintaining a patient's equilibrium. The doctor-patient relationship was the fundamental basis of therapy; and though therapeutic goals might be limited, he believed it was important that the family physician practice suppressive and supportive psychotherapy. He described several misconceptions surrounding time commitments, physician discomfort, deep psychoanalysis, and extensive specialty training, and he referred to the logistics of scheduling psychotherapy for patients, interviewing techniques, the relationship between doctor-patient, the aims of psychotherapy, and its limits. Finally, the principles of psychotherapy were discussed in terms of the focus on conscious material from the patient, avoiding the provocation of anxiety, avoiding moralistic lectures, not forcing patients to learn, and avoiding arguments. The physician's understanding of himself was stressed as the most essential qualification for management of patients

with emotional problems.

### Definition of Family Medicine

Geyman (1971) reviewed the definitions of family medicine as an academic discipline, outlined a definition of family medicine in terms of its function, and discussed the implications of such a definition. Geyman defined "family physician" as a physician who:

- "1. Serves as the physician of first contact and provides an accessible means of entry into the health care system
2. Evaluates his patients' total health needs, provides personal health care within his range of competency, and refers patients when indicated to other specialists or community resources
3. Accepts responsibility for his patients' total health care, including the use of consultants, within the context of the family and community
4. Acts as a coordinator of his patients' health services" (p. 815-16)

He also pointed out the difference between family practice and family medicine. "Family practice denotes the process of application of the knowledge and skills of the family physician as he delivers health care to families. Family medicine is the academic discipline which is acquired and applied by the family physician."

Geyman reviewed other definitions of family medicine by Lienke, Carmichael, Stephens, and McWhinney. Carmichael saw family medicine as a behavioral discipline, not a medical or surgical one. Stephens described a curriculum in family practice with elements of forensics,

history, human growth and development, family structure and function, social dimensions of behavior, philosophic and moral dimensions of behavior, and the science of medical practice all combined. McWhinney labeled five elements of family medicine--evaluation of symptoms, natural history of disease, physical and mental development, human behavior, and social influences.

Geyman stressed the difficulty of defining family medicine concisely. Other specialties were defined on the basis of anatomy, age, and sex--for example, dermatology, pediatrics, and obstetrics. Family medicine cut across these boundaries. Another difficulty was that family medicine involved each step in health care--prevention, detection, treatment, and rehabilitation. Finally, family medicine resisted definition because its skills and knowledge must vary with the geographical location and the particular type of practice. In light of these difficulties, Geyman developed a functional definition of family medicine as:

That body of knowledge and skills applied by the family doctor as he provides primary, continuing, and comprehensive health care to patients and their families regardless of their age, sex, or presenting complaint. It is a horizontal discipline, sharing portions of all other clinical disciplines from which it is derived but applying its derivative portions in a unique and holistic way to families. In addition, family medicine includes new, incompletely developed components, such as family dynamics in health and disease and its own areas of research.

The discipline of Family Medicine can be further described as: (1) including an area of competency to deal with approximately 90 percent of

all health problems of the family, (b) involving the responsibility to arrange and coordinate referral to other specialists and community resources when indicated, (c) including responsibility for patient care both in and out of the hospital, with emphasis on more effective ambulatory care, and (d) requiring teamwork with an expanding health team. (p.818)

### The Family Doctor's Role

Bock and Egger (1971) described a training model for family practice residents in behavioral science at Ball State University which emphasized "the relationships among family physicians, educators, researchers, and administrators." They described a multi-level model summarized as follows:

- Level 1    Health was viewed from the perspectives of the individual, family, and community. Health had three aspects--physical, social, and intellectual-emotional, and three resultants--knowledge, attitude, and practice.
- Level 2    The key issues were growing and developing, interacting, and decision-making.
- Level 3    Eight concepts described this level. These concepts were that: (1) growth was reciprocally determined by heredity and environment; (2) the family was the basic societal unit; (3) the use of health information and products was dependent on cultural perceptions; (4) human behavior was determined by a complexity of forces; (5) health care should be comprehensive; (6) education and research should be done on social and cultural dimensions of nutritional patterns; (7) disease existed in a reciprocal relationship with the individual and his environment; and (8) interpersonal relationships determined the competency of the family physician.
- Level 4    This was the level of "the operational or functional aspect of behavioral science."

At this level, "the primary skill which must be mastered by family physicians is the skill of people management."

Level 5 This level was described as the most important one. The major concept was training of residents to improve their use of behavioral science.

Stanford (1972) discussed the family doctor's role as a counselor. She related a survey by the American Academy of Family Physicians of its (then) 2,300 members which revealed that United States family doctors spend one-fifth of their working time counseling patients for emotional problems. The areas of counseling most frequently cited were, in order of decreasing frequency, marital counseling, individual adjustment problems, and problems of single, divorced, or widowed persons. She discussed the family doctor's professional relationships with psychiatrists and/or psychologists, and also noted that most of the doctors responding believed their training in the area of counseling was inadequate. Stanford also called for continuing education courses for doctors already in practice.

Baker (1974) at Rochester, described the unique areas of expertise essential to the provision of comprehensive, continuous medical care and the fit of family medicine into that realm. He pointed out that general practice residencies in the fifties failed because they did not "demonstrate decisively what it is that the family physician can do better than the specialist." Baker

discussed six skills unique to family practice: (1) Ambulatory care. White's study showed that over 90 percent of all illness is treated on an ambulatory basis, although medical education for over fifty years has been almost entirely hospital-based. The program at the University of Rochester focused on the "fifty most commonly seen conditions." (2) Continuity of care. (3) Use of ancillary personnel. Residents worked with a health team in a private practice. (4) Counseling. "The family doctor acts as health counselor to his patients in a very broad area, and he has had to develop an intimate knowledge of existing systems and sources of health care. . . . Skill in psychological counseling is also essential to all physicians, yet training in the handling of emotional problems of patients and their families is often neglected." The Rochester faculty taught interview techniques, self-awareness and sensitivity, and counseling skills to its residents. (5) Preventive medicine. The treatment was patient-centered rather than illness-centered. (6) Economics. Residents were made aware of the high cost of medicine and were considerate of their patients in this regard. These six areas which Baker described were the unique ways in which family medicine filled a legitimate place as a specialty in the health care system.



### Summary and Discussion

This review of the family medicine literature emphasized family medicine as an academic discipline with a relevant place among the medical specialties, its special training needs of non-hospitalized patient contact, and the team approach in a model group practice. The problems of defining the new specialty were discussed. The need for family physicians to be trained in the behavioral sciences, in interviewing and psychotherapeutic skills, and in team management was shown. This literature review also described many of the innovative programs which were formulated to cope with the complex problems of training the specialist in family medicine.

### The IPR Method, Theory, and Research

The prolific literature on IPR was divided naturally into categories according to the group trained. This study addressed the following five categories: IPR and psychotherapy, IPR and training para-professionals, IPR and counselor education, IPR and general education, and IPR in the medical realm.

#### IPR and Psychotherapy

Kagan, Krathwohl, and Miller (1963) described the use of video recall with therapist and client. The interaction was video-recorded and later viewed in the presence of another trained counselor. The therapist and the client

were in separate rooms equipped with playback monitors. The replay was stopped for both therapist and client any time either of them indicated. Though the number of participants in this study was small, the authors were optimistic for the potential usefulness of IPR as an accelerator of psychotherapy.

Woody, Krathwohl, Kagan, and Farquhar (1965) combined hypnosis with IPR. Videotapes of some of the psychotherapy sessions were studied by eight clinicians. Results confirmed that hypnotic and IPR techniques aided the client's involvement in the counseling process.

Kagan and Schauble (1969) studied simulated recall using the IPR method to test client growth in therapy. The client was videotaped while watching stimulus films. The tape was played back to the client who responded to it with the aid of an inquirer. Client physiology was recorded on a polygraph recorder and could be played back on a split screen. Client growth was measured along the four dimensions of (1) admission of own discomfort, (2) commitment to change, (3) client differentiation of stimuli, and (4) client behavior. Results suggested that affective stimulation within the IPR process accelerated the client's ability to perceive, differentiate, and gain insight into his/her reactions to others.

Resnikoff, Kagan, and Schauble (1970) studied an eighteen-year-old male who had reached a therapeutic

impasse after eleven counseling sessions. The twelfth session was done with videotaped recall. Then two groups of judges rated tapes of sessions nine through fifteen using a rating instrument with five dimensions and a five-point scale consisting of (1) ability to gain insight, (2) level of defensiveness, (3) ability to experience feelings, (4) ability to relate to the therapist, and (5) overall therapeutic relationship. Four categories of client behavior were also identified--client owning of discomfort, client commitment to change, client differentiation of stimuli, and client behavioral changes. It was noted that following the IPR sessions the rating by both groups of judges increased over the five variables. At the fifteenth session, the appearance of a solidified positive plateau was effected by the ceiling effect of the instrument. This case served to illustrate that even when a good therapeutic relationship exists, progress may be accelerated by means of videotape recall.

Schauble (1970) studied client response to therapy using a part of the complete IPR course, the video recall of a client's response to affect simulation. Interviews one and six were recorded and rated by judges. The measurement used was a variation of the instrument developed by Resnikoff, Kagan, and Schauble (1970) above which ruled on acceptance of feeling, desire to change, differentiation of stimuli, and level of self-exploration. The IPR group

when compared with a traditional group showed significant improvements on all four measures. It was concluded that the IPR technique had accelerated client growth in therapy.

### IPR and the Training of Para-professionals

Scharf (1971) compared an intensified IPR course with an intensified community skills program for training undergraduates as para-professional counselors. Each training program lasted five days and totaled forty hours. The intensified IPR model consisted of five progressive steps: (1) a lecture on facilitative conditions, (2) tape-rating, (3) affective skills training, (4) role-playing, and (5) the IPR process. The community skills program was based on Carkhuff's work with discrimination training, empathy training, role-playing, group discussion, and client interviewing. Scharf use six different criterion measures immediately post-treatment and again eight weeks later. They were the Affective Sensitivity Scale (Form C), audiotapes of client interviews rated on the Carkhuff Empathic Understanding in Interpersonal Processes-Revised (CE-II), and four subscales of the Counselor Verbal Response Scale (CVRS). The results were inconclusive, but suggested that an intensive course (forty hours in one week) was not an effective way to teach using either IPR or Carkhuff's model.

Dendy (1971) involved undergraduates as para-professional counselors in their positions as Resident

Assistants (R.A.'s). He used twenty-two R.A.'s from one residence hall as the treatment group and compared them with another group of R.A.'s from a different dorm, who received similar training, but without affect simulation films. Another comparison group from the same dormitory was randomly assigned to empathy training groups which used role-playing and tape-rating. (These subjects were the same ones that Scharf tested above.) A third criterion group consisted of eight professional counselors from the Michigan State University Counseling Center.

Dendy's treatment design involved rating pre-recorded tapes on the element of empathic understanding and effective communication, response to affect simulation, and use of IPR techniques. The training was in two four-week phases, one in the spring and one in the fall of 1970, for a total of thirty-eight hours. Dendy used the same criterion measures as Scharf and administered them before and after each of the phases of the training program. Results showed a significant difference in both phases of treatment, pre to post. He also found that the skills learned in the first phase of training did not deteriorate over the three-month summer recess. Another finding was that the R.A.'s were taught to function on certain dimensions of helping relationships at levels no different from that of experienced professional counselors at or near the Ph.D. level.

Archer (1971) studied the undergraduates trained in Dendy's (1971) study as para-professional counselors to see if they could be used to train fellow students in interpersonal communication skills. Also, he compared an IPR training model with an encounter-developmental model. The criterion measures used included the ASS-C, the Personal Orientation Inventory (POI), the Wisconsin Relationship Orientation Survey (WROS), and the Barrett-Lennard Relationship Inventory. The sample consisted of volunteers for a student-led interpersonal communication skills training program. Results of the study showed that a structured IPR training model could be used successfully by undergraduates to teach interpersonal skills to other undergraduates, that an integrated IPR model was more effective than a less structured Encounter-Developmental group training model, and that undergraduates could function as para-professional group leader/trainers. The study also showed that the therapy training method could be adapted for use in non-therapy, growth-oriented settings, and that interpersonal communication skills training could have an effect (based on non-systematic observations) on the operation of the social system (the dorm) from which the trainees came.

#### IPR and Counselor Education

Goldberg (1967) compared the IPR method to a traditional approach to counselor education. The traditional approach (one hour of individual supervision after

each of six client interviews) was intended to help the counselor understand the relationship with the client. Both IPR and the traditional approach included listening skills and recall, but the IPR method did not include affective sensitivity training. Criterion measures (CVRS and WROS) were administered pre and post-training. Both groups improved significantly on both measures but the IPR trainees had higher ratings than the traditional trainees.

Spivack (1970) studied the IPR approach in comparison with a traditional classroom approach to counselor education. All trainees received five weeks of each treatment in the ten-week course. Criterion measures were taken before training, midway through, and at the end. After the first five weeks, results favored the IPR model on the Understanding, Specific, and Exploratory subscales of the CVRS in an interview with a coach client. When role-playing clients were used, the IPR group scored significantly higher than the traditional group on all of the CVRS scales. Spivack's conclusion was that IPR could be used successfully in a formal counselor training program.

Grezgorek (1971) studied all of the forty-four counselors employed in the Michigan Department of Corrections. Most of the trainees had been guards in the system before they were counselors. The training was done by an advanced doctoral student in counseling and by a Ph.D. counselor. Criterion measures consisted of the Affective

Sensitivity Scale (Form B), the CVRS, and the Empathic Understanding in Interpersonal Process (EUIPS). A pre-post design was used. The focus in the experimental treatment groups differed in that in one group, trainees were encouraged to develop more effective ways of dealing with clients, and in the other, treatment focused on the trainee's ability to develop self-awareness and an understanding of self-dynamics in interpersonal interactions. The ten-day training program was divided into a series of four basic tasks: (1) a lecture and discussion of facilitative counseling, (2) simulated confrontation using affective sensitivity films, (3) the recall process, and (4) group review and discussion of videotaped client contacts. The training sessions lasted two weeks for a total of eighty hours. The results showed that the affective treatment focused on trainee self-awareness had a significant overall effect on counselor performance in training. The two treatments were not different in the ability to perceive client feelings and reactions as measured by the A.S.S.; they were different when counselor performance was measured. Trainees in the affective treatment group made significant gains pre-to-post on the combined results of the criteria. Grezgorek concluded that the evidence supported the notion that prison counselors must learn to "own up to their own feelings" if they are to make gain in their dealings with clients (inmates).



Heiserman (1971) compared the IPR program (reduced to sixteen hours) to a cognitive teaching approach of the same length. All subjects received both treatments in different order. The design was the standard pre-mid-post-treatment one, and the CE-II, the WROS, and the four subscales of the CVRS were used as criterion measures. The WROS showed the only significant change, which was that clients reacted more positively to the counseling relationship if they had IPR-trained counselors. It was concluded, however, that there was no significant difference between the methods since no other measures supported the WROS data. A possible explanation was that the students' abbreviated exposure to IPR was insufficient to produce greater change.

Rowe (1972) used an expanded fifty-hour IPR training program for twenty-one student counselors in a graduate-level course. No control group was used. Pre and post measures were taken using the ASS-C, the CVRS, and the CE-II. Significant differences on the ASS-C, the Affective and Specific subscales of the CVRS, and the CE-II were found. The Understanding and Exploratory dimensions of the CVRS showed no significant differences. Rowe also addressed the question of the trainees' post-training effectiveness as counselors. Criterion levels for the measures were compared with those of the Ph.D.-level professional counselors studied by Scharf. The IPR group functioned significantly lower on the Understanding and Specific levels of

the CVRS. The other four variables showed no significant difference between the IPR trained group and the Ph.D.-level counselors. It was concluded that the fifty-hour intensified IPR program enabled trainees to substantially increase their ability to function effectively in counseling relationships.

Ward, Kagan, and Krathwohl (1972) studied the IPR method under two conditions--with video and with audio--and compared that to regular supervision using an audiotape. Three judges rated videotapes of fifty-four practicum students using a scale consisting of (1) thirty-three behavioral and feeling items, (2) a single global evaluation representing the normal curve with the base divided into eight equal segments, and (3) the judges' adjectives or descriptive phrases. Supervisors of those students in the IPR settings recognized positive changes in their students, but this did not correlate with the judges' findings. Results were not significant, possibly due to the nature of the coached client as the interviewee or of the criterion measures themselves.

Kingdon (1975) studied IPR and traditional supervision as counselor training techniques. Supervisors were doctoral students in counseling, counselors were master's level trainees, and clients were graduate psychology students. The IPR phase consisted of three videotaped interviews with recall sessions, and was compared to a



phase consisting of three audiotaped interviews and traditional supervision. This minimal exposure to IPR showed no significant results on counselors' empathy level, client satisfaction, supervisor ratings, or clients' self-reported inhibitions. However, the IPR supervision did effect a significant change in the clients' level of self-exploration over time. The inhibitory factor of the video equipment and the recall sessions diminished from session one to session three.

#### IPR and General Education

Danish and Brodsky (1970) used part of the IPR experience, the Affect Simulation Films, to train thirty policemen attending a Basic Police Training School. They posited that self-awareness of aggression thresholds and of possible loss of emotional control were important goals in police training and education. The films provided strong emotional stimuli to which the policemen were asked to respond. Although evaluation was not reported, the authors noted that the preliminary test was promising.

Archer et. al. (1972) described their use of physiological feedback as part of videotaped feedback. Recall was conducted with a split-screen replay showing both the subject's face watching stimulus films and the ongoing physiological process as recorded by a Grass recorder. Archer et. al. explored the possible uses of this tool for research in emotional involvement and found that adding the

physiological feedback to the recall session increased the effectiveness of recall.

Hartson and Kunce (1973) used videotaped replay and recall in group work. They selected thirty-seven students from a large state university and studied them in groups, comparing the IPR method with a T-group method. The IPR groups showed significantly greater change in individual and group interaction factors. Socially active subjects with high self-esteem showed no difference between methods. However, the self-confrontation of IPR was beneficial to socially inactive subjects with low self-esteem, while the T-group method seemed to have an adverse effect. Criterion measures used were pre and post measures of individual subjects on the Jourard Self-Disclosure Scale, self-acceptance from an adaptation of Bills' Index of Adjustment and Values, and readiness for group interaction from Hill's Interactional Matrix-Form B. Hartson and Kunce designed a twenty-five item Likert-type scale and a "satisfaction with therapy" measure. Information was gathered on the nature of the group interaction. A trained judge rated audiotapes of the groups from the fifth and sixth sessions using the Hill Interactional Matrix. Subjects in the IPR group had significantly higher change scores on the individual measures of self-disclosure and of readiness. The T-group showed significantly higher mean satisfaction scores. None of the other measures were statistically significant.

### IPR and the Training of Medical Interviewers

Despite the numerous studies of IPR in various settings, only a few evaluative studies have been done on the medical interview. Resnikoff (1968) used the IPR technique to study therapeutic interviewing skills. Twenty-three medical students interviewed four different simulated patients over a four-week period. The pre and post administration of the ASS-B, peer and staff ratings, and the MCAT Science examination were the criterion measures used both to evaluate the students and to check the validity of the CVRS. The understanding dimension of the CVRS was the only measure to discriminate between the level of skill before and after the IPR training. A low or negative correlation was present with the MCAT, ASS-B, and the CVRS. The explanation offered was that medical students were resistant to rating one another and there was little agreement among the staff. The experimenter subjectively found improvement in interviewing skills, but it was only minimally verified by empirical findings.

Jason and Kagan (1971) offered a course at Michigan State University called Doctor-Patient Relationship. Its purpose was to teach basic therapeutic interviewing skills to medical students using IPR. Measurement was subjective self-report or instructor rating, without common criteria. The course goals included learning and applying the IPR technique.

Werner and Schneider (1974) taught first-year medical students to communicate and interact with patients using the IPR method. A pre-post experimental design measured behavior changes in student performance. The course met two hours a week for ten weeks with a total of four interview experiences. The authors listed the following five behavioral objectives for the course:

1. To identify the degree to which interactions were exploratory-nonexploratory, affective-cognitive, listening-ignoring, and confronting-avoiding
2. To help the student be able to describe feelings and overt reactions to the patient
3. To identify places in the interview where the student was not maximally effective
4. To identify aspects of the interaction that caused personal concern
5. To practice interviewing and explore new ways of responding in the interview situation

Eighty-seven first-year medical students were in the course. Due to the individualized nature of instruction, a faculty member worked three hours per week with each group of four or five students. Faculty were trained in the IPR method. Criterion measures were the Affective Sensitivity Scale and CVRS. There were significant pre-to-post gains on the A.S.S. and on the exploratory and affective dimensions of the CVRS.

Huber (1975) studied IPR as a training method for teaching family medicine residents and Clinical Pastoral students at Lancaster General Hospital, Lancaster, Pennsylvania. The IPR course was reduced to a twenty-six hour version and given to ten family medicine residents and twenty pastors-in-training. The course was presented three times during the one-year period. A no-treatment comparison group consisted of fourteen subjects, both pastors and residents. The criterion measures were audio tapes of simulated client interviews using the Accurate Empathy Scale (TE), the ASS (Form C), and the WROS. Results indicated that trainees had an increased level of empathy; however, the increase for the family medicine residents was not statistically significant. The twenty pastoral trainees had a significant increase in empathy. The level of communicated empathy to the client did not change, nor were there significant increases in the comfort level of the clients in the simulated interviews.

### Summary and Discussion

The literature review demonstrated the wealth of diverse populations and settings in which IPR was taught and evaluated. Overall, the literature showed validation of the method as a means of teaching interviewing skills and affect sensitivity. Only two studies failed to report significant findings. To summarize, IPR was found effective in training counselors, in accelerating client growth



in psychotherapy, as a method of training undergraduate para-professional counselors, and as a means of training medical students and residents in the interviewing process. Parts of it were also found influential in the training of police and theologians. Furthermore, the effectiveness of IPR was shown in relation to traditional methods of counselor supervision, direct encounter T-groups, audio versions of IPR, and no-treatment control groups.

## CHAPTER 3

### METHODOLOGY

This study included both aspects of basic behavioral science research--process and outcome measures. This chapter contains a description of specific design features and analysis procedures used in the study. First, an overview of the design plan is given. A discussion of the plan in detail follows, covering the setting, the subjects, and the delimitations of the design. Finally, the focus of the study and the research hypotheses are presented. The second part of the chapter contains a discussion of the evaluation instruments and how they were applied, the kind of data obtained and how it could be interpreted, and the statistical procedures used to analyse the data.

#### The Design

The design, as described by Campbell and Stanley (1963), was a quasi-experimental pretest, posttest design, with subjects serving as their own controls. The subjects (family medicine residents--discussed below) were given the Affective Sensitivity Scale during the first week of the IPR experience and required to audio tape-record two patient interviews. Residents were then involved with the

thirty-two hour version of IPR as presented in the course outline (Appendix). A posttest of the Affective Sensitivity Scale was administered after the last week of the course and a second series of audio tapes was made of patient interviews. Patient charts were audited for the three-month period prior to training for the pretest and for the three-month period after IPR training for the posttest. Thirty patient charts were audited at each time for each resident. Data was collected on affect words and other indicators of personal-social data in the interview and on prescription practices. An additional measurement was obtained from the residents' yearly in-training examination in which they interviewed a simulated patient. All interviews were rated using the Counselor Verbal Response Scale (CVRS). The section on instrumentation later in this chapter describes the rating in further detail.

The design of this study was partly determined by the unique demands of its setting. These demands are discussed below.

### The Setting

The setting for this study was the Duke-Watts Family Medicine Center, an ambulatory primary care center located in Durham, North Carolina. The setting presented some particular experimental problems. One problem was the space available for teaching and the scheduling of



residents into the IPR sequence. The classroom available within the Family Medicine Center could seat no more than six. Another problem was that the blocks of time during which residents were available for IPR training varied between one and two months, which resulted in the thirty-two hour IPR course being divided either into four hours-per-week for eight weeks, or into eight hours-per-week for four weeks. A more detailed description of the scheduling of IPR training for the residents follows below.

### The Subjects

The subjects in this study were the family medicine residents in the Family Medicine Program between February 1976 and March 1977. Residents who left midway were not included in this study because posttesting was not possible. First-year residents were those entering the program in July, 1976. Second-year residents entered in July, 1975, and third-year residents entered in July 1974.

Since each class was scheduled differently in the rotation system and their available time and commitments varied, the three groups of residents participated in different ways in the study. All of the first-year residents were available for IPR only during their orientation month (July, 1976) because their first year was taken up with fulfilling their basic medical commitments. The first-year residents did not have chart audit data available since they had no patient contact prior to their IPR

experience. The data on the twelve first-year residents consisted of the Affective Sensitivity Scale scores pre and post, and the CVRS on real and simulated patients.

The second-year residents were able to attend IPR only during their specific family medicine rotation of two months. At that time they had limited outside commitments. Either two or four of them were assigned to that rotation at one time. A total of ten second-year residents participated in the study.

The third-year class was divided. Half of the residents were involved in the pilot study (February, 1976) and were trained before some of the experimental procedures were finalized. As a result, some data was not available from them. The other half of the third-year class (six residents) took the IPR sequence on their family medicine rotation. Also, from the total of thirty-six residents, one resident left the program prematurely, one graduated early, and one was over-stressed by family matters and requested to take IPR at a later date. This left a total of thirty-three residents who participated fully in the study.

#### Delimitations of the Design

The unique structure of the setting and the every day educational demands made on the residents meant that this study, unlike a laboratory experiment, could not be rigidly controlled in all details. Other limits on the

amount of control possible in the study resulted from the following:

1. Protection of patients' rights had to be observed
2. The delivery of health care could not be interrupted
3. True control groups were impractical and unavailable
4. One trainer, a doctoral candidate in counseling, was responsible for the teaching of interview skills. This meant that IPR had to be taught six times in the year to reach all of the residents, and that the outcomes could be the results of a single instructor's skills, rather than of the IPR model

Since the residents' schedules were not under the researcher's control, random selection of residents for treatment and non-treatment groups was not possible. Instead, residents were placed in the IPR sequence from an already existing, complex rotation-assignment system. The residents could be called away for a medical emergency, and often classes were interrupted. Another consideration for research was the sample size, limited to thirty-three, the total number of residents currently enrolled in the program.

Due to the nature of IPR itself, the teaching of small groups of residents was not as confounding a factor as it might seem. The materials and the instructor remained

the same--i.e., the same IPR films were used in all groups. In preparing for the study, the hypothetical design of one pretest period followed by training all the residents simultaneously, and then by giving them a posttest, was considered. However, large groups of IPR trainees do much of their classroom activities in subgroups of three to five. These subgroups provide different experiences for their participants, even in the simultaneous training setting. Therefore differences in results based on the nature of the small groups available at Family Medicine and the time of their IPR training were not expected.

Other factors, however, must be considered. The residents were in a training program, exposed to many sources of stimulation and information. Certainly they must have learned interactional skills in other spheres which might influence their performance for better or worse. Also, third-year residents had more clinical experience to back their explorations of new behavioral skills, and the age and experience of residents could not be controlled. Because the specific questions asked in this study were of the immediate effect and outcome of training, neither the long-term effects of training nor comparisons between IPR and other training models were dealt with here.



## Hypotheses

Sufficient laboratory studies with IPR were performed over the past fourteen years to permit certain hypotheses about its application in this field setting. Since IPR was demonstrated through laboratory studies to be more than a chance experience, it was hypothesized that pre-post differences in this setting would be significant. Although the usual impact of IPR in terms of Affective Sensitivity and interviewing skills was evaluated, the crucial question of this research centered on the impact of IPR training as evaluated through statements of affect or personal-social indicators on the charts and through changes in residents' drug treatment of their patients. Five hypotheses were tested in order to evaluate this impact. The research hypotheses were:

- H<sub>1</sub>: There will be a positive change pre-to-post IPR training on the Affective Sensitivity Scale Scores for family medicine residents (alpha at .05)
- H<sub>2</sub>: There will be a pre-to-post IPR training increase for residents on the exploratory, active listening, affective, and honest labeling subscales of CVRS (alpha at .05)
- H<sub>3</sub>: Residents with IPR training will use a greater number of exploratory, active listening, affective and honest labeling responses (on the

CVRS) than residents without IPR training on the in-training exam

H<sub>4</sub>: There will be an increase in the number of affect words and statements indicative of resident discussion with the patient of personal-social concerns pre-to-post IPR training (alpha at .05)

H<sub>5</sub>: There will be a decrease in the prescription frequency of benzodiazepins (Valium and Librium) for patients of residents pre-to-post training in IPR (alpha at .05)

The evaluation instruments and the analytical procedures used to test these hypotheses are discussed below.

#### Instrumentation

The evaluation instruments were selected to insure their appropriateness to the study and their relevance to the clinical setting. The following guidelines were used:

1. Instruments must reflect the skills taught in IPR
2. Instruments should be reliable and valid
3. The instruments must be acceptable to the residents (Residents could reject a tool or an experiment if it became cumbersome or if they saw it as irrelevant to their learning needs)
4. Feedback must be given to the residents to maximize the educational function of the IPR

experience and to minimize the "guinea pig" feeling among residents

5. Respect for patient privacy and confidentiality must be shown
6. Economic use must be made of time, space, and money

After considering the guidelines and the setting, the following instruments were chosen: the Affective Sensitivity Scale (A.S.S.), the Counselor Verbal Response Scale (CVRs), and a chart audit. These instruments are described in detail in the following sections.

#### Affective Sensitivity Scale

The Affective Sensitivity Scale developed by Kagan et. al. (1970) was an instrument designed to measure one individual's ability to detect and describe the immediate affective state of another. The scale consisted of multiple-choice items which the respondent selected after watching filmed vignettes of actual interviews in numerous settings (school, counseling, group, family, medical, and informal). Studies on the first scale showed that it was unaffected by the pretest-posttest practice effect. The Kuder-Richardson reliability was judged to be from .70 to .80. Validity was partially supported.

Revision of the scale into Form B resulted in a scale of eighty-nine items. These items discriminated between high scorers who were attracted to correct answers

describing strong feelings, and low scorers who were drawn to distractors describing weak or neutral feelings. Low scorers were also drawn toward the distractors which contained negative feelings directed towards the counselor in the film. On Form B the test-retest reliability was between .58 and .75. The concurrent validity studies showed that a low positive relationship existed between scores and judgements of counseling effectiveness. A more substantial correlation existed between scores and judgements of affective sensitivity. Predictive validity of the scale was not established.

Danish and Kagan (1971) found that the Affective Sensitivity Scale reflected personal growth in interpersonal sensitivity. Scores did not change significantly from retesting or from a placebo treatment. Other studies (Resnikoff, 1972; Campbell, Kagan, and Krathwohl, 1971) supported these findings.

In this study, an updated version of the A.S.S., Form D, was used for evaluation. The vignettes were quite diverse in character and the clothing more modern. The scale of sixty-three items took seventy-five minutes to administer and could be objectively scored by the researcher. Form D of the Affective Sensitivity Scale was administered to all of the residents pre and post training. Feedback was offered to those residents who wanted it after the posttest administration. The A.S.S. provided

data for the hypothesis dealing specifically with the notion that A.S.S. scores would increase after training ( $H_1$ ). The scores were analyzed using an SPSS program for multiple t-tests. All eleven subscales were compared to check for differences on any level of the total score. Comparisons were made between weighted and unweighted scores. (The specific scale format and scores are found in the appendix.)

#### Counselor Verbal Response Scale

The CVRS was a measure of specific listening skills. It measured the four skills taught in the first part of the IPR series: exploratory, active listening, affective, and honest labeling responses. Audiotape interviews were collected of actual patients, selected at random. Permission was obtained from the patient for all interviews, and the experimenter worked to insure that the residents' patient care was not interrupted. Two patient interviews were rated for each resident both pre and post training in IPR. The tapes were rated in a double blind fashion to assure a non-biased score. Neither the raters nor the experimenter know which tapes were pretraining and which were post-training. Residents were responsible for handing in the interviews before their first IPR sessions and were required to hand in two more interviews after finishing the IPR sequence. None of the tapes were rated until all of the residents had completed the IPR course.

Twenty responses from the tapes were judged, the first five being omitted as introductory. The scores were totaled in each of the four listening categories and the data was used to evaluate the hypothesis that residents would show an increase on their listening skill scores pre-to-post-training in IPR ( $H_2$ ). The statistical procedures used to evaluate the results of the CVRS for live interviews with actual patients were the Wilcoxon matched pairs signed-rank test and the more conventional t-test. Non-parametric statistics were used to accommodate the relatively small n of nineteen. The CVRS was also used to assess the hypothesis dealing with the differing responses of residents who had IPR and those who did not at a point in time when half of the residents were trained and half were not ( $H_3$ ). The in-training exam served as a convenient "excuse" to administer the CVRS again. Residents were audio recorded in their interview with a simulated patient. They were aware of the testing situation, but not of the specific use of the audio tape. This application of the measure served to cross-validate the findings on the actual patient interviews. It also presented a "standard" stimulus to which all the residents responded. This added the dimension of standardization not available on the actual patient interviews, where there were differences among patients. The data for the simulated patient

application of the CVRS was analyzed using the Mann-Whitney U-test to determine if the sample arose from the same or differing populations--i.e., different if IPR had had an effect.

The CVRS was relatively easy to administer and took a minimum of time from the residents. The CVRS as a measure of listening skill was a direct product of the IPR course and was a significant evaluative tool. The question of whether or not the resident learned the basic IPR skills was assessed using the CVRS.

Beyond the assessment of basic skills, however, was this question: Did the IPR course make any difference in patient care? This question was addressed using the chart audit.

#### The Chart Audit

The chart audit was developed as a way of monitoring the prescribing practices of the residents and their use of affect words and other statements which might indicate that personal-social issues had been discussed in the interview. It provided a pre and post index of the affective words or phrases used by residents, and in addition, a pre and post index of the frequency and kinds of drugs prescribed for patients by the residents. Since affective sensitivity was one of the parameters measured in the study, the data from actual patients' charts was added to validate the actual resident behavior that might

show affective sensitivity. It was suspected that if a resident was sensitive to affect, he/she would use more words of an affective nature in describing his/her clinical impressions of the patient. Also, sensitive residents ought to reflect their sensitivity in the diagnosis made as well as in their prescription of anti-anxiety drugs (benzodiazepins). As stated in the hypotheses, after IPR training residents were expected to use themselves as therapeutic agents rather than to use drugs.

The chart audit was derived through the following steps. First, members of the faculty of the Family Medicine Program were polled for their views on who the most sensitive and least sensitive residents were. Second, using their compiled list of the most and least sensitive residents, a series of patient charts were drawn at random. These charts were examined by the researcher for apparent differences with the following questions in mind:

1. Did residents use affect-laden words at all (were the words appropriate for the medical record)?
2. Were benzodiazepins (minor tranquilizers such as Valium and Librium) prescribed by the residents?
3. Could a single patient encounter be selected from the patient's chart and codified (was there enough information to warrant the search)?

It was found in this preliminary survey that:



1. Affect words and other personal-social indicators were noted on charts, and more of these words clustered in the charts of those residents identified by the faculty as sensitive
2. Enough benzodiazepins were prescribed to warrant a closer look
3. One patient encounter per chart did give a measurable quantity of affect words and other personal-social indicators (hereafter, referred to as affect words) and of the drugs prescribed by the residents

Drawing from these preliminary findings, the third step was to devise the chart audit with guidelines for auditors (see Appendix for guidelines). Fourth, guidelines were approved by the faculty and raters were employed to pilot test the audit form. Raters were not family medicine-related in order to facilitate the non-biased rating of patient encounters. With minor changes suggested by the raters, the chart audit was adopted. Inter-rater reliability was not measured since all target words were discussed and decided upon by consensus. However, checks were made on coding accuracy and care was taken to prevent the raters from being fatigued by limiting their work periods to two hours or less at one time.

This chart audit information was gathered on thirty patient charts both pre and post IPR training. Pre

and post total scores were obtained for the resident's affect words noted and for the frequency of use of benzo-diazepins. The charts were randomly selected from a three month period both pre and post training. The hypotheses which this procedure tested stated that residents would note more affect words after IPR training than they did before ( $H_4$ ) and also that they would prescribe less benzo-diazepins after training than before ( $H_5$ ).

Statistical analysis was done using the Wilcoxon signed-rank matched pairs test and the t-test for matched pairs since residents served as their own controls. The non-parametric Wilcoxon was used to accommodate the small n of sixteen and the traditional t was used for comparison. The actual rating of the chart and the CVRS was done by the same team of raters. These raters were carefully selected, as indicated below.

#### Selection of Raters

The three raters for the CVRS were selected from a population of people already trained in IPR. In addition to these three raters, two additional raters, with the same background in IPR, were added for the chart audit. After their IPR training, they served as inquirers for other students to keep their skills in IPR fresh and accessible.

The three raters for the CVRS were para-professional counselors in the community, and they worked in a health

organization and at the local crisis intervention center. Their college degrees were in health education, psychology, and the humanities, and two were working toward graduate degrees in social work and in public health, respectively. They were paid for the CVRS work and as chart auditors. A non-family medicine physician was on hand at all times to translate medical terminology during the rating sessions. Inter-rater reliability was determined by the Pearson  $r$  and the Wilcoxon T-Tests. Assessment was made according to the direction and magnitude of difference between the raters. The interjudge correlations are reported in Chapter 4.

The combination of chart audit, CVRS, and A.S.S. provided for a multiple evaluation of the residents' interpersonal process and outcome, gave a cross-validation of results without overtesting the residents, and supplied information on a number of different dimensions. The combination helped to maintain resident interest and proved relevant to their educational process. A correlation analysis is provided in Chapter 4.

### Summary

The assessment of the impact of IPR on the family medicine residents was a task divided between direct and indirect (unobtrusive) measurement techniques. The study of the affective components of the doctor-patient relationship focused on the impact on the doctor of affective

training and interviewing skills. The impact was determined through the affect words and other personal-social indicators noted in the patient charts and through prescribing practices. Data was collected unobtrusively and residents were unaware of this dimension of the study. The in-training exam was tape recorded with their knowledge; however, they did not know that it was part of this project, but considered it rather as a routine part of their in-training exam. Thus the ratings on these tapes were also unobtrusive measures. However, the residents were aware of other measures of their IPR training, i.e., audio tape ratings pre and post and the Affective Sensitivity Scale pretest and posttest.

Figure 1 below shows how each of the hypotheses was analyzed with regard to the criteria tested in the hypothesis, the evaluation instrument applied to the data, the sample size, and the statistical procedure used.

This chapter described the pretest posttest quasi-experimental design used in this study, along with the setting and its complications, design delimitations, and a description of the subjects. The research hypotheses were stated, and the instrumentation and procedures used for measurement were discussed. The results of the analysis of the data are presented in the next chapter.

| Evaluation<br>Instrument<br><br>Criterion | A.S.S.                            | C.V.R.S.                     |                                      | Chart Audit                     |                              |
|-------------------------------------------|-----------------------------------|------------------------------|--------------------------------------|---------------------------------|------------------------------|
|                                           |                                   | Actual<br>Patient            | Simu-<br>lated<br>Patient            | Behavioral<br>Observa-<br>tions | Drugs                        |
| Basic Skills                              |                                   | t-test<br>Wilcoxon<br>n = 19 | Mann-<br>Whitney<br>U-Test<br>n = 33 |                                 |                              |
| Affective<br>Sensitivity                  | t-test<br>Wilcox-<br>on<br>n = 23 |                              |                                      |                                 |                              |
| Drug Use                                  |                                   |                              |                                      |                                 | t-test<br>Wilcoxon<br>n = 16 |
| Behavioral<br>Observations                |                                   |                              |                                      | t-test<br>Wilcoxon<br>n = 16    |                              |
| Hypothesis                                | H <sub>1</sub>                    | H <sub>2</sub>               | H <sub>3</sub>                       | H <sub>4</sub>                  | H <sub>5</sub>               |

FIGURE 1  
SUMMARY OF DATA ANALYSIS

## CHAPTER 4

### ANALYSIS

This chapter contains the results of direct measurement by the Affective Sensitivity Scale and the C.V.R.S. and indirect measurement by the chart audit of affect words noted and of prescribing practices. After a brief explanation of why the number of subjects did not remain constant for each test, the results of this study are described in the order of their appearance as hypotheses. For clarity, each hypothesis is restated. Then the statistical procedures used to evaluate that hypothesis are described, and the data is presented in table format. A discussion of the results follows the tables.

#### Number of Subjects

Throughout this study, as can be seen from the results, the total number of subjects (n) per hypothesis varied. The factors which caused this variation are summarized below.

1. First-year residents could not be pretested on the chart audit since IPR training was given during their orientation to the residency and therefore they had no prior patient charts.
2. Six of the third-year residents were involved

in pre-study IPR training and could not be used in the experiment for CVRS and A.S.S. measurements.

3. Due to tape malfunction or poor sound quality, some CVRS tapes were not useable and those tapes had to be dropped.
4. Six residents rotated through IPR very late in the year, and their chart data was not included in the study due to time constraints involving shutting down the computerized chart retrieval system in preparation for major expansion of facilities at the Family Medicine Center.
5. Four residents missed the A.S.S. pretest. Their scores could not be used for the study.
6. Two second-year residents were receiving IPR training during the in-training exam and were not counted in the total for the in-training CVRS.

The above circumstances account for the variations of n within the total population (n=33). The following sections describe the hypotheses and findings.

### Hypothesis One ( $H_1$ )

The first hypothesis was: There will be a positive change pre-to-post IPR training in the Affective Sensitivity Scale scores for family medicine residents. This hypothesis was evaluated using the Affective

Sensitivity Scale designed by Kagan and Schneider (1970). The multiple-choice scale was administered on or before the first IPR session and again after the last session. The scale was rated on eleven dimensions with regard to the number of correctly identified statements about the vignettes. (A copy of the Affective Sensitivity Scale dimensions are in the Appendix.) In addition, a total score was obtained from the combination of the categories. There was some category overlap so the sum of responses per category equaled more than the total number of responses. A random score represented the number of responses incorrectly identified. Statistical significance was tested using the SPSS t-test on each of the thirteen dimensions with alpha at .05 (one tailed test). Tables 4.1-4.6 (See Appendix, p.126-131) show pre-post mean Affective Sensitivity Scale scores on all eleven internal dimensions, the total score mean, and the random mean. Mean scores, degrees of freedom, t-value, and p-value are indicated. The tables are arranged first to describe the total group (all three classes of residents) followed by the first-year residents alone, and the second-year residents alone. There were only three third-year residents and their subgroup scores were not listed separately. For each group, separate tables show the difference between mean scores done with two different rating schemes. The weighted scheme counted two points for preferred



responses, one point for an acceptable response and zero points for a random response. The unweighted mean scores were rated counting one point for each preferred response, one point for each acceptable response, and no points for random responses. For reference, Table 4.7 below lists the individual means on the Affective Sensitivity Scale pre and post-training in IPR.

Table 4.7  
Individual Pre-Post Means (Total Score)  
on the Affective Sensitivity Scale

| Resident<br>Number Year | Pre | Post | Resident<br>Number Year | Pre | Post |
|-------------------------|-----|------|-------------------------|-----|------|
| First Year              |     |      | Second Year             |     |      |
| 7901                    | 83  | 81   | 7801                    | 67  | -    |
| 7902                    | 70  | 80   | 7802                    | 81  | 66   |
| 7903                    | 88  | 89   | 7803                    | 89  | 86   |
| 7904                    | 82  | 79   | 7804                    | -   | 98   |
| 7905                    | 75  | 57   | 7805                    | 81  | 68   |
| 7906                    | 59  | 52   | 7806                    | 90  | 94   |
| 7908                    | 73  | 68   | 7807                    | 84  | 88   |
| 7909                    | 82  | 81   | 7809                    | 80  | 79   |
| 7910                    | 75  | 84   | 7810                    | 86  | 90   |
| 7911                    | 78  | 85   | 7811                    | 73  | 72   |
| 7912                    | 69  | 70   | 7813                    | -   | 64   |
|                         |     |      | 7814                    | 85  | -    |
| Third Year              |     |      |                         |     |      |
| 7702                    | 89  | -    |                         |     |      |
| 7704                    | 75  | 79   |                         |     |      |
| 7712                    | 77  | 76   |                         |     |      |

Table 4.8  
Individual Means Pre and Post IPR Training  
on the CVRS

|                    | Exploratory |      | Active<br>Listening |      | Affective |       | Honest<br>Labeling |      |
|--------------------|-------------|------|---------------------|------|-----------|-------|--------------------|------|
|                    | Pre         | Post | Pre                 | Post | Pre       | Post  | Pre                | Post |
| <b>First Year</b>  |             |      |                     |      |           |       |                    |      |
| 7902               | 1           | 2.25 | 3                   | 2.75 | .25       | .75   | .25                | 0    |
| 7904               | .5          | 1    | 2.5                 | 4.5  | .25       | 1.5   | 0                  | 1.5  |
| 7907               | .25         | 2.5  | 2.5                 | 1    | 0         | 1     | .25                | 0    |
| 7908               | .25         | 1    | 1                   | 1.5  | 0         | 0     | 0                  | .25  |
| 7909               | .75         | 1.5  | 1                   | 1    | .5        | 0     | 0                  | 0    |
| 7910               | .5          | .75  | 1.25                | 5.25 | 0         | 1.25  | 0                  | 1    |
| 7911               | 0           | 1    | 3.5                 | .5   | 0         | 2     | 0                  | 1    |
| <b>Group Means</b> | .46         | 1.42 | 2.1                 | 2.35 | .14       | .92   | .07                | .53  |
| <b>Second Year</b> |             |      |                     |      |           |       |                    |      |
| 7801               | 1.75        | 1.5  | 1                   | 2.5  | 0         | 0     | 0                  | 0    |
| 7802               | .5          | 3    | 1.5                 | 2.5  | 0         | 3.5   | 0                  | 2.5  |
| 7804               | 1           | 2    | 5                   | 2.25 | .5        | 2.25  | 0                  | .5   |
| 7805               | .75         | -    | 1.75                | -    | 0         | -     | 0                  | -    |
| 7806               | 2.25        | 5.5  | 5                   | 3.5  | 1.5       | 4.5   | .75                | 3    |
| 7807               | 1.5         | 1.5  | 2.5                 | 3.5  | 3         | 1.5   | .5                 | .5   |
| 7809               | 4.5         | 0    | 3                   | .75  | 3         | .75   | 0                  | 0    |
| 7810               | .75         | .75  | 1.75                | 2.25 | .5        | 1     | .25                | .25  |
| 7811               | .5          | 3    | 1                   | 2.5  | .5        | 1.5   | 0                  | .5   |
| 7813               | 1           | 3    | 2.5                 | .25  | .5        | 3.5   | 0                  | .25  |
| 7814               | 1           | 2    | 4                   | 2.5  | 0         | 2.5   | 0                  | .5   |
| <b>Group Means</b> | 1.47        | 2.22 | 2.72                | 2.25 | .95       | 2.1   | .15                | .80  |
| <b>Third Year</b>  |             |      |                     |      |           |       |                    |      |
| 7702               | 2           | 3    | .5                  | 1.5  | .15       | 1.25  | 0                  | 0    |
| 7704               | .25         | 1    | 5.25                | 5    | 0         | 1     | 0                  | .5   |
| <b>Group Means</b> | 1.125       | 2    | 2.875               | 1    | .75       | 1.125 | 0                  | .25  |

## Results

Hypothesis one was not supported by the data for the resident group as a whole, or for any year taken separately. Overall there were no significant gains on the Affective Sensitivity Scale total scores or on any subscale within. A discussion of the possible meanings of the A.S.S. scores pre-to-post-training is found in Chapter 5.

### Hypothesis Two ( $H_2$ )

The second hypothesis was: There will be a pre-to-post-training increase on the exploratory, active listening, affective, and honest labeling scales of the CVRS. This hypothesis was evaluated by the CVRS, a rating scale based on the four basic communication skills taught in the IPR series. Audio tapes were used to collect actual patient interviews of the residents. These tapes were coded and distributed in a double blind fashion to the raters to assure a non-biased rating procedure. The responses were counted by the trained raters and total scores for each of the four categories were compared pre-to-post-training. The number of basic communication skill responses out of the twenty rated responses were compared. Statistical significance was tested using a TI SR-52 programmable calculator with t-tests for paired samples. In addition, the Wilcoxon matched pairs signed-rank test was used as the non-parametric statistic to work

with the small n's and non-random selection of residents. Table 4.8 (above, p. 84) lists the individual means for each resident, on each dimension, pre and post IPR training.

Table 4.9 below juxtaposes the t-test data analysis and the Wilcoxon test to compare the two. As is evident, they do not differ in p-values for the dimension listed. Both statistical procedures show a p-value of less than .05 for the dimensions of affective, exploratory, and honest labeling. The t-test factors are pretest and posttest means, degrees of freedom, t-values, and p-values. The Wilcoxon factors given are n (number of mean responses with a difference), T-values, and z-values. All p-values are for a one-tailed test with alpha at .05.

Table 4.9  
Pre-Post CVRS Scores

| t-test Paired (n=19)<br>Comparison of Correlated Means |              |               |      |       | Wilcoxon<br>Comparison of Matched Scores |    |      |       |             |
|--------------------------------------------------------|--------------|---------------|------|-------|------------------------------------------|----|------|-------|-------------|
| DIMENSION                                              | Pre-<br>test | Post-<br>test | D.F. | t     | p<br>1-tail                              | n  | T    | Z     | p<br>1-tail |
| Exploratory                                            | 1.06         | 1.90          | 18   | -2.28 | <.05                                     | 17 | 18.5 | -2.74 | <.05(.003)  |
| Active Listening                                       | 2.513        | 2.394         | 18   | .279  | >.05                                     | 18 | 95   | .414  | >.05(.342)  |
| Affective                                              | .632         | 1.566         | 18   | -2.69 | <.05                                     | 17 | 27   | -2.34 | <.05(.0096) |
| Honest Labeling                                        | .105         | .644          | 18   | -2.97 | <.05                                     | 13 | 5    | 2.83  | <.05(.002)  |

## Results

This hypothesis was supported by the data on the subscales of affective, exploratory, and honest labeling ( $p$  less than .05). The  $p$  levels on the active listening subscale were greater than .05 on both  $t$ -test and Wilcoxon, and therefore did not support the hypothesis. Although the active listening subscale did not show significant pre-to-post gains, conclusions could not be made about that subscale due to the low inter-rater reliability.

### Inter-rater Reliability

Inter-rater reliability was judged by the Pearson  $r$  correlation coefficient and the Wilcoxon matched pairs signed-rank test. The  $r$  statistic is a measure of association; therefore, one must look for a value showing significantly greater association than expected by chance, as expressed in a value of  $t_r$  more extreme than the critical value for  $\alpha = .05$ , one-tailed test. One problem with the correlation coefficient is that it tends to be reduced if either or both raters exhibit little variance within the ratings they assign. In this light, it is reasonable to consider the difference between their ratings using statistical methods that are not dependent upon distribution variance.

The  $T$  statistic is such a measure of difference; therefore, one must look for a value showing that any observed difference could be considered a function solely

of chance (i.e., that the raters are not significantly different), as expressed in a value of  $z_T$  less extreme than the critical value for  $\alpha = .05$ , two-tailed test. If raters show either significant association or lack of significant difference, their ratings may be considered reliable assessments of the variable being measured.

Table 4.10 below shows the correlation coefficient  $r$  and  $p$ -values for association as well as the Wilcoxon  $z$  and  $p$ -values for difference for all three rating pairs on all four CVRS dimensions. As can be seen from Table 4.10, inter-rater reliability was acceptable on all dimensions except the active listening dimension. Since significant reliability was not achieved on this dimension, inference about the subscale could not be made.

### Hypothesis Three ( $H_3$ )

The third hypothesis was: Residents with IPR training will give a greater number of exploratory, active listening, affective, and honest labeling responses than residents without IPR training on the in-training exam. This hypothesis was evaluated using the CVRS as in hypothesis two. Twenty responses were rated, giving scores on each subscale, and comparisons were made between the two groups of residents. Residents were in the IPR group if they had had the IPR course before their in-training exams. Residents were in the non-IPR group if they had not yet

Table 4.10  
Inter-Rater Reliability on the  
Pre-Post CVRS Scores

| DIMENSION   | Rater 1 with 2 |      |              | Rater 1 with 3 |      |              | Rater 2 with 3 |      |              |
|-------------|----------------|------|--------------|----------------|------|--------------|----------------|------|--------------|
|             | r*             | p    | z**          | r              | p    | z            | r              | p    | z            |
| Exploratory | <u>.46</u>     | <.05 | -3.36        | <u>.811</u>    | <.05 | 3.21         | <u>.680</u>    | <.05 | -1.74        |
| Active      |                |      |              |                |      |              |                |      |              |
| Listening   | .33            | >.05 | -4.60        | .354           | >.05 | 2.28         | <u>.677</u>    | <.05 | <u>1.57</u>  |
| Affective   | <u>.74</u>     | <.05 | <u>-1.49</u> | <u>.793</u>    | <.05 | <u>1.70</u>  | .210           | >.05 | <u>-.86</u>  |
| Honest      |                |      |              |                |      |              |                |      |              |
| Labeling    | .04            | >.05 | <u>0</u>     | <u>.693</u>    | <.05 | <u>-1.75</u> | <u>.546</u>    | <.05 | <u>-1.70</u> |

NOTE: Underlined values are those showing either significant association or no significant difference

\*Pearson correlation coefficient evaluated using critical value of  $t_r$  with  $\alpha = .05$ , 1-tailed test

\*\*Wilcoxon on matched pairs signed-rank test evaluated using critical value of  $z$  with  $\alpha = .05$ , 2-tailed test

been scheduled for their IPR course by the time of the in-training exam. Two residents were in the middle of the IPR course at the time of the exam and their scores were not included in the study. Statistical analysis was done using the Mann-Whitney U-Test for statistical significance. The research question of whether or not these residents were from the same or differing populations was answered by this test.

Table 4.11 contains the results of the statistical analysis of the third hypothesis using the Mann-Whitney U-test. It shows the means ( $\bar{x}_1$ ) and the number of residents trained in IPR at the time of testing ( $n_1$ ), the means ( $\bar{x}_2$ ) and the number of residents untrained in IPR at the time of testing ( $n_2$ ), U-values, and p-values (one tailed alpha at .05). Values listed are for each dimension of the CVRS (the four listening skills).

### Results

The data only partially supported the hypothesis. There was a significant difference shown on the affective dimension of the CVRS between residents trained in IPR and those not trained. There were no significant differences on the exploratory, active listening, or honest labeling subscales, but the highest inter-rater reliability was on the affective dimension, the only dimension found significant across groups. Thus, there is a possible interaction between reliability and findings.



Table 4.11  
Total Group Scores on the In-Training Exam  
Using the CVRS

| DIMENSION           | IPR         |         | Non-IPR     |            | MANN-WHITNEY U TEST |            |
|---------------------|-------------|---------|-------------|------------|---------------------|------------|
|                     | $\bar{x}_1$ | $n_1^*$ | $\bar{x}_2$ | $n_2^{**}$ | U                   | p (1 tail) |
| Exploratory         | 5.2         | 15      | 4.47        | 18         | 129                 | >.05       |
| Active<br>Listening | 3.2         | 15      | 2.2         | 18         | 92.5                | >.05       |
| Affective           | 1.93        | 15      | 0.83        | 18         | 83                  | <.05▲      |
| Honest<br>Labeling  | 0.7         | 15      | 0.38        | 18         | 114                 | >.05       |

NOTE: For this table,  $n = 33$

$\bar{x}$  = means number of responses per category

$*n_1$  = number of residents trained in IPR at time of testing

$**n_2$  = number of residents untrained in IPR at time of testing

▲ = significant increase

#### Inter-Rater Reliability

Table 4.12 shows the inter-rater reliability for hypothesis three. Inter-rater reliability was judged in exactly the same manner as for hypothesis two. Inter-rater reliability was low but significant.

Table 4.12  
Inter-Rater Reliability on the  
In-Training Exam CVRS Scores

| DIMENSION           | Rater 1 with 2 |      |             | Rater 1 with 3 |             |      | Rater 2 with 3 |      |            |      |              |      |
|---------------------|----------------|------|-------------|----------------|-------------|------|----------------|------|------------|------|--------------|------|
|                     | r*             | p    | z**         | p              | r           | p    | z              | p    | r          | p    | z            | p    |
| Exploratory         | .21            | >.05 | .08         | >.05           | <u>.633</u> | <.05 | 2.42           | <.05 | <u>.68</u> | <.05 | <u>1.386</u> | >.05 |
| Active<br>Listening | <u>.537</u>    | <.05 | <u>-.37</u> | >.05           | <u>.790</u> | <.05 | <u>0</u>       | >.05 | <u>.77</u> | <.05 | 2.400        | <.05 |
| Affective           | <u>.594</u>    | <.05 | .93         | >.05           | <u>.823</u> | <.05 | 2.83           | <.05 | <u>.91</u> | <.05 | <u>1.910</u> | >.05 |
| Honest<br>Labeling  | .147           | >.05 | <u>-.51</u> | >.05           | <u>.660</u> | <.05 | 2.05           | <.05 | <u>.78</u> | <.05 | <u>2.028</u> | >.05 |

NOTE: Underlined values are those showing significant association or no significant difference

\*r computed using Pearson Correlation Coefficient, evaluated using critical value of  $t_r$  with  $\alpha = .05$ , 1-tailed test

\*\*z computed using Wilcoxon signed-rank matched pairs test, evaluated using critical value of z with  $\alpha = .05$ , 2-tailed test

#### Hypothesis Four ( $H_4$ )

The fourth hypothesis was: There will be an increase, pre-to-post IPR training, in the number of affect words and statements indicative of resident discussion with the patient of personal-social concerns pre-to-post IPR training. This hypothesis was evaluated using the chart audit form found in the appendix. Thirty patient charts were audited both pre and post IPR training for a total of 60 patient charts per resident. First-year residents were not included in this part of the evaluation since they had no patient charts available before their IPR training. The number of affect words and phrases indicative of patient personal or social concerns noted on the charts were counted and tabulated by the same group of raters who judged the CVRS data. Since judgements were made by consensus of the raters, inter-rater reliability could not be determined.

Statistical analysis for the chart audit was performed using the Wilcoxon matched pairs signed-rank test due to the small n available for this portion of the study. The t-test for matched pairs was also used for comparison purposes.

Table 4.13 (below, p. 94) shows the individual and group means for affect words noted and for benzodiazepins prescribed. From the data below it can be seen that for both second and third-year residents the percent of

Table 4.13  
Chart Audit Means Pre and Post  
IPR Training

|                              | Percentage of Charts<br>with Affect Words<br>Noted* |        | Percentage of Charts<br>with Benzodiazepins<br>Prescribed* |        |
|------------------------------|-----------------------------------------------------|--------|------------------------------------------------------------|--------|
|                              | % Pre                                               | % Post | % Pre                                                      | % Post |
| <b>Third Year Residents</b>  |                                                     |        |                                                            |        |
| 7702                         | 30%                                                 | 13%    | 3%                                                         | 0%     |
| 7704                         | 53%                                                 | 43%    | 16%                                                        | 3%     |
| 7705                         | 20%                                                 | 20%    | 3%                                                         | 0%     |
| 7706                         | 20%                                                 | 43%    | 10%                                                        | 6%     |
| 7708                         | 20%                                                 | 56%    | 0%                                                         | 0%     |
| 7709                         | 13%                                                 | 23%    | 10%                                                        | 6%     |
| 7713                         | 36%                                                 | 30%    | 6%                                                         | 3%     |
| GROUP MEAN                   | 27.4%                                               | 32.5%  | 6%                                                         | 2%     |
| <b>Second Year Residents</b> |                                                     |        |                                                            |        |
| 7803                         | 23%                                                 | 38%    | 0%                                                         | 3%     |
| 7804                         | 26%                                                 | 20%    | 0%                                                         | 0%     |
| 7805                         | 50%                                                 | 40%    | 6%                                                         | 0%     |
| 7806                         | 23%                                                 | 38%    | 3%                                                         | 3%     |
| 7807                         | 23%                                                 | 30%    | 0%                                                         | 6%     |
| 7809                         | 50%                                                 | 76%    | 6%                                                         | 0%     |
| 7810                         | 46%                                                 | 46%    | 0%                                                         | 26%    |
| 7811                         | 50%                                                 | 40%    | 3%                                                         | 3%     |
| 7813                         | 43%                                                 | 23%    | 3%                                                         | 6%     |
| GROUP MEAN                   | 37.1%                                               | 39%    | 2%                                                         | 5%     |

\*From 30 encounters pre and 30 encounters post IPR training per resident

affect words did increase although not significantly overall. The third-year residents decreased their prescription rate of benzodiazepins while the second-year group increased their rate. (Note particularly the increase of resident 7810.)

Table 4.14 shows the statistic used, n, degrees of freedom, T-values for the Wilcoxon, and t-values for the t-test. The p-values are listed with alpha at .05 for a one-tailed test. The table shows that there was no discrepancy between the p-values for the Wilcoxon and the t-test. There were no significant pre-to-post differences of affect words noted on the chart audit.

Table 4.14

Affect Words Noted Pre and Post IPR Training on the Chart  
Audit for Second and Third Year Residents Combined

|          | n  | df    | T     | t     | p (1 tail) |
|----------|----|-------|-------|-------|------------|
| Wilcoxon | 16 | . . . | 45.5  | . . . | >.05       |
| t test   | 16 | 15    | . . . | -.67  | >.05       |

### Results

The data did not support this hypothesis. There appears to have been an increase in affect words in the hypothesized direction but this was not a significant increase.

### Hypothesis Five (H<sub>5</sub>)

The fifth hypothesis was: There will be a decrease in the prescription frequency of benzodiazepins (Valium and Librium) for patients of residents pre-to-post training in IPR. This hypothesis was evaluated using the chart audit form on the same patient charts that were used for hypothesis four. The same set of thirty charts pre-training and thirty charts post-training were judged by the raters. Tabulations were made of any drugs prescribed, but only prescriptions of benzodiazepins were used for the study. If the drug was prescribed or refilled during the visit of the patient, the incident was listed.

Statistical methods used to test this hypothesis were the t-test and the Wilcoxon matched pairs signed-rank test. The non-parametric Wilcoxon was used here because of the small n and the non-randomization of the population of residents. Table 4.15 shows the degrees of freedom, the Wilcoxon T, the parametric t-test value, and p-values for both tests. The n of sixteen represents the total group, while the n of seven represents the third year only. Again, first-year residents were not included in this measure since they had no patient charts before their IPR training.

Table 4.15  
Frequency of Benzodiazepin Prescriptions  
of Residents Pre-Post IPR Training

|                 | n    | df    | T     | t     | p(1 tail) |
|-----------------|------|-------|-------|-------|-----------|
| <b>Wilcoxon</b> |      |       |       |       |           |
| Total           | 16** | . . . | 29    | . . . | >.05      |
| Third Year      | 7    | . . . | 0     | . . . | <.05      |
| <b>t-test</b>   |      |       |       |       |           |
| Total           | 16   | 15    | . . . | .097  | >.05      |
| Third Year      | 7    | 6     | . . . | 2.710 | <.05*     |

\* .05 2-tailed Pearson Correlation Coefficient

\*\* 16 represents the total group  
7 represents third year only

### Results

The data partially supported the hypothesis. There was a significant decrease in prescription frequency of benzodiazepins for the third year residents pre-to-post training in IPR. There was no overall group decrease since the second-year residents as a group did not significantly decrease or increase their benzodiazepin prescription frequency. The Wilcoxon p-value and t-test value of p did not differ in their significance. The findings were thus similar by both parametric and non-parametric standards.

### Correlation Analysis

In addition to the statistical analysis done for each hypotheses and instrument, a correlation analysis was done using the SPSS program for correlation with missing values. This was selected due to the number of variables with different n's in this study, a result of the setting.

The results of the correlation analysis showed some statistically significant relationships; however, the 6 x 6 matrix of variables produces some significant correlations by chance alone. Considered along with the small n's in the significant correlations, these findings were not judged generalizable. However, they were presented in this pilot study for the purpose of raising questions for further study. Figure 2 below shows the significant correlations between instruments, p-values, and the number of cases in each correlation. Implications of the correlation analysis are found in Chapter 5. Correlations are listed for instruments corresponding to the same time period. That is, the pretest of one instrument was measured with the pretest of another instrument, and not with the posttest trial.

The CVRS pretest showed a significant positive correlation with the pretest of the Affective Sensitivity Scale on two subscales, affective and honest labeling. There was a significant negative correlation between CVRS pretest and the pretest chart audit for affect words noted, but there was no significant correlation with the



|            | Pre AWN*                        | Post AWN*                      | Pre Bzd**       | Post Bzd**   | Pre A.S.S.                                          | Post A.S.S.  |
|------------|---------------------------------|--------------------------------|-----------------|--------------|-----------------------------------------------------|--------------|
| Pre CVRS   | HL***-.665<br>n = 10<br>p = .01 |                                | NS***<br>n = 10 |              | AFF***.50<br>n = 16<br>p = .02<br>HL .46<br>p = .03 |              |
| Post CVRS  |                                 | Ex***-.567<br>n = 9<br>p = .05 |                 | NS<br>n = 9  |                                                     | NS<br>n = 15 |
| Pre AWN*   |                                 |                                | NS<br>n = 16    |              | -.783<br>n = 9<br>p = .006                          |              |
| Post AWN*  |                                 |                                |                 | NS<br>n = 16 |                                                     | NS<br>n = 10 |
| Pre Bzd**  |                                 |                                |                 |              | -.578<br>n = 9<br>p = .04                           |              |
| Post Bzd** |                                 |                                |                 |              |                                                     | NS<br>n = 10 |

FIGURE 2 CORRELATION ANALYSIS

\*AWN: Chart audit of affect words and other personal-social indicators

\*\*Bzd: Chart audit of benzodiazepin prescriptions

\*\*\* HL: Honest Labeling  
Aff: AffectiveNS: Not significant  
Ex: Exploratory

benzodiazepins. The posttest trial of the CVRS showed a significant negative correlation (on the exploratory subscale) with the posttest chart audit of affect words noted. The posttest CVRS did not correlate significantly with any other posttest.

The pretest chart audit of affect words noted showed a significant negative correlation with the pretest of the Affective Sensitivity Scale; however, the posttest chart audit of affect words showed no significant correlations.

The pretest chart audit for benzodiazepins prescribed showed a significant negative correlation with the pretest trial of the Affective Sensitivity Scale, but no significant correlations were found for the posttest trial.

### Summary

This chapter described the hypotheses and the evaluation procedures used for each hypothesis, as well as the statistical analysis, the data presented in the tables, and the results. The results are summarized below:

1. There were no significant gains on the Affective Sensitivity Scale pre-to-post training in IPR. In fact, pre-to-post trials remained essentially unchanged.
2. There were pre-to-post training increases in the CVRS, a measure of basic communication

skills. Three of the four skill dimensions significantly increased after training in IPR. The active listening dimension was the only one that showed no significant increase post-training.

Low inter-rater reliability on the active listening dimension appears to have confounded the findings.

3. The affective dimension of the CVRS showed significant differences between residents who had IPR training and those who did not at the time of their in-training exam. Residents who had the IPR training showed significantly more affective responses to a simulated patient than did those residents without IPR training. The three other dimensions of the CVRS did not show significant changes.
4. There was not a significant increase in affect words or other statements indicative of a personal-social interview on patient charts pre-to-post training in IPR.
5. Third-year residents did show a significant decrease in benzodiazepin prescription frequency pre-to-post training in IPR. Second-year residents did not show a significant decrease.

These results arose from the evaluation of the hypotheses both by direct measurement by CVRS and the Affective Sensitivity Scale, and through indirect

measurement by chart audit of affect words noted and of prescription frequencies. In this way, both the process and the outcome of the training were evaluated. Although the process measures were not consistent with each other in their results, there was no decrease in skill level measured at any time. The lack of significance in the Affective Sensitivity Scale scores is discussed in Chapter 5 in some detail. Support was found for increased basic communication skills through the CVRS. The indirect measures of the chart audit were favorable. Although there were no significant gains in the number of affect words noted, there was a clear trend in that direction. The decrease in prescription frequency for benzodiazepins was a significant finding for the third-year residents.

Most promising from these results was the connection between the direct measure of interpersonal relationship skills and the outcome measures of prescribing practices. Chapter 5 contains a discussion of the implications of such findings and suggestions for further work on the relationship between physician sensitivity and patient management.

## CHAPTER 5

### SUMMARY, RESULTS, AND IMPLICATIONS

The purpose of this study was to train family medicine residents in interviewing skills and affective sensitivity using the Interpersonal Process Recall method and to measure the impact of that training on the residents' skills and performance. A search of the medical and educational literature was made to discover any research related to the topic of this study.

#### Background of the Problem

The family medicine literature consistently emphasized the therapeutic role of the family doctor. Stanford's (1972) survey of American Academy of Family Physicians members found that they spent one-fifth of their working time counseling patients for emotional problems. Stanford thought training in counseling skills for physicians was inadequate. Baker (1974) believed that the skills essential to psychological counseling of patients and their families were often neglected as a training issue. Balint (1954) emphasized the doctor-patient relationship and through his Balint groups fostered an atmosphere of support and safety in which to generate such skills.

The teaching of interviewing skills was described

in the literature, and the need for such teaching was often cited. Froelich (1969) stated that consumers (patients) demanded more sensitive interviewers and that social pressure was responsible for the current trend of teaching interviewing skills. Enelow and Swisher (1972) emphasized gathering data to formulate a total understanding of the patient's situation. Their emphasis on the process of data collection, rather than on the data itself, was based on their philosophy of communication as a tool for physicians. Froelich and Bishop (1972) discussed the four purposes of the medical interview: to gather information, to establish a relationship that will facilitate diagnosis and treatment, to give the patient an understanding of the illness, and to support and direct the patient in treatment.

Froelich and Bishop also helped establish the use of the doctor-patient relationship as a diagnostic and therapeutic tool. This interpersonal tool, when used appropriately, results in more complete gathering of pertinent information since the patient is less likely to be defensive and withholding, and since the more complete the history is, the more accurate the diagnosis may be. Thus, physicians more in tune with their patients are more likely to hear, and hence to deal with, a patient's affective response to an illness. Therefore, it was hypothesized that physicians would be more likely to note affect words and other statements indicative of personal-social concerns on

their patients' charts after IPR training than before training. Because these physicians would respond as therapeutic agents themselves, it was also hypothesized that they would prescribe less benzodiazepins after training in IPR than before training.

The use of IPR as a training tool was studied by Werner and Schneider (1971) with medical students, by Dendy (1971) with resident assistants, by Archer (1971) with undergraduates, and by Spivack (1970) for counselor education. Kingdon (1975) in her study of counselors who were given either IPR or traditional supervision found that there was no significant difference between the methods when the counselors were measured. However, the clients of the IPR-supervised counselors showed significantly higher levels of self-exploration over time.

The IPR process has been learned by many people, professionals in mental health as well as students, workers, and school children. Family medicine residents should prove no exception. It was hypothesized that residents trained in IPR would increase their affective sensitivity skills and that they would have better basic communication skills after training. The final hypothesis was that the CVRS would discriminate between those residents who had IPR training and those who did not at a point in time when half of the residents were trained and half were not.

### Methodology and Analysis of Data

Thirty-three family medicine residents from the Duke-Watts Family Medicine program were given the thirty-two hour version of IPR. They had eight three-hour lecture discussion sessions and four to eight hours of video recall in small groups. The residents were pretested and posttested with both process and outcome measures. The subjects served as their own controls. Process measures were the Affective Sensitivity Scale, a measure of affective sensitivity using filmed vignettes as stimuli, and the CVRS, a measure, judged by trained raters, of quality and quantity of listening skills used in an interaction. These measures were administered pre and post IPR training as a way of giving feedback to residents as well as evaluating their IPR skills. The CVRS was also administered with simulated patient interviews when half of the residents had received IPR training and half had not, in order to determine if the CVRS could discriminate between those residents who were trained and those who were not. The outcome measure used were pre and post audits of the residents' patient charts to determine the number of affect words and other statements indicative of a personal-social interview, and to determine the quantity of benzodiazepines the residents were prescribing.

Analysis of the data was performed using both parametric and non-parametric statistics. In similar past



studies, parametric statistics were used. Non-parametrics were also used here because the assumptions of normality could not be made in this highly select population with its relatively small n's. No difference in the results was found between the two types of statistics. The non-parametrics supported the findings of the parametric statistics in all cases. A correlation analysis on the instruments was also performed.

### Results

The process data was partially supportive of the hypotheses. From the literature on IPR, it was expected that family medicine residents, like others, would increase their affective sensitivity. This was not demonstrated by the results of the Affective Sensitivity Scale scores, pre to post IPR training. Since this study was completed the A.S.S. has been revised by its authors, who found that Form D did not correlate well with other measures of affective sensitivity. The other direct measure of sensitivity and basic communication skills, the CVRS, did register significant increases in the affective, exploratory, and honest labeling dimensions, thereby supporting the expectation of increased basic communication skills and sensitivity.

There were no studies in the literature suggesting a relationship between physician sensitivity and prescribing practices. However, the use of the self as a

therapeutic tool was discussed by Balint (1954), Baker (1975), and others. It was predicted that as the residents gained more confidence in serving as therapeutic tools, they would give fewer prescriptions for minor tranquilizers. Instead, the residents would use their own abilities to soothe, comfort, and deal with their patients' anxiety. The outcome data for this hypothesis, the chart audit, partially supported this prediction. The third-year residents did decrease their prescriptions of the benzodiazepines. The second-year residents, however, did not. There were no significant increases in the noting of affect words on the chart audit pre-to-post-training.

### Conclusions

These results lead to several conclusions about the study. These conclusions are:

1. Affective Sensitivity Scale scores, pre-to-post-training, showed no statistically significant increase. Although individual scores remained largely unchanged, there was a wide variance among the residents, with more high scores than low ones.
2. Measurement by the CVRS showed a significant pre-to-post-training increase in basic communication skills.
- 3a. The affective subscale on the CVRS discriminated

between those residents trained in IPR and those not trained.

- 3b. The exploratory, active listening, and honest labeling subscales of the CVRS did not discriminate between residents trained in IPR and those untrained. These findings were confounded by low inter-rater reliability except in those areas which were statistically significant.
- 4. The chart audit did not show any statistically significant increase in affect words noted.
- 5a. Third-year residents did prescribe significantly less benzodiazepins after IPR training.
- 5b. Second-year residents showed no significant decrease in frequency of benzodiazepin prescriptions.

The significance of these conclusions and their relevance to medical education are discussed below.

### Discussion

The results of the study are discussed in this section in terms of the findings on each of the three instruments used.

#### The Affective Sensitivity Scale

The expected increases in Affective Sensitivity Scale scores did not occur. There are several factors which could account for this. A ceiling effect of the



instrument may have been reached, since residents started out scoring in the upper range of the scale. The already sensitive residents may not have scored significantly higher on the posttest because the instrument was not as sensitive a discriminator on the upper ranges. Also, the Affective Sensitivity Scale Form D, which was used in the study, was relatively new and may not have been as well validated as the earlier form. It was assumed that Form D was similar enough to the earlier form that data would apply; however, at about the same time this study was completed evidence was found by Kagan and Schneider (personal communication, Dec. 1977) that the new scale did not correlate well with the old one and that revisions were needed in the new scale. The new scale may well measure some other cognitive function, but to determine that was not within the scope of this study. Another possible explanation of the findings was that the Affective Sensitivity Scale measured residents' responses to filmed vignettes, but that these stimuli were mild by comparison to the real life trauma of a resident's life. The lack of significant increase, however, does not invalidate the gains on the other measure of sensitivity and listening skills, the CVRS. The residents' involvement was perhaps higher on the CVRS where their own patients were used in the evaluation. There was some difficulty in taking the posttest portion of the Affective Sensitivity Scale. It

was done with time taken from other services, which could have created some resentment of the posttest itself. Another factor was that the residents had seen the posttest Form D before. The residents possibly expected that it would be easier the second time around and that they would know the right answers, and so found it frustrating to have difficulties with it. The residents' discouragement may have been a factor in the lack of significance of the findings. Also, there were some scores with a marked decrease in performance. These decreases may have been due to such factors as a resident "trying too hard," being up for the past night on call, or having personal difficulties. Most residents were pleased with the feedback derived from the Affective Sensitivity Scale after their posttest. However, there were several who did not want to know their scores.

The consistency of the scores and of the patterns of the Affective Sensitivity Scale grid was remarkably high with few exceptions. Possibly residents' medical training made it difficult for them to forget their first trial. The findings on the Affective Sensitivity Scale suggest the need for further validation studies of the scale and the need for greater reliability of the extreme scores. The profile pattern of pretesting to posttesting suggests a lack of change, yet judging by the CVRS there were positive changes in affective sensitivity.

### The CVRS

It was not surprising that the CVRS scores were supportive of the hypotheses. The CVRS directly measured the basic communication taught in the first phase of the IPR series. Although the residents did not know how the audio tapes they made would be judged, they were on good performance just knowing that the recorder was in the room with them. They tried to do their best on interviews both pre and post. It was very evident that their tries on the posttest trials were more successful since they had more practice with the skills. The flexibility of the CVRS and its use both with simulated and real patients proved valuable to the study. The use of real patients as well as simulated ones gave the researcher a measure of cross-validation not often available in research studies. It was suspected from the data that residents were more at ease with their own real patients and so responded with more energy available for basic communication skills. Aggressive follow-up was necessary following initial requests for post tapes, since residents were often quite busy. However, with the cooperation of the nursing staff and with readily available recording materials, all residents did comply. The method proved reliable, valid, and worthwhile, and it indicated changes relevant to the study.

The simulated patient trial of the CVRS was





attempted under conditions more stressful than those with the real patients. On the in-training exam, residents were being evaluated by a team of judges on their interviewing skills (though not on the same dimensions as the CVRS--residents did not know they were being judged on the CVRS dimensions). This stress may have accounted for a significant difference occurring on only one of the basic communication skills scores, the affective scale. Another factor which may have influenced the other scales was that the residents who had already been trained in IPR at the time of the in-training exam were for the most part, first-year students with less experience generally and no prior experience with the exam. They were perhaps more anxious about taking this exam than were their more experienced peers. Inter-rater reliability scores for the Counselor Verbal Response Scale (CVRS) were somewhat low even though great care was taken to train the raters. The raters expressed difficulty in rating the medical interviews, particularly because what seemed like an appropriate response often did not fit into any of the CVRS categories. Much of the medical history was appropriate cognitive, demographic, or symptom description material. Given that the CVRS was difficult to apply to the medical interview and that for the in-training exam the affective dimension was the one of best inter-rater reliability scores, it is interesting that the affective dimension was also the only

significant discriminator between those residents with training in IPR and those without IPR training. Perhaps other subscales were not significant due to the low reliabilities of the raters.

### The Chart Audit

The chart audit data of affect words and other personal-social indicators and of prescription frequencies did not lend itself to traditional analysis and more work is needed on the chart audit system used. The chart audit data indicated that there were significant decreases in prescribing of benzodiazepins for the third-year residents. However, there were some very extreme increases in prescriptions among a small number of residents. These extreme scores could have thrown off the general trend for most of the residents and might account for the performance of the second-year group. All of the extreme users of the benzodiazepins were from the second-year class. Residents were not aware that their charts were being audited for either the drug information or for the behavioral observations. While this study found that only a small portion of residents significantly changed their prescribing practices, that change could affect the course of a patient's treatment.

A weakness in the chart audit was that the sensitive resident, defined by personal contact or the CVRS, did not always write onto the chart the perceptions made

about the patient. Another weakness in the measure was that its newness had not yet given it the additional validity or reliability indices necessary to be a useful research tool. Since no similar instrument was found in the literature, one was specially designed for this study. It is not yet known how this instrument can best be used. For example, are thirty patient encounters pre and post training a representative sample? Do further definitions of affect words need to be made? How would residents have changed had they known that their charts would be audited for drug frequencies and behavioral observations? It is not known if this instrument accurately reflected the changes that the residents were making. There are sensitive residents who do not write down everything they think a patient may be feeling or experiencing. This kind of measure may be too indirect in its measurement. The random selection of charts from each of the residents' patient population proved no easy task as there were often misplaced records, medical student notes, or computer misinformation which was misleading. But there were definite affect words noted in the chart and this instrument attempted to identify them.

#### Discussion of the Correlation Analysis

The correlation analysis summarized in chapter 4 gave rise to several interesting speculations. Before training in IPR, the honest labeling subscale of the CVRS

pretest showed a significant negative correlation with the pre affect words noted. This could suggest that these residents were actually labeling their patients' affect appropriately in the real patient interviews but not using that same language on their charts. On the post honest labeling dimension with the post affect words noted, the negative correlation changed to a random one, which suggested that residents at the time of the posttest were no longer exhibiting such a marked discrepancy. However, the converse is also possible--residents not labeling affect in the presence of their patients, but doing so on the charts. On the posttest, that discrepancy was not evident.

After training in IPR, the exploratory subscale of the post CVRS was negatively correlated with the affect words noted. This finding suggested that those residents who used exploratory statements with their patients did not note affect words on the chart audit. This movement from a random effect at pretest time on the exploratory dimension to a negative one at posttest time was suggestive of interviewers who relied on more exploratory responses to stay safe. Possibly, those who wrote affect words on charts were doing more labeling of affect and less exploring.

Similar findings were associated with the CVRS pretest and the Affective Sensitivity Scale pretest. Both

the affect and honest labeling subscales of the CVRS correlated positively with the A.S.S.--those who scored higher on the A.S.S. also scored higher on the CVRS dimensions and those who scored lower on the A.S.S. also scored lower on the CVRS. However, the posttest trials of those instruments were not significantly correlated, suggesting a change in skill level on the CVRS. Since the CVRS scores did increase pre-to-post but the A.S.S. scores did not increase significantly, it follows that there may be some distinction between those who have a native ability, i.e., high scores on the A.S.S., and those who acquire the basic skills over time. Possibly those with native ability exhibited CVRS skills on the pretest, but on the posttest their peers applied the skills they had learned.

The trend of the significant correlations was to move toward a random effect at posttest. This trend was found for the A.S.S. with both affect words noted and benzodiazepins. First, a negative correlation was noted, then during the posttest it was random. Those who scored higher in the A.S.S. pretest did not write affect words in the charts, but they prescribed more benzodiazepins. Those who scored lower on the A.S.S. pretest wrote affect words but prescribed less benzodiazepins. That was not the case on the posttest, however. Those who scored higher on A.S.S. changed by writing more affect words in the charts and prescribing less benzodiazepins, and those

who scored lower on the A.S.S. wrote affect words less and prescribed more.

The number of significant correlations in the study was quite small, with little reliable generalization possible. However, the issues above are useful to point out and indicate the need for replication in further research. In addition to the above considerations, the pre-post quasi-experimental design of this study raised additional issues. There are some experimental problems when a true control group is not possible. Although setting up a control group in a field setting may be extremely difficult, the added ability to generalize findings may make it a worthwhile effort. Without a true control group, results are difficult to generalize. A control group of residents might have stayed unchanged, or they might have prescribed many more drugs and noted far fewer affect words. On the other hand, the opposite could have occurred. IPR in the first case would then have made a significant impact because the residents with IPR training (the treatment group) did not drastically increase prescription frequencies and noted less affect words. In the second case, IPR could have been judged detrimental to the treatment group.

### Implications

Two questions emerge from the findings. These questions are (1) How does the affect sensitivity of the physician influence prescribing practices? and (2) What other affective factors may be involved in the practice of family medicine, including diagnosis and treatment plans? Those two questions cannot yet be answered empirically. Further studies need to be done on the assessment of physicians' sensitivity to affect and on the relationship of that sensitivity to medical practice. With the rising cost of medical education it is important to be able to justify the kind of training that will be needed to teach affective sensitivity and basic communication skills. Outcome studies of patient populations will be needed to document the belief that such affective sensitivity training is indeed cost-effective. New studies will require new evaluative instruments. One such new instrument is the chart audit developed for this study.

The chart protocol for behavioral observations, if validated, could be used for both research and feedback to residents. Such an instrument could provide an educational evaluation of the residents' progress, and the feedback it could provide would make residents more likely to consider their patients in both a medical and behavioral framework.

A chart audit may not be the format to assess change in outcome. Perhaps patient perceptions or

compliance would be better measures. Another possible approach to evaluation of interpersonal training is to look at diagnoses from both treatment and control groups and have a panel of experts evaluate the diagnoses after a reexamination of each patient.

The IPR model was readily accepted in the residency program. It probably answered needs of both the faculty and residents. One such need was that of specific and acquirable skills which fostered the resident's confidence in communicating with patients. Another need was the resident's desire to have time for reflection and self-study. So often in the residency period time for reflection is sacrificed for work, sleep, time with loved ones, or recreation. IPR created a legitimate time and place to be with oneself, to "center," to feel, and to express feelings directly. This need for reflection and processing is important in the learning process. Learning theory principles support the notion of incorporation time and this time was provided by the IPR course. Because residents were encouraged not to role-play, but instead to share their own real concerns, they used one another for support and for feedback. The fostering of peer support and cooperation rather than competition is an asset well worth the time it takes to develop, whether for a new resident or an established physician in practice.



### Recommendations

A review of the implications and the results of the study suggests several specific recommendations. Future research could aim to control for the confounding variables of history and maturation which could be accomplished by training all the residents at one time. In addition, the group could be split offering one-third of each class to one IPR instructor, one-third to another IPR instructor, and one-third as a control group with no intervention. The use of more than one instructor would control for the instructors' impact on the training, and a control group would further strengthen the research.

Other modifications include comparisons of IPR with other teaching models, and introducing IPR at different times in the medical education--for instance, first-year medical school versus fourth-year versus internship or residency. A longitudinal study of the impact of such training could help identify the most appropriate time for such a course to be offered, if indeed differences were found. Other measurement tactics could be taken such as attitudinal surveys about patient management, self-concept, or patient compliance. These would be valuable sources of outcome data.

An important recommendation is that the IPR training itself be given adequate follow-up (and studies need to be done to determine what is adequate). This follow-up might be in the form of a monthly recall session, a basic

communication skill review, or serving as an inquirer for a peer. In any case, residents commented (via personal communication) that they needed a refresher in IPR and some type of reinforcement, and that they sometimes forgot to use their skills. Follow-up is an important adjunct to the original IPR experience. Another research possibility is to teach first-year residents and measure longitudinally over the second and third years to determine the long range impact of IPR training. Another important change is that the Affective Sensitivity Scale, Form E, which does correlate with the original scale, should be applied as an indicator of student learning. In medical or other field settings, the attitude subjects have about their training can influence the outcome of a study. It is suggested that overt testing of subjects be kept to a minimum to reduce the possibility of their developing resentment over time spent with testing procedures (especially if immediate feedback is not available) and also to minimize the feeling of being a "guinea pig." In a project where personal affect is explored, it is important not to be intrusive or rigid. People can be invited to look at themselves, but little is gained when participation is not voluntary. It is advised that those requesting not to participate be allowed to drop out.

Teaching of IPR in the medical setting calls for the instructor to be well versed about the numerous every-

day examples the medical system offers. This means listening and observing closely for a time in order to learn from the residents the relevant areas to approach. It is also recommended that IPR should be offered to spouses interested in keeping up with their partners. This generates an instant practice set for residents and also reinforces the learning situation.

The use of the audio tapes with the CVRS is strongly recommended as a teaching tool as well as an evaluative one. In the study, residents made such tapes and often wanted to talk about the interview afterwards. The residents were introduced to a learning technique of processing their encounters which many still use on their own.

#### Non-hypothesized Observations: The Impact of IPR

The full impact of IPR training on the Family Medicine Program cannot be appreciated without some additional information on its importance to the medical system and to the community. This study took two years to complete. In that time IPR went from a foreign-sounding word to a well-accepted, mandatory part of the residents' curriculum. Very positive, unsolicited feedback was reported to the instructor from a standard evaluation form eliciting the non-specific evaluation of the Family Medicine Center experience by residents. For example, residents made statements like the following about IPR:

1. Best teaching done by the Family Medicine Program, possibly the best teaching in three years of residency
2. A super experience! Belinda is helping me develop my feelings, understand them, and use them effectively.
3. IPR is absolutely indispensable.
4. IPR is very useful.

In addition, though attendance of non-residents was not allowed (for experimental purposes), requests for more IPR courses began to arrive. Word of mouth spread from resident to resident. Their spouses and others asked for IPR to enable them to keep up with the ability to "listen and understand" their own communications more fully. The Family Medicine nurses repeatedly requested IPR and arranged their time to get the IPR experience. A neighboring university (UNC) is currently planning to use IPR with their medical students. Duke nursing students came in groups to try to enroll in the course, and the Physician's Associates arranged for all of their students to take IPR.

Because the demand for IPR courses exceeded the supply of available instructors, two additional psychologists, trained similarly to the researcher, were given positions in the university. In addition, this instructor was invited to present the IPR model to a group of faculty representing every family medicine program in the state.

A nationwide faculty development program sponsored by STFM (Society for Teachers of Family Medicine) featured an IPR presentation which received outstanding ratings from the participants. An invitation to train the family doctors at Andrews Air Force Base in early 1978 resulted from this presentation. It became quite clear that IPR did indeed have an impact on the residency training program, the university, and the community.

As a result of the focus on the behavioral science aspects of training, residents also began asking for more consults with their patients and became interested in Balint groups and family interactions as well as in their own personal growth. Their appreciation, enthusiasm, and cooperation made teaching them a joy. Another important aspect of the IPR experience was that it provided a legitimate forum for direct honest communication between instructor and resident which for many residents opened the door to personal exploration, trust, and growth. This feeling of trust seemed to generalize to other faculty as well--residents began to train the faculty, nurses, and preceptors by giving clearer, more sensitive feedback, and by being more capable of confronting themselves and others. Thus, IPR promises to have a continuing effect on these residents, and through them to many others.

## APPENDIX

Table 4.1  
Weighted Scores on the Affective Sensitivity Scale  
for the Total Group (Years 1, 2, 3)

|                                                                      | Weighted<br>X |        | t     | df | p    |
|----------------------------------------------------------------------|---------------|--------|-------|----|------|
|                                                                      | Pre           | Post   |       |    |      |
| Client                                                               | 32.956        | 32.869 | .13   | 22 | >.05 |
| Interviewer                                                          | 33.913        | 32.869 | 1.02  | 22 | >.05 |
| Child                                                                | 11.739        | 11.782 | -.08  | 22 | >.05 |
| Male                                                                 | 46.391        | 45.782 | .44   | 22 | >.05 |
| Female                                                               | 31.478        | 31.521 | -.05  | 22 | >.05 |
| Educational                                                          | 21.695        | 21.260 | .60   | 22 | >.05 |
| Health                                                               | 13.391        | 12.695 | 1.36  | 22 | >.05 |
| Informal                                                             | 8.190         | 8.285  | -.33  | 20 | >.05 |
| Group                                                                | 16.695        | 17.130 | -.79  | 22 | >.05 |
| Counseling                                                           | 11.571        | 11.333 | .46   | 20 | >.05 |
| Psychotherapy                                                        | 23.391        | 24.260 | -1.09 | 22 | >.05 |
| TOTAL                                                                | 78.826        | 77.521 | .89   | 22 | >.05 |
| Random                                                               | 9.000         | 9.217  | -.35  |    | >.05 |
| df = 20                      t = > 1.725                      1 tail |               |        |       |    |      |
| df = 22                      t = > 1.717                             |               |        |       |    |      |

Table 4.2  
Unweighted Scores on the Affective Sensitivity Scale  
for the Total Group (Years 1, 2, 3)

|               | Unweighted<br>X |        | t      | df | p    |
|---------------|-----------------|--------|--------|----|------|
|               | Pre             | Post   |        |    |      |
| Client        | 22.826          | 22.739 | .21    | 22 | >.05 |
| Interviewer   | 23.043          | 22.782 | .60    | 22 | >.05 |
| Child         | 7.869           | 8.087  | -.76   | 22 | >.05 |
| Male          | 30.782          | 30.913 | -.15   | 22 | >.05 |
| Female        | 22.260          | 22.739 | -1.08  | 22 | >.05 |
| Educational   | 14.956          | 15.304 | -1.09  | 22 | >.05 |
| Health        | 9.304           | 8.695  | 1.99   | 22 | >.05 |
| Informal      | 5.476           | 5.714  | -1.75  | 22 | >.05 |
| Group         | 11.956          | 12.434 | -1.59  | 22 | >.05 |
| Counseling    | 7.761           | 7.666  | .34    | 20 | >.05 |
| Psychotherapy | 16.260          | 16.521 | -.67   | 22 | >.05 |
| TOTAL         | 54.000          | 53.782 | .35    | 22 | >.05 |
|               |                 |        |        |    |      |
| df = 20       | t = > 1.725     |        | 1 tail |    |      |
| df = 22       | t = > 1.717     |        |        |    |      |



Table 4.3  
 Weighted Scores on the Affective Sensitivity Scale  
 for 1st Year Residents

|               | Weighted<br>X |        |        |    |      |
|---------------|---------------|--------|--------|----|------|
|               | Pre           | Post   | t      | df | p    |
| Client        | 30.909        | 31.636 | -.69   | 10 | >.05 |
| Interviewer   | 32.636        | 31.818 | .57    | 10 | >.05 |
| Child         | 11.454        | 11.454 | .0     | 10 | >.05 |
| Male          | 45.454        | 44.818 | .28    | 10 | >.05 |
| Female        | 29.727        | 29.818 | -.46   | 10 | >.05 |
| Educational   | 20.636        | 20.090 | .46    | 10 | >.05 |
| Health        | 13.000        | 12.636 | .46    | 10 | >.05 |
| Informal      | 8.300         | 7.900  | .80    | 9  | >.05 |
| Group         | 16.545        | 16.818 | -.39   | 10 | >.05 |
| Counseling    | 11.300        | 11.400 | -.12   | 10 | >.05 |
| Psychotherapy | 22.090        | 22.909 | -.60   | 10 | >.05 |
| TOTAL         | 75.818        | 75.090 | .30    | 10 | >.05 |
|               |               |        |        |    |      |
| df = 9        | t = > 1.833   |        | 1 tail |    |      |
| df = 10       | t = > 1.812   |        |        |    |      |

Table 4.4  
Unweighted Scores on the Affective Sensitivity Scale  
for 1st Year Residents

|               | Unweighted<br>X |        |        |    |      |
|---------------|-----------------|--------|--------|----|------|
|               | Pre             | Post   | t      | df | p    |
| Client        | 21.727          | 22.090 | -.63   | 10 | >.05 |
| Interviewer   | 22.363          | 22.454 | -.23   | 10 | >.05 |
| Child         | 7.545           | 7.727  | -.45   | 10 | >.05 |
| Male          | 30.090          | 30.636 | -.43   | 10 | >.05 |
| Female        | 20.909          | 21.909 | -1.51  | 10 | >.05 |
| Educational   | 14.363          | 14.636 | -.63   | 10 | >.05 |
| Health        | 9.000           | 8.818  | .39    | 10 | >.05 |
| Informal      | 5.500           | 5.600  | -.43   | 9  | >.05 |
| Group         | 11.723          | 12.272 | -1.49  | 10 | >.05 |
| Counseling    | 7.600           | 7.700  | -.22   | 9  | >.05 |
| Psychotherapy | 15.545          | 16.090 | -.92   | 10 | >.05 |
| TOTAL         | 52.090          | 52.818 | -1.02  | 10 | >.05 |
|               |                 |        |        |    |      |
| df = 9        | t = > 1.833     |        | 1 tail |    |      |
| df = 10       | t = > 1.812     |        |        |    |      |

Table 4.5  
 Weighted Scores on the Affective Sensitivity Scale  
 for 2nd Year Residents

|               | Weighted<br>X |        | t     | df | p    |
|---------------|---------------|--------|-------|----|------|
|               | Pre           | Post   |       |    |      |
| Client        | 35.400        | 33.800 | 2.28  | 9  | >.05 |
| Interviewer   | 35.0          | 33.8   | .66   | 9  | >.05 |
| Child         | 12.000        | 11.900 | .12   | 9  | >.05 |
| Male          | 47.60         | 47.20  | .19   | 9  | >.05 |
| Female        | 34.10         | 33.00  | .86   | 9  | >.05 |
| Educational   | 22.50         | 22.20  | .29   | 9  | >.05 |
| Health        | 13.80         | 12.80  | 1.20  | 9  | >.05 |
| Informal      | 8.55          | 9.11   | -1.64 | 8  | >.05 |
| Group         | 17.00         | 17.80  | -.78  | 9  | >.05 |
| Counseling    | 11.77         | 11.00  | 1.02  | 8  | >.05 |
| Psychotherapy | 25.30         | 26.00  | -1.00 | 9  | >.05 |
| TOTAL         | 82.70         | 80.20  | 1.20  | 9  | >.05 |

df = 9  
 df = 10

t = > 1.833  
 t = > 1.860

1 tail

Table 4.6

Unweighted Scores on the Affective Sensitivity Scale  
for 2nd Year Residents

|                                                                     | Unweighted<br>X |        | t     | df | p    |
|---------------------------------------------------------------------|-----------------|--------|-------|----|------|
|                                                                     | Pre             | Post   |       |    |      |
| Client                                                              | 24.00           | 23.300 | 1.00  | 9  | >.05 |
| Interviewer                                                         | 23.500          | 22.900 | .68   | 9  | >.05 |
| Child                                                               | 8.100           | 8.300  | -.39  | 9  | >.05 |
| Male                                                                | 31.300          | 31.100 | .14   | 9  | >.05 |
| Female                                                              | 23.700          | 23.500 | .29   | 9  | >.05 |
| Educational                                                         | 15.400          | 15.700 | -.50  | 9  | >.05 |
| Health                                                              | 9.500           | 8.600  | 1.96  | 9  | >.05 |
| Informal                                                            | 5.666           | 5.888  | -1.51 | 8  | >.05 |
| Group                                                               | 12.200          | 12.700 | -.89  | 9  | >.05 |
| Counseling                                                          | 7.777           | 7.555  | .51   | 8  | >.05 |
| Psychotherapy                                                       | 17.200          | 12.100 | .20   | 9  | >.05 |
| TOTAL                                                               | 56.000          | 54.600 | 1.24  | 9  | >.05 |
| df = 8                      t = > 1.860                      1 tail |                 |        |       |    |      |
| df = 9                      t = < 1.833                             |                 |        |       |    |      |

## Course Outline

| <u>Week</u> | <u>Class--2 hours/session</u>                                                 | <u>Lab--1-2 hours/session</u>             |
|-------------|-------------------------------------------------------------------------------|-------------------------------------------|
| 1           | Introduction to course<br>Active listening and<br>Exploratory response modes  | Operation of equipment<br>lab             |
| 2           | Review of above<br>Affective and Honest Label-<br>ing modes. Affective films. | Individual video recall<br>of interviews  |
| 3           | Affective Sensitivity films                                                   | Individual recall                         |
| 4           | Film of recall session                                                        | Individual recall                         |
| 5           | Inquirer role discussion<br>and practice. Film                                | Inquirer training                         |
| 6           | Inquirer role discussion<br>and practice                                      | Inquirer training                         |
| 7           | Mutual recall film and<br>discussion                                          | Mutual recall                             |
| 8           | Mutual recall film and<br>theory discussion                                   | Mutual recall with sig-<br>nificant other |

Definition of terms:

Active listening, Exploratory, Affective, and Honest Labeling. These listening skills provide the backbone of the vocabulary of IPR training and give the participants a common base from which to work.

Affective Sensitivity films are a series of short (approximately one minute) vignettes of actors and actresses portraying emotions that the students respond to. Initially in the training, the participants are asked to confront only films, they progress to video tapes of an interaction that has just happened (there is still safety in distance), and eventually to confrontation in the "here and now" with their co-workers and patients.

Recall is that process whereby students are given the opportunity in labs to "debrief" after a short ten-minute interaction that is replayed for them on video tape. This process is facilitated by an inquirer.

An Inquirer is one who is specially trained in the techniques of IPR and is a non-judgemental, non-critical, yet active listener who encourages the student to use the time to understand him/herself more fully. (The video tape provides feedback enough, hence the non-critical role of the inquirer. The instructor will act as inquirer for the group until week five, when the participants will be trained to take on that role themselves).

Individual or Mutual recall depends upon whether the student views the tape privately with the inquirer or together with the interviewee and the inquirer.

AFFECTIVE SENSITIVITY SCALE  
FORM D  
Feedback

NAME: \_\_\_\_\_ Date of Testing: \_\_\_\_\_

The following scores represent your performance on the Affective Sensitivity Scale, Form D. Scores have been determined from multiple areas of content and context, and are not mutually exclusive. Next to your actual score for each category is the standard score, based on the norms for the "expert judges" or criterion group.

You will note that partial credit has been given on some items. If you selected the preferred alternative, you received two points for that item. If you selected any other acceptable response, you received one point. If you selected an alternative that was considered random, or unrelated, you received no points for that item, a score of zero.

| Item #           | Acceptable Responses |             |             | TOTAL | STANDARD SCORE |
|------------------|----------------------|-------------|-------------|-------|----------------|
|                  | Preferred<br>+2      | Other<br>+1 | Random<br>0 |       |                |
| Client 28        |                      |             |             |       |                |
| Interviewer 26   |                      |             |             |       |                |
| Child 10         |                      |             |             |       |                |
| Male 36          |                      |             |             |       |                |
| Female 27        |                      |             |             |       |                |
| Educational 18   |                      |             |             |       |                |
| Health 11        |                      |             |             |       |                |
| Informal 6       |                      |             |             |       |                |
| Group 14         |                      |             |             |       |                |
| Counseling 9     |                      |             |             |       |                |
| Psychotherapy 19 |                      |             |             |       |                |
| TOTAL 63         |                      |             |             |       |                |

## CVRS

|     | Affective | Cognitive | Exploratory | Non-Exploratory | Active Listening<br>↓ Blocking | Honest Labeling<br>↓ Distorting |
|-----|-----------|-----------|-------------|-----------------|--------------------------------|---------------------------------|
| 1.  |           |           |             |                 |                                |                                 |
| 2.  |           |           |             |                 |                                |                                 |
| 3.  |           |           |             |                 |                                |                                 |
| 4.  |           |           |             |                 |                                |                                 |
| 5.  |           |           |             |                 |                                |                                 |
| 6.  |           |           |             |                 |                                |                                 |
| 7.  |           |           |             |                 |                                |                                 |
| 8.  |           |           |             |                 |                                |                                 |
| 9.  |           |           |             |                 |                                |                                 |
| 10. |           |           |             |                 |                                |                                 |
| 11. |           |           |             |                 |                                |                                 |
| 12. |           |           |             |                 |                                |                                 |
| 13. |           |           |             |                 |                                |                                 |
| 14. |           |           |             |                 |                                |                                 |
| 15. |           |           |             |                 |                                |                                 |
| 16. |           |           |             |                 |                                |                                 |
| 17. |           |           |             |                 |                                |                                 |
| 18. |           |           |             |                 |                                |                                 |
| 19. |           |           |             |                 |                                |                                 |
| 20. |           |           |             |                 |                                |                                 |

## **BIBLIOGRAPHY**



## Guidelines for Chart Audit

### Specific Guidelines and Examples-

1. Family History (look for facts plus interpretation)
  - no - patient lives with mother
  - yes - mother of patient is overprotective
 Is there an indication of dynamic family interaction?
  - no - Married with 3 children
  - yes - Marital Conflict
2. Diagnosis (must contain reference to cause or precipitating event)
  - no - depression
  - yes - depression secondary to loss of spouse
3. Treatment Plan (is there evidence of treatment beyond the organic or chemical?)
  - no - valium
  - yes - valium then if no improvement refer for psychotherapy

### Non-Specific Guidelines-

Look for words which indicate interpretation of facts, explanations, or cause and effect:  
 secondary to, due to, because of, as a result of, etc.

Look for any mention of 'troubles', 'dischord', 'stress', 'difficulty', 'concern', emotional problems, etc.

Look for any mention of sexual problems.

Look for any mention of alcohol or drug use.

### Examples:

- no - Patient enuretic times 1 month
- yes - Patient enuretic. May be secondary to move to new school.
- no - Patient wants birth control
- yes - Patient beginning sexual relations and wants birth control.
- no - Lump in breast. Possible cancer.
- yes - Patient concerned about lump in breast. Afraid of cancer.
- no - Alcohol, one pint per day.
- yes - Patient drinks heavily, one pint per day, for his 'nerves'.

To make a yes decision, there must be present any one of the above examples of physician sensitivity.

To make a no decision, there must not be any indication of sensitivity.

|                   |                     |             |              |
|-------------------|---------------------|-------------|--------------|
| 1 = Valium        | 3 = Anit-Depressant | 5 = Other   | 7 = Other    |
| 2 = Librium       | 4 = Valium/Librium  | 6 = No Drug | Tranquilizer |
| + Anti-Depressant |                     |             |              |

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