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GRADUATE COLLEGE

THE EFFECT OF BEHAVIORAL SPECIFICITY DURING TIME-  
LIMITED TRAINING ON THE INTERVIEWING COMPETENCIES OF  
MEDICAL PRACTITIONERS

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MEDICAL PRACTITIONERS

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Abstract

Sophomore medical students (N = 106) participated in interview training provided under the field constraints of the medical education curriculum. The amount of behaviorally specific feedback on target interview behaviors designed to accomplish the goals of a medical interview was varied at two levels during two different interventions. A 4-hour didactic presentation was followed at an intervening interval of 1 to 18 weeks by a video-taping with a simulated patient and debriefing by an observer. Effects were assessed using ratings of both written responses to video-tape vignettes administered pre/post to the second intervention and behavior during the video-taped interview. The Interviewer response Categorization Scale (IRCS) was developed to categorize each interviewer response along facilitative and nonfacilitative dimensions. Results, while in the predicted direction, failed to achieve statistical

significance, but were confounded by uncontrollable subject variability. Level of specificity during training did not predict performance on either measure, nor was evidence found of generalization from training to actual interview behavior. Conclusions were drawn regarding the importance of validated time-limited interventions for field application.

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The quality of the physician-patient relationship has long been acknowledged as a critical factor in effective diagnosis, treatment, and compliance (Morgan & Engel, 1969). The connection between patient perceptions of quality of care and the rise of malpractice suits, however, has stimulated renewed attention to the importance of developing the interpersonal competencies of medical practitioners during their professional training (Millman, 1977; "The malpractice crunch," 1973). Soule & Gullledge (1977) summarize the issue in quoting Bulger (1973):

most laymen take clinical ability for granted and will not judge the physician in terms of his basic medical skills, which they assume he possesses merely because he is a physician. He will be judged and then trusted accordingly solely in terms of the following:

"The genuineness of his interest, the thoroughness of his approach to the problem, his personal warmth, understanding and compassion, and finally the degree of clarity with which he gives the patient insight into what is wrong and what must be done." (p. 37)

Numerous evaluation mechanisms attempt to certify a minimum level of technical expertise in practicing physicians (e.g., specialty board certification). However, no similarly rigorous procedures currently exist for monitoring the competence of the practitioner to establish and maintain a working interpersonal relationship with the patient.

This lack of attention to the personal element is striking for two reasons. First, the physician's ability to elicit accurate and complete data from the patient regarding the present illness, including any relevant past history, directly effects both the diagnosis and formulation of treatment plans. Second, the patient's perception of the quality of the interpersonal relationship with the physician has been demonstrated to influence directly satisfaction with medical care and compliance with treatment regimen (Becker and Maiman, 1975; Bertakis, 1975; Vuori, Aaku, Aine, Erkko, Johansson, 1972).

Recent studies (Waitzkin and Stoeckle, 1972, 1976) have conceptualized the complex interaction of physician, patient, and environmental variables influencing the process of health care delivery. Both macro-level factors (e.g., subcultural belief systems, socioeconomic status) and micro-level variables (e.g., match between physician and

patient expectations, communication patterns) influence the overall outcome of service.

Matarazzo (1971) has extensively reviewed the growth of training efforts in interviewing skills for medical practitioners and suggested that increased demands for "mental health services" have required practitioners to demonstrate a minimum level of competency in a set of skills formerly considered the unique domain of psychiatric treatment (Matarazzo, Wiens, & Saslow, 1966).

Since the 1960's, at both the undergraduate and residency training levels in medical education, an increased emphasis on psychosocial skill development has required behavioral scientists to integrate their disciplines into the highly competitive medical science curriculum (Engel, 1971; Johnson, Fisher, Guy, Keith, Keller, & Sherer, 1977; Kennedy, 1974). The pressures of the medical education curriculum require that ideals of patient care, medical or psychosocial, either be accommodated to the "real world" contingencies of high-volume, time-restricted medical practice or be discarded by practitioners as "interesting, but unworkable."

While the normative qualities of an effective medical interview have been extensively described (Blum, 1960; Morgan & Engel, 1969; Szasz & Hollender, 1956), there are few examples of validated training approaches which equip the practitioner with the skills necessary to achieve these goals. A wide variety of training approaches are reported in the literature, but they differ considerably with respect to (a) goals, (b) duration of training, (c) sample size, and (d) outcome measures (Rasche, Bernstein, & Veenhuis, 1974; Ward & Stein, 1975;

Werner & Schneider, 1974). Recent studies (Moreland, Ivey, & Phillips, 1973; Pacoe, Naar, Guyett, & Wells, 1976; Soule & Gullledge, 1977) have reported training designs and experimental evaluation of the outcomes.

A promising approach for skill development is the micro-training paradigm developed by Ivey (1971). This model emphasizes the isolation and development of discrete and sequential interviewer behaviors in a training setting as the foundation for more complex interactions in actual interview encounters. Distinguishing characteristics include the focus on the behavioral interaction skills of the interviewer, immediate feedback to facilitate learning, a video-tape evaluation mode, and a strong emphasis on the supplementary rather than replacement quality of skill training in total interviewer preparation.

This approach has been demonstrated to effect changes in interviewer behavior during relatively brief training experiences (Ivey, Normington, Miller, Morrill, & Hasse, 1968). Moreland (1971) reviews the development of microtraining research within the history of therapist training and extends the application of the model to medical interview training (Moreland, et al., 1973).

Comparing a training mode of higher behavioral specificity to one of lower behavioral specificity (N = 24), Moreland, et al. (1973) reported limited gains using dependent measures of the Rogerian "core facilitative conditions." The experimental intervention consisted of a total of 12 training hours over six consecutive weeks and used volunteer psychiatric patients for the pre and posttest interviews.

The equivocal results reported in this study may be due, in part, both to the limited capacity of the dependent measures to assess effects as demonstrated in a medical interview and also to the unique patient population.

Carr (1976) reports a study using the microcounseling paradigm with first-year nursing students. Dependent measures focused on the generalization of skills from the training to the clinical setting. Results indicated that the skills did not generalize, although students trained with the microcounseling model were able to demonstrate the appropriate behaviors during cognitive posttest evaluations.

The work of Litton-Hawes (1976) is an example of the in situ research required in medical education settings; that is, the development of conceptual models for the complex interaction between physician and patient which will directly facilitate training efforts which have favorable patient outcomes.

Pacoe, et al. (1976) reviewed the medical literature related to interview training and noted a dearth of experimental evidence regarding effectiveness. A training model was designed and implemented to increase students' level of comfort with emotionally intense material (N = 20). Dependent measures were devised, including a video-tape stimulus presentation mode to which students made a written response which was scored on the Rogerian "core facilitative conditions." Gains in the experimental treatment group were reported, including changes in subscales of a personality measure (Personal Orientation Inventory, Shostrom, 1974) employed as a pre and posttest after the 15-hour training intervention.

Soule and Gullede (1977) reported an approach which included both the microtraining model as well as use of simulated patients. Their results, however, fail to document the effectiveness of the training in modifying behavior during an interview.

The variety of approaches to medical interview training reported in the literature reflects both the complexity and urgency of the task. To combine an efficient training methodology with a systematic evaluation process and to develop dependent measures meaningfully related to medical interviewing will build upon isolated research already completed and extend knowledge in the field.

This study addressed the question: What is the effect of providing behaviorally specific feedback during time-limited training on the interviewing skills of medical students in standardized interviewing situations?

A larger subject sample, the use of non-psychiatric patients, and a time-limited intervention more closely approximated the field conditions of medical education. In addition, a comparison of different training modalities, variable levels of behavioral specificity during training, and an assessment of the relative effectiveness of written and behavioral dependent measures was made.

It was predicted that students trained with a higher level of behavioral specificity would demonstrate a higher frequency of facilitative behavior on written tests and in an interview than those trained with lower levels of behavioral specificity.



## Method

### Subjects

The subjects in this study were all 106 sophomore medical students (94 male, 12 female) at the University of Utah Medical School during 1976-77 who were enrolled in the required course "Introduction to Medicine." Interview training is only one part of the 1-1/2 year course. During the spring of the first year the students as an entire class had received six hours of orientation to the interpersonal dynamics of a medical interview.

In the fall activities consisted of three major types: (a) lectures to the entire class on the components of a medical interview (e.g., structure, protocol, presentation of findings) by the medical faculty; (b) interview training (provided by the investigator) consisting of two separate phases (described below) over a period of 18 weeks; and (c) interaction with a medical preceptor during those weeks when not involved in the interview training; specifically, interviewing and examining a different hospitalized patient each week with presentation of physical findings to the preceptor.

For the latter two activities students were nonrandomly but nonsystematically preassigned to 26 permanent learning groups of 4 students each by the course coordinator for scheduling purposes. Groups were randomly assigned to treatment conditions by the investigator (within the limits described below) to equalize the number of subjects in each treatment condition.

## Procedure

### Constraints in assignment of groups to treatment conditions.

University of Utah training requirements dictated that all students (a) receive a minimum quality level of training, therefore eliminating the possibility of direct comparison groups of treatment versus no treatment, (b) participate in both didactic and experiential phases of training (detailed below), eliminating the opportunity for direct comparison of training modes, (c) were exposed to predetermined durations of training (i.e., 4 hours of didactic training and 2-1/2 hours of video-taped interviewing and debriefing), limiting the potential for varying the treatment conditions to which various students were exposed, and (d) participate in each phase of training according to a prearranged master schedule, creating an interval between phases of training which varied from 1 to 18 weeks for different groups.

Pretest data on both interpersonal orientation (described below) and length of interval between each phase of training were intended as covariates to reduce confounding variability due to nonrandom assignment and nonequivalence in timing of presentation of treatment interventions.

Training process: Sequence of events. To enhance clarity for the reader, the sequence of treatments and observations have been schematically represented in Figure 1. Symbols in parentheses in the text refer to the diagram.

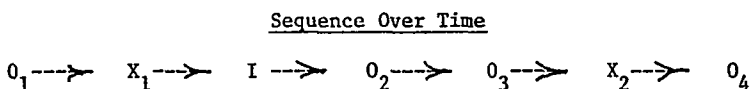
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FIGURE 1

Sequence of Observations and Treatments With Brief Explanation



Explanation of Symbols

- $O_1$  = individual personality measures (locus of control and authoritarianism) for all students administered immediately prior to Phase I training ( $X_1$ ; didactic training)
- $X_1$  = Phase I (didactic) training of 4 hours duration conducted in large groups of 20 - 24 students; two treatment levels, high and low specificity, assigned to groups
- $I$  = interval between Phase I and Phase II training; range of 1 - 18 weeks with two levels of this variable used for scheduling, and the exact length included in the experimental design as a covariate for each group
- $O_2$  = written responses to video-tape vignettes representing five interview segments to which each student responded; administered immediately prior to the video-taped interview with the simulated patient ( $O_3$ ); responses rated using the IRCS

FIGURE 1, Cont.

$O_3$  = video-taped interview of each student independently with a simulated patient; interviews were 7 - 10 minutes in length with the task of assessing the presenting patient complaint.

$X_2$  = Phase II (experiential) training of 2-1/2 hours duration (including video-taping); feedback regarding each student's interview to the small learning group by a psychosocial debriefer; two treatment conditions, high and low specificity were used; this intervention occurred within 1 hour of the actual taping.

$O_4$  = written responses to video-tape vignettes (equivalent to the pretest forms at  $O_2$ ) administered immediately following the interview debriefing; responses were rated using the IRCS.

Training was conducted in two separate phases by the investigator and a fellow staff member at the University of Utah. In Phase I ( $X_1$ ), the didactic phase of interview training, aggregates of 5 - 6 learning groups, or 20 - 24 students, independently participated in one of five sessions during a period of six weeks. These 4 hour sessions focused on the interpersonal dynamics of a medical interview. Each session was designated as of either "high" or "low" specificity to reflect levels of the independent variable of interest, behavioral specificity during training.

In the case of the single training session which included 24 students, two different training groups were conducted simultaneously, with one session designated high, and one, low specificity to equalize the number of students exposed to each level of treatment within each interval between phases of training. In this case two groups of 12 students each were trained.

A possible source of confounding variability beyond the investigator's control was the length of the interval (I) between phases of training during which students interacted with a medical role model and interviewed patients. Consequently, the investigator assigned treatment conditions so as to equalize the number of groups exposed to each level of the independent variable within each of two intervals. "Short interval groups" refers to those groups with 1 - 9 weeks elapsing between training phases, and "long interval groups" refers to those groups with 10 - 18 weeks elapsing between the same two experiences. There were 14 of the former (including 56 students) and 12 of the latter (including 50 students).

An initial exploration of the interaction between specificity (high and low) and training mode (didactic and experiential) was made by crossing levels of specificity between phases of training. Within each level of the interval between phases of the training, groups were assigned to either "high specificity" or "low specificity" training conditions for both Phase I and Phase II ( $X_2$ ; experiential) portions of the training. While all 20 - 24 students in each large group during Phase I were exposed to the same treatment conditions, the individual learning groups of four students were exposed to different treatment conditions in Phase II. Assignment of treatment conditions for individual learning groups during Phase II was made to equalize the cell sample size for each combination of treatment condition.

Phase I (didactic) training ( $X_1$ ). Total training time, exclusive of short breaks and the pretesting period, for all groups was approximately 3 hours and 15 minutes. Sequencing of various activities was carefully monitored to insure equivalence of practice and feedback time.

Elements common to both treatment conditions during Phase I ( $X_1$ ) were:

- A. Administration of the pretesting instruments (locus of control and authoritarianism).
- B. Identification of the goals of a medical interview.
- C. Presentation of a conceptual model for analyzing the inhibitors and facilitators of the communication process in a medical interview.
  1. Application of the model to video-taped examples
  2. Application of the model to the interviewing experience of the students themselves

- D. Presentation of the "typical medical interviewing model" and assessment of its effect in video-taped examples and personal experiences.
- E. Role-playing of medical interviewing in groups of three, with role designations rotating.
  - 1. Specified patient role portrayed by one student.
  - 2. Observer-feedback role for another student.
  - 3. Medical interviewer played by third student.

Subjects in the low specificity condition received:

- A. Identification of the goals of a medical interview, but no presentation of specific strategies by the trainer for accomplishing those goals.
- B. An equivalent period of individual role-playing as subjects in the other treatment condition, but without specification of the feedback criteria.

Subjects in the high specificity condition received:

- A. Identification of the goals of a medical interview and presentation of specific behavioral strategies for achieving those goals. Skills were discussed, modeled by the trainer, and practiced in sequential order, from those requiring minimum interviewer activity (e.g., appropriate attending behavior) to those requiring more active interviewer involvement (e.g., an empathic or active listening response to the patient's statement).
- B. An equivalent period of individual role-playing, but with the feedback criteria highly specified by the trainer.

Phase II (experiential) training (X<sub>2</sub>). Independently of their Phase I experience, the small learning groups of four students each were assigned by the course coordinator to a date for Phase II of their training. This consisted of interviewing a simulated patient while being video-taped, with feedback from psychosocial debriefer. As noted above, the interval between Phase I and Phase II varied from 1 to 18 weeks.

Male and female actors were selected by the investigator from the Fine Arts Department of the University of Utah. It was judged that the use of simulated patients as the student's first experience after training would facilitate learning by ensuring in advance the complexity of the patient's presented problem and controlling for the variability in ease or difficulty of interviewing based on the patient's cooperativeness (Soule and Gullede, 1977). Previous research efforts have employed actual patients to include a reality dimension to the experience, but have experienced a bias of results due to either (a) the patient's "interview-wise" behavior if interviewed sequentially by several students, or (b) the variability in patient stimulus if different patients are used for each student (Adler, Ware, and Enelow, 1970; Jason, Kagan, Werner, Elstein, and Thomas, 1971).

Three simulated patient scripts were prepared by the investigator in conjunction with medical faculty members, building on the work of Taylor, et al. (in press). Consideration was given to equivalence of scripts along the dimensions of (a) the severity of the medical complaint, (b) the amount of factual medical data available to the



interviewer, and (c) the extent and severity of the psychosocial concomitants of the patient's present illness, such as situational anxiety or psychogenic factors, if any.

Medical faculty were consulted regarding the appropriateness of the patient script and asked to make any modifications in detail or provide suggestions regarding patient presentation style which would enhance the credibility of the simulation. Two of the scripts were used a total of nine times each, and the third, eight times.

Simulated patients were trained by observing video-tapes of similar interactions in previous years, receiving specific coaching from the investigator to standardize their roles as much as possible, and experiencing an interview from a medical faculty member in preparation for the medical student interviews. Standardization procedures included observation by the investigator of the actual interviews, noting factors such as the level of voluntary information giving, appropriate and inappropriate occurrences of simulated patient behavior during the interview, and making recommendations to the simulated patients when necessary.

Elements common to both treatment levels during Phase II ( $X_2$ ) were:

- A. Administration of a video-tape pretest ( $O_2$ ) to each student independently, immediately prior to the interview.
- B. Presentation of instructions, including the availability of 7 - 10 minutes to assess the patient's present illness and verbal clarification of any questions regarding procedure.

- C. Video-taping (0<sub>3</sub>) of the student's interaction with the patient, up to a limit of 10 minutes, at which point the interview was terminated by the observer (positioned in a remote setting).
- D. Feedback (within 1 hour) to each student as the video-tapes were reviewed in the learning group of four with a psychosocial debriefer.

Subjects in the low specificity condition received:

- A. A minimum frequency of comments from the debriefer as the tape was reviewed, generally focusing on normative qualities of the interviewer's performance (e.g., "the patient seemed to be comfortable with you").
- B. A minimum focus by the debriefer on either appropriate or inappropriate interviewer behaviors.

Subjects in the high specificity condition received:

- A. A high frequency of debriefer input regarding specific positive or negative interviewer behaviors as the tape was reviewed. Discussion also included alternative methods of eliciting the same or additional information.
- B. Debriefing feedback based on the target interviewer behaviors specified in the high treatment condition during Phase I.
- C. The actor was present during the debriefing session with the student to provide feedback regarding the effect of various interviewing techniques from a patient's perspective.

At the conclusion of Phase II, students were administered a video-tape posttest ( $O_4$ ) as a group of four.

### Instrumentation

Data on each student was gathered in three major categories. Immediately prior to Phase I training ( $O_1$ ), each student completed a locus of control inventory (Nowicki-Strickland Scale, Nowicki & Duke, 1973) and an authoritarianism scale (Ray's Directiveness Scale, Ray, 1976) as an index of interpersonal orientation. These were intended for use as covariates with the other dependent measures to reduce individual variability not controlled for due to the nonrandom assignment of students to groups.

Selection of a dependent measure to assess the effects of the interview training presented a significant methodological problem. Because most measures reported in the literature were either closely tied conceptually to the training model whose effects they were designed to assess (Hess, 1969; Kagan, 1972) or represent adaptations of rating scales devised primarily for measuring relevant dimensions in psychotherapeutic interactions (Moreland, et al., 1973; Pacoe, et al., 1976), it was believed by the investigator that another measuring instrument was needed. Specific characteristics required included (a) sensitivity to relatively subtle behavioral differences between individual interviewers, (b) a stimulus presentation mode that included the non-verbal dimensions of a patient's statements, and (c) operational specificity in the rating process sufficient to achieve a high

level of interrater reliability (above 85% agreement).

The measuring device used in this research was the Interviewer Response Categorization Scale (IRCS). The IRCS operationalizes three discrete nominal categories of interviewer behavior: Disruptive, Neutral, and Facilitative. The Facilitative category is further delineated into five discrete types of facilitating responses.

The IRCS is based on work done by researchers at the University of Utah Medical School (Taylor, et al., in press). Reports of interrater reliability expressed as percent agreement by two raters on 178 segments rated indicated a 91% rate of agreement. Further analysis of the disagreements showed that less than 2% of the disagreements were between the operationally defined Disruptive and Facilitative categories.

The investigator extended the capabilities of the IRCS by (a) revising the operational definitions for each category, (b) calculating interrater reliability on a much larger sample, and (c) stating the decision rules for categorization and the definition of a ratable unit.

Using the Training Manual, the investigator and his associates trained two teams of three undergraduate raters each until interrater agreement was consistently 85% or better. Raters viewed a total of over 50 video-taped training examples of each operational definition under the three categories, observed and rated over 300 video-taped interview segments from previous years of student training, and during the training phase discussed the rationale for each of their ratings.

Interrater reliability was calculated as the number of segments on which two independent raters agreed, divided by the total number of segments rated, expressed as a percentage of total agreement. The third rater on each team was used to arbitrate in the case of a disagreement between the other two raters, but was not included in the reliability estimate.

The IRCS also has the potential property of being applicable to both written and behavioral responses. Consequently, two different types of dependent measures were used to assess the impact of the training during both phases.

Video-Tape Vignettes and Written Responses ( $O_2$  and  $O_4$ ). A series of interactions from a medical interview transcript (Froelich and Bishop, 1972) were selected. Five brief (30 - 90 second) segments of the total interview were enacted and video-taped in the television studio. The student was instructed to formulate and write within 30 seconds what he would actually say if he were the interviewer and had heard the last patient statement in the segment presented. Response points within the script were selected to maximize the number of potential responses an interviewer could make. For example, one might choose to ask about the specific character of the symptom the patient had mentioned (e.g., "Where does it hurt the most?"), or to respond to the affect portrayed by the patient (e.g., "You seem to be very upset about this. Could you say something more about how it is effecting you?").

Two equivalent series of five interview segments each were prepared, one for use as the pretest ( $O_2$ ), the other for the posttest

(0<sub>4</sub>). The procedure with both tests was identical. The pretest vignettes (0<sub>2</sub>) were administered to each student independently immediately prior to the interview with the simulated patient during Phase II. The posttest (0<sub>4</sub>) was administered to the learning group of four students simultaneously, immediately following the conclusion of the debriefing session with the psychosocial debriefer. Responses were coded to make the identity of a specific respondent, as well as whether the responses were to be pre or posttest items, anonymous to the raters.

Raters categorized each item for each student on both pre and posttest items using the IRCS. Each student received a single number score on both pre and posttests representing the percentage of total responses out of five possible items which were designated Facilitative.

Video-Taped Interviews (0<sub>3</sub>). Each student's interview with the simulated patient was video-taped (0<sub>3</sub>) during Phase II for use during the debriefing session. These tapes were retained for further data analysis using the IRCS. Interviews ranged up to ten minutes in length. Raters scored every interviewer response which occurred within the operational boundaries of a "ratable unit," defined as that interviewer response which occurred between patient statements which (a) were content-related; that is, more than simple non-verbal acknowledgment of the interviewer's statement, and (b) expressed some logical unit.

The order of interviews was randomized and individual students identified only by code number. Each interviewer's score was tabulated as the percentage of Facilitative responses.

### Reliability Estimates

Two basic types of reliability measures were calculated for all data. First, descriptive measures (percentage agreement between two independent raters) were generated, followed by a correlational measure (Cohen's K).

Percentage agreement was calculated on a 7-point scale to measure agreement of the data in the form it was obtained from the IRCS and on a 2-point scale (facilitative/nonfacilitative) as the basis on which the analysis was performed. These percentages were computed for each subject by the ratio of the total number of segments on which two primary raters agreed exactly to the total number of segments rated (i.e., 5 segments for  $O_2$  and  $O_4$ ; a variable number of segments between 14 and 55 for  $O_3$ ). The average of these scores (over all subjects and in the rater pair groups) was computed and is found in Table 1.

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Insert Table 1 about here

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It should be noted that the percentage agreement on the  $O_2$  and  $O_4$  data are somewhat lower than those on the  $O_3$  data due to the reduction in the total number of segments rated. Over 5 segments, if there was not perfect agreement, the next obtainable score was 80%. The overall averages of 76% and 79% on the 7-point scale to 84% and 83% on the 2-point scale indicate approximately one disagreement out of

TABLE 1

Reliability Estimates for All Data Sources by Rater Pair

Rater Pair	Average % Agreement on 7-Pt Scale	Average % Agreement on 2-Pt Scale	Average Cohen's K on 2-Pt Scale	Sample size for Group
Overall	76	84	.40	106
0 <sub>2</sub> 1	84	88	.53	16
2	73	84	.42	9
3	84	91	.55	21
4	78	85	.38	12
5	66	78	.37	24
6	74	80	.23	24
Overall	92	94	.84	106
0 <sub>3</sub> 1	93	94	.85	27
2	92	95	.86	9
3	95	97	.93	14
4	89	92	.79	13
5	88	92	.79	28
6	95	95	.84	15
Overall	79	83	.58	106
0 <sub>4</sub> 1	90	90	.73	26
2	83	89	.60	13
3	79	88	.74	21
4	87	87	.61	9
5	69	73	.44	18
6	69	73	.32	19



5 segments rated for each subject by each pair.

Because percentage agreement scores do not account for the possibly high degree of agreement which could occur if two raters were scoring random events, a third index of reliability, Cohen's K, was used (Cohen, 1960, 1968; Hartmann, 1977). The formula for K is  $(P_o - P_c)/(1 - P_c)$ , where  $P_o$  is the proportion of complete agreement observed, and  $P_c$  is the proportion of complete agreements expected by chance if the two raters are scoring independent events. Thus, the number of agreements observed are scaled by the number which might occur by chance. K, like the correlation coefficient r, has a range of -1 to +1, and its interpretation is similar.

The lower values of K for the  $O_2$  and  $O_4$  data when compared to the percentage agreement reported in Table 1 may reflect the difficulty in applying the IRCS definitions and scoring procedures to written data. The comparative similarity of percentage agreement and K for the  $O_3$  data suggests a substantial degree of reliability when rating behavioral data.

### Results

The obtained data did not provide an adequate basis for evaluating all of the planned research questions. This was primarily due to the exploratory nature of the research in conjunction with the field constraints detailed earlier. The results are presented in the logical sequence of the treatments and the data analysis, and are directed to the major question, the effect of behavioral specificity.

For purposes of this initial study an  $\alpha$  level of  $p=.10$  was chosen as an appropriate index of statistical significance.

Due to the methodological constraints detailed in the introduction, an analysis of covariance was planned to minimize some sources of confounding variability. Correlations between percent facilitative responses for all groups at  $O_2$ ,  $O_3$ , and  $O_4$  with the three planned covariates (authoritarianism, locus of control, and length of interval between phases of training) yielded statistically significant values in some cases. However, none of the correlations accounted for a substantial proportion of the observed variance and were discarded as representing spuriously high values due to the sample size.

The report of the obtained results is organized around five research questions. Table 2 presents the descriptive statistics for all groups on all sources of data to provide additional clarity.

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Insert Table 2 about here

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#### Is There an Effect Due to Specificity of Training During Phase I?

Two separate series of analyses addressed this question. Following Kirk (1968), a one-way ANOVA, mixed effects model, was conducted on the percentage of facilitative responses in each of two levels of specificity using groups as a random nested factor within levels of specificity (see Table 3). One student from each of the two levels of specificity was randomly deleted to equalize the cell sizes, bringing the total sample size to 104 for the analysis on  $O_2$  and  $O_3$  data (i.e., 4 students per group, 13 groups per specificity level). The percent

TABLE 2

Means, Standard Deviations, and Ranges of Percent Facilitative  
Responses on  $O_2$ ,  $O_3$ , and  $O_4$  Data for All Groups

		SPECIFICITY LEVEL AT PHASE I								
		<u><math>O_2</math>% Facilitative</u>			<u><math>O_3</math>% Facilitative</u>			<u><math>O_4</math>% Facilitative</u>		
		X	SD	R	X	SD	R	X	SD	R
Low (n = 53)		21.1	23.3	80.0	28.1	11.4	65.9	47.2	24.2	100.
High (n = 53)		32.5	27.8	100.	30.9	11.5	56.5	51.7	24.3	100.
		SPECIFICITY/SEQUENCE COMBINATIONS AT PHASE II								
L x L (n = 25)		23.2	26.3	80.0	29.1	11.8	60.6	44.8	21.8	100.
L x H (n = 28)		19.3	20.7	60.0	27.2	11.2	54.4	49.3	26.4	100.
H x L (n = 25)		36.0	31.6	100.	35.1	11.8	51.8	52.0	21.6	60.0
H x H (n = 28)		29.3	24.0	100.	27.2	09.9	46.9	51.4	26.9	100.

facilitative responses was transformed using an arc-sin transformation to normalize the data.

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Insert Table 3 about here

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High specificity students were significantly more facilitative ( $F = 3.24$ ,  $df = 1, 24$ ,  $p = .08$ ) than low specificity students when evaluated on  $O_2$  responses; however, the  $O_3$  data did not yield the same level of statistical significance ( $F = 1.24$ ,  $df = 1, 24$ ,  $p = .28$ ). In addition, the group effect at  $O_3$  was statistically significant ( $F = 1.59$ ,  $df = 24, 78$ ,  $p = .06$ ) indicating the confounding of results due to the nonrandom assignment of students to groups.

Because both level of specificity and number of facilitative responses could be considered ordered factors, further probing of the data was done using a Mantel-Haenszel chi-square procedure (Mantel, 1963). Two levels of specificity were compared to six frequencies of facilitative responses for  $O_2$ , and the range of  $O_3$  responses was divided into approximate thirds (see Table 4). In both cases, results from the written measure showed a stronger effect.

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Insert Table 4 about here

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Is There a Relationship Between Length of Interview and Percent Facilitative Responses as a Result of Phase I Training?

The degree of association between these dependent variables was

TABLE 3  
 Analysis of Variance for Written and Behavioral  
 Responses Following Phase I Training

WRITTEN ( $O_2$ ) RESPONSES

Source	SS	df	MS	F	p
Specificity	.150	1	.150	3.24	.08
*Group	1.10	24	.046	.68	.85
Error	5.28	78	.068	--	--

BEHAVIORAL ( $O_3$ ) RESPONSES

Source	SS	df	MS	F	p
Specificity	.027	1	.027	1.24	.28
*Group	.519	24	.022	1.59	.06
Error	1.05	78	.014	--	--

\*Note: In both analyses the group affect is random and nested within specificity levels.

TABLE 4  
Contingency Table Analysis for Written and Behavioral  
Responses Following Phase I Training

WRITTEN (O<sub>2</sub>) RESPONSES

Level of Specificity	Number of Facilitative Responses					
	0	1	2	3	4	5
Low	23	13	10	5	2	0
High	11	18	14	3	4	3
Mantel-Haenszel	$\chi^2 = 4.63, p = .03$					

BEHAVIORAL (O<sub>3</sub>) RESPONSES

Level of Specificity	Percent Facilitative Responses		
	Low	Medium	High
	( $\leq .24$ )	( $.24 - .34$ )	( $\geq .34$ )
Low	21	19	13
High	13	20	20
Mantel-Haenszel	$\chi^2 = 2.90, p = .09$		

assessed using a Mantel-Haenszel chi-square test of (a) each group, controlling for high and low specificity, (b) an overall summary across levels of specificity, and (c) a separate analysis of length of interview and level of specificity during training. Length of interview at  $O_3$  was divided into approximate thirds using column totals for each group, and percent facilitative responses was separated into three intervals. No significant relationships were observed for any group in any of the analyses (see Table 5).

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Insert Table 5 about here

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Is There an Interactive Effect of Training Sequence at the Conclusion of Two Training Interventions?

Levels of specificity were crossed for groups at Phase II training, yielding 4 levels of specificity/sequence combinations with 6 groups of 4 students each per level. Two groups were randomly deleted to bring the total sample to 96 students. A 1-way ANOVA with four levels of specificity/sequence combination was conducted on the  $O_4$  data expressed as percent facilitative responses. Results were in the predicted direction, but failed to achieve statistical significance (see Table 6).

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Insert Table 6 about here

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A Mantel-Haenszel chi-square analysis of four levels of specificity/sequence versus six frequencies (0 through 5, inclusive)

TABLE 5

Contingency Table Analysis of Association Between Interview Length and Percent Facilitative Responses, and Level of Specificity and Interview Length Following Phase I Training

CONTROLLING FOR SPECIFICITY

Length of Interview (number of segments rated)	LOW SPECIFICITY			HIGH SPECIFICITY		
	Percent Facilitative Responses			Percent Facilitative Responses		
	Low	Medium	High	Low	Medium	High
	( $\leq .24$ )	( $.24 - .34$ )	( $\geq .34$ )	( $\leq .24$ )	( $.24 - .34$ )	( $\geq .34$ )
$\leq 26$	3	4	11	2	7	7
27-37	7	9	5	4	7	8
$\geq 38$	4	3	7	3	5	10
	Mantel-Haenszen $\chi^2 = .675, p = .41$			Mantel-Haenszen $\chi^2 = .042, p = .84$		
	Overall Mantel-Haenszen $\chi^2 = .145, p = .70$					

LEVEL OF SPECIFICITY

	Low	High
$\leq 26$	18	16
27-37	21	19
$\geq 38$	14	18
	Mantel-Haenszen $\chi^2 = .347, p = .55$	



TABLE 6

Analysis of Variance For Specificity/Sequence Combinations  
Following Both Phase I and Phase II Training

Source	SS	df	MS	F	p
Specificity/Sequence	.374	3	.125	1.45	.26
*Group	1.735	20	.087	1.15	.32
Error	5.441	72	.076	--	--

\* The group effect is random and nested within specificity/sequence combinations.

of facilitative response failed to yield significant results ( $H = .295$ ,  $p = .59$ ). Collapsing the  $O_4$  data on Phase I specificity only (high and low) similarly lacked statistical significance ( $H = .11$ ,  $p = .74$ ).

#### Is There an Effect of Specificity/Sequence Combinations During Phase II Training?

This question was evaluated using  $O_2 - O_4$  differences. Since the data (percent facilitative out of five possible responses) was both discrete and non-normally distributed, differences among the four groups of specificity/sequence combinations were tested using the Wilcoxon signed rank test (Hollander and Wolfe, 1973, p. 27-33). The test over all subjects yielded a highly significant result ( $z = 6.4$ ,  $p < .00001$ ), but an analysis by group also indicated pre/post differences were similar for each specificity/sequence combination (see Table 7). A Kruskal-Wallis test (Hollander and Wolfe, 1973, p. 115-120) to identify the presence of the predicted order of effects (H x H, H x L, L x H, L x L) failed to yield significance ( $H = 2.13$ ,  $p = .55$ ). Collapsing into two levels of Phase I specificity only similarly lacked significance ( $H = 1.28$ ,  $p = .26$ ).

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Insert Table 7 about here

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#### What are the Statistical Properties of the Dependent Measure?

Because the dependent measure (percent facilitative responses as measured by the IRCS) was designed for this study, preliminary consideration was given to the correlation of scores on varying content,

TABLE 7  
 Results of Wilcoxon Signed Rank Test On  
 Phase II Difference Scores

<u>Specificity/Sequence Combinations</u>	<u>z</u>	<u>p</u>
L x L	3.15	.0008
L x H	3.82	<.00001
H x L	2.30	=.01
H x H	3.39	=.0003

and stability over time. The significance of the correlation of written and behavioral data ( $O_2$  vs.  $O_3$ ) was spuriously high due to the large sample size ( $r = .12$ ,  $p = .10$ ), but suggests a lack of agreement with varying sources of data. However, the higher degree of agreement between  $O_2$  and  $O_4$  scores ( $r = .32$ ,  $p = .0003$ ) suggests some stability of the measure over time using the same type of data (i.e., written responses).

### Discussion

#### Specificity During Didactic Training

Regarding the effect of specificity during Phase I training, the results suggest that cognitive changes as measured by responses to video-tape vignettes may have differentially occurred. However, generalization of those changes to actual behaviors in an interview, while in the predicted direction, was not so apparent. Although the contingency table analysis was consistent with the ANOVA results, it, too, lacked the resonance of a clearly demonstrable effect due to specificity.

The discrepancy between  $O_2$  and  $O_3$  results can probably best be understood by considering the amount of data on each student at  $O_2$  (five possible responses) as compared to  $O_3$  (a range of 14 to 55 rated segments). Sensitivity to individual variability is potentially much greater with the increased length of the data sampling at  $O_3$ . The significant group effect at  $O_3$  ( $p = .06$ ) confirms the predicted presence of uncontrolled "noise" in the design due to the nonrandom assignment of subjects to groups.

The unexpected lack of correlation between both authoritarianism and locus of control as an index of interpersonal orientation and either  $O_2$  or  $O_3$  data eliminated the planned analyses of covariance to control for confounding subject variability.

The measures selected may have been inappropriate in the sense that the constructs they measure may operate to influence the conduct of an interaction, but in such a subtle manner that detection on the single dimension of degree of facilitation is not possible, particularly with the limited data available at  $O_2$  and  $O_4$ .

Even more surprising was the unaccounted for lack of relationship between length of interval from training to measurement and performance on either written or behavioral tests. This suggests one of at least two conclusions: (1) whatever interviewing style a given student has at the time of training is highly resistant to detectable modification during time-limited interventions, or (2) whatever modifications are made as a consequence of training are not detectably extinguished over time, at least during an interval of 1 to 18 weeks. Unfortunately, the former may be the more probable.

#### Interview Length and Facilitative Responses

Exploration of the degree of association between length of the interview and the percent facilitative response yielded confusing outcomes. Although a finer content analysis of the interview could have been conducted (e.g., Moreland, et al, 1973; Litton-Hawes, 1976), it was not feasible during this study due to the large sample size. However,

the lack of any clear relationship between interview duration (i.e., physician "talk time") and either degree of facilitation or specificity during training suggests that (1) while an interviewer may say more, it is not necessarily better (i.e., those responses designed to achieve the psychosocial goals of a medical interview), and (2) specificity during training does not appreciably alter the length of the interview.

This raises a crucial point regarding the evaluation of medical interviews. The tension between medical "fact gathering" and the appropriate degree and type of responses to the psychosocial aspects of the patient's life situation is exacerbated by the usual brief, task-oriented physician-patient encounter. The lack of consensus regarding dependent measures of interviewing effectiveness in reported studies reflects both the disagreement among evaluators and the confusion of practitioners. Stated differently, the question becomes: What kind of interviewer response is most appropriate with what kind of patient having what kind of problem at what point in the context of care with respect to which interviewer goal at what point in the life of the interview? Ultimately, indices of interviewer effectiveness must be validated against the patient's outcome perceptions and (to some extent) behavioral compliance with treatment plans.

However, to assess the effectiveness of a medical interview on the criteria of a dependent measure designed for evaluation of psychotherapeutically effective interviewer behaviors may both distort the actual effects of training interventions and minimize the importance of certain relevant medical fact-finding behavior (e.g., asking focused and

specific questions).

The development and use of the IRCS in this study is only a preliminary effort to reliably identify the behaviors occurring in an interview and tie them to the operational definitions of facilitation/nonfacilitation in the context of a medical interaction. It is, nonetheless, representative of a significant departure from evaluation mechanisms more closely allied to psychotherapeutic models of interviewing, and, therefore, its use as a dependent measure acknowledges the qualitatively unique character of a medical interview. Deficiencies, both obvious and subtle, will require more extensive application and evaluation to correct.

#### Specificity/Sequence Effects Over Two Interventions

It was predicted that specificity, whether in a didactic or experiential (video-tape feedback) mode would produce the greatest effects in increasing facilitative interviewer behaviors. Evaluation of this hypothesis at the conclusion of both phases of training failed to indicate the anticipated order of effects.  $O_4$  data was the only available summary of overall training effect and generally pointed toward a relationship between longer exposure to high specificity treatment and higher frequencies of facilitative responses (see Table 2).

It is clear that a more thorough evaluation of the relative effectiveness of the training modes must be undertaken to adequately assess the power of each. However, when considered in conjunction with

the results of  $O_2 - O_4$  differences, promising indications regarding the effectiveness of the video-tape feedback training mode are suggested.

#### Specificity/Sequence Effects During Phase II

Isolating on the effectiveness of the Phase II (experiential or video-tape feedback) intervention,  $O_2 - O_4$  differences were tested. An overall training effect, irrespective of specificity/sequence combinations was clearly apparent (see Table 7). The relatively high correlation between  $O_2$  and  $O_4$  measures ( $r = .32$ ) supports the view that both measures were assessing the same phenomena.

The Wilcoxon signed rank test on each group independently was intended to evaluate differential changes attributable to the relative effectiveness of specificity/sequence combinations. However, the comparative similarity of z-scores indicates more of an effect due to training per se, rather than to unique type of training. The Kruskal-Wallis test supported the lack of differences as uniquely attributable to specificity/sequence combinations.

The observed pre/post gain may indeed be due to the power of the video-tape feedback mode, regardless of level of specificity. However, a reactive effect of testing ( $O_2$  and  $O_4$  data were gathered within a period of 2-1/2 hours) may also account for the differences. The lack of meaningful association between written and behavioral responses following Phase I ( $O_2, O_3$  correlation,  $r = .12, p = .10$ ), however, raises serious questions regarding the generalizability of cognitive changes to behavior in an actual interview setting. If similar differences were observed on a pre/post evaluation using behavioral data



(e.g., O<sub>3</sub> type), more confident conclusions could be drawn.

#### Statistical Properties of the IRCS

Validation of the major dependent measure in this study, the IRCS, obviously requires substantial future efforts. Some advantages of a behavioral interaction assessment model have been suggested, and correlations between measures of the same type over time indicates potential test/retest stability. The lack of significant correlation between types of data (e.g., written vs. behavioral) may be alleviated by a nearer equivalence of units sampled on each subject. However, this lack of association may also reflect true differences in the behavior being rated and/or their operational definition between written and video-based presentation modes.

#### Conclusions

The lack of predicted differences between levels of specificity during either training intervention may reflect more about the ineffectiveness of time-limited intervention than the importance of behavioral specificity in training. While this lack of difference was anticipated, it is significant in that the training process used in this study as dictated by the constraints of allocation of undergraduate medical curriculum time is more representative of the field conditions of medical education than more carefully controlled studies. If behavioral scientists are to effectively impact the interpersonal style of the majority of medical practitioners, effective time-limited interventions must be developed and validated. To this end, the microtraining paradigm,

employing a high degree of behavioral specificity and a video-tape feedback mode, holds promising potential.

Clearly, studies with larger sample sizes are required for the power of statistical inference required when working with a complex, subtle target outcome (i.e., changes in interviewing style by a relatively sophisticated population) during a time-limited intervention. Previous experiment studies have demonstrated greater effects using fewer students and greater design control. However, the availability of students in medical education settings outside the confines of a competitive curriculum may not yield the degree of generalizability required for adaptation to real-world applications.

The lack of relationship between personality variables and any measure of facilitative interviewer behavior (as assessed in this study) raises questions regarding the appropriateness of using changes in personality measures as an indication of training effectiveness (e.g., Pacoe, et al., 1976). If the goal of interview training in a medical setting is the development of persons who can simultaneously gather comprehensive, relevant, and accurate physiological data while responding to the psychosocial implications of the patient's situation, then behaviorally-based measuring instruments are indicated to validate conclusions. Further, the adaptation of rating systems conceptually tied to psychotherapeutic interactions (e.g., Moreland, et al., 1973) as a means of evaluating the qualitatively different medical interview may either confound legitimate effects or create spurious ones.

Finally, in view of the enormous amount of time, manpower, and money utilized in medical education for the purpose of training

practitioners to conduct an interview, the lack of clearly demonstrable, valid effects, whether on interviewer behavior or patient outcomes, signals the critical need for additional applied research to justify continuing activities.

#### Summary

Sophomore medical students (N = 106) participated in interview training as one segment of a required course in the pre-clinical curriculum. Field constraints restricted usual experiment controls (e.g., random assignment of students to treatment conditions, direct comparison groups), but to the extent possible scheduling groups were randomly assigned to treatment conditions. Personality measures as an index of interpersonal orientation were gathered as planned covariates to reduce confounding individual variability.

The amount of behavioral specificity regarding target interviewer behaviors to achieve the goals of a medical interview was the major independent variable of interest. During a 4-hour didactic presentation to aggregates of 20 - 24 students, those in the high specificity condition were trained in the sequential components of increasingly complex facilitative interviewer behaviors following the microtraining paradigm of Ivey. Students in the low specificity condition identified the same goals for an interview but did not receive the same systematic instruction regarding the behaviors necessary to achieve those goals. Both groups received an equivalent amount of instructor presentation and role-playing with observer feedback.

An interval (required for scheduling purposes) ranging from 1 to 18 weeks separated the first intervention from a 7 - 10 minute video-taped interview with a simulated patient followed by feedback from a psychosocial observer. Student groups of 4 independently interviewed the same patient and within 1 hour the students as a group reviewed the tapes with the observer. Students in the high specificity condition received a high frequency of observer feedback regarding both positive and negative occurrences of those target behaviors described during the didactic training phase. In addition, using specific examples from the tape, alternative methods of eliciting the same data in a more facilitative manner were discussed, and the actor was present to provide the interviewer with supplementary feedback.

Students in the low specificity condition experienced the same interviewing process, but observer feedback was restricted to minimal frequencies of comment regarding the normative qualities of the interview, rather than focusing on specific interviewer behaviors (e.g., "The patient seemed to be comfortable with you."). Specificity conditions were crossed for an equal number of groups between the first and second interventions, blocking on two levels of length of the intervening interval.

Students were independently pretested immediately prior to the video-taped interview with five 30 - 60 second vignettes requiring a written response to the last patient statement. They were posttested immediately following the debriefing of the interview with an equivalent series of five vignettes.

Written responses to both series of vignettes and the behaviors during the video-taped interview itself were rated using the Interviewer Response Categorization Scale (IRCS) which operationalizes three nominal categories: Disruptive, Neutral, and Facilitative. Two teams of three raters each scored the 10 written responses to the vignettes and the interview behaviors for all students, achieving an interrater reliability of 87% complete agreement between two raters.

Each student's score on the three different dependent measures was expressed as percent facilitative responses. Scores were analyzed for each specificity group using both a one-way analysis of variance and the Mantel-Haenszel chi-square procedure. Results failed to achieve statistical significance but were generally in the predicted direction. A significant training effect during the video-tape/feedback intervention, irrespective of specificity, was found. In general, those students exposed to higher levels of specificity during both interventions exhibited higher rates of facilitative behavior. No evidence of generalization from training to actual interview behavior was found.

Conclusions were drawn regarding the importance of developing and validating dependent measures which are behaviorally based and conceptually tied to the unique character of a medical interview. Previous experimental studies which employed scales derived from psychotherapeutic models of interviewing and personality measures as indices of effectiveness were discussed. The importance of developing validated time-limited interventions for field application was emphasized.

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**APPENDIX A**

**Prospectus**

## DISSERTATION PROSPECTUS

- I. TITLE: THE EFFECT OF BEHAVIORAL SPECIFICITY DURING TIME-LIMITED TRAINING ON THE INTERVIEWING COMPETENCIES OF MEDICAL PRACTITIONERS
- II. NAME AND FIELD OF STUDY: Walter W. Cabe  
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- III. ADVISORY COMMITTEE: Robert E. Ragland, Chairman  
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### Introduction

#### Background of the Problem

The advances of modern medical science in the period since World War II have provided today's "medicine man" with unrivaled social prestige and influence. However, the rise of malpractice suits, debate over national health insurance, exposure of alleged fraud in government-sponsored programs, and health costs which are increasing more rapidly than inflation in general are all regularly chronicled in the popular press. An ill-defined minimum level of quality health care is now regarded by most Americans as a right of citizenship. Increasing expectations on the part of medical consumers are accompanied by equally escalating scrutiny of the health care delivered (Millman, 1977).

Distribution of quality health care is an immensely complex issue, slicing across disciplinary and policy-making boundaries. A common denominator in the delivery of health services, however, is the basic unit of service--the face-to-face encounter between medical care provider and medical consumer. The importance of this dimension is highlighted in the Health Professions Educational Assistance Act of 1976 which authorizes \$2.7 billion in federal funding for the next three fiscal years. A central theme of Congressional intent is the upgrading of "primary care" medical education, that portion of medical practice which provides the first line interaction in acute medical crises and serves as a basic resource for health maintenance and patient education.

Numerous evaluation mechanisms attempt to certify a minimum level of technical expertise in practicing physicians, (e.g., specialty board certification, state licensing requirements, and medical school accreditation at both undergraduate and residency levels). No similarly rigorous procedures effectively monitor one of the "software" components of health care delivery--the ability of the practitioner to establish and maintain a working interpersonal relationship with the patient.

This lack of attention to the personal element is striking for two reasons. First, the physician's ability to elicit accurate and complete data from the patient regarding his present illness, both physiologic and psychosocial, including any relevant past history, directly effects the diagnosis and subsequent treatment plan. Second,

the patient's perception of the quality of the interpersonal relationship with his physician has been demonstrated to influence directly his satisfaction with medical care and his compliance with the treatment regimen (Bertakis, 1975; Becher & Maiman, 1975; Vurol, Aaku, Aine, Erkko, Johansson, 1972).

Formal medical education at the undergraduate level is the most concentrated exposure to the effects of various interaction styles on patient outcomes that many medical practitioners receive. Most medical schools devote a portion of their curriculum to some type of "interview training," ranging from year-long courses in psychiatric evaluation to less than a single semester presentation of basic concepts of interpersonal communication. Even in the latter case the net investment of time, manpower, and money is substantial. Although the expectations for behavioral change may far exceed the realistic potential results, research which can inform and redirect training strategies toward greater impact within the time-limited "real world" setting of medical education is critically needed (Hess, 1969).

#### General Statement of the Problem

This study considers the questions: What is the impact of interview training on the behavior of medical students? Does the training generalize to actual behavioral interactions? What is the most effective training strategy for developing efficient interviewing behavior in a time-constrained field setting?

The medical education literature reflects the concern of behavioral scientists in medical education settings in developing these basic, critical skills (Johnson, Fisher, Guy, Keith, Keller, & Sherer, 1977). However, reports of research are frequently unrelated to one another and often reflect evaluation on criteria unique to a specific training approach or a specific setting. This research proposes to draw both on the available literature in interview training and on the experience during the past three years at the University of Utah Medical School in training a wide range of medical practitioners, professional and paraprofessional (Taylor, Simmons, Kirk, & Petruska, in press).

Specifically, a more systematic evaluation of the training program developed at Utah will be conducted. This program emphasizes presentation of and feedback on highly operationalized interviewing behaviors as a means of training students in brief periods of time. The evaluation tool developed by researchers at Utah, the Interviewer Response Categorization Scale (IRCS), will be refined and used to evaluate video-taped student interviews. In addition, a written response evaluation tool will be developed, including a video-taped stimulus presentation mode, and used as another source of data regarding the impact of training. Finally, a preliminary investigation regarding the effect of "interpersonal orientation" on interviewing style will be conducted by including two brief personality measures, Locus of Control (Nowicki & Duke, 1973) and Authoritarianism (Ray, 1976).

Results from the research will be directly applied to the interview training activities currently being conducted in various areas of professional training within the College of Health Sciences at the University of Utah. In addition, this evaluation model will be applied to further operationalize psychosocial dimensions of the competency-based residency training program being implemented in the Department of Family and Community Medicine at the University of Utah (Johnson, et al., 1977).

#### Related Literature and Theoretical Rationale

Interpersonal communication is the basic tool of the medical practitioner for both diagnosis and treatment compliance. The physician-patient interaction is recognized as a critical variable in the management of the therapeutic process (Blum, 1960; Morgan & Engel, 1969; Murray & Wexler, 1966).

Sound interviewing technique is a most important skill for the health professional to develop if he hopes to apply his technical skills in the most effective manner possible. It is the foundation upon which efficient history-taking rests, and the ability to obtain a good history is still regarded, even in our era of applied biochemistry, as essential if one is to treat the ill human being both humanely and scientifically. (Senescu, 1974, p. ix)

Recent studies (Waitzkin & Stoeckle, 1972) have conceptualized the complex interaction of physician, patient, and environmental variables influencing the process of "health care." Both macro-level factors (e.g., subcultural belief systems, socioeconomic status) and micro-level variables (e.g., match between physician



and patient expectations, communication patterns, setting of service delivery) influence the overall outcome of health care (Waitzkin and Stoeckle, 1976).

The growing interest in the interpersonal communication competencies of health-care practitioners (Matarazzo, 1971) by medical education institutions is a response to the recognition of the minimum level of competency required for all practitioners in a set of skills previously regarded as the domain of "psychiatric treatment." The post-World War II rise of psychiatric clerkships and residency training programs as part of the core medical curriculum is partially due to the awareness that technically competent, (i.e., medically skilled) practitioners should be able to recognize and appropriately respond to the psychosocial components of disease processes in patients (Matarazzo, Wiens, & Saslow, 1966; Matarazzo, 1971).

Since the early 1960's many medical schools have developed special resources in "behavioral science" with the mission of delivering applied social science perspectives and skills to medical practitioners. Behavioral scientists have attempted in multiple ways to integrate their disciplines into the highly competitive medical science curricular area. The pressures of the medical education curriculum require that ideals of patient care, medical or psychosocial, either be accommodated to the "real world" contingencies of high-volume, time-restricted medical practice, or be disregarded as "interesting, but unworkable" (Engel, 1971; Kennedy, 1974).

Common to most medical education curricula is an emphasis on interviewing training. The encounter between examining physician and presenting patient is considered as a special case of the interaction occurring between therapist and patient.

The medical interview is distinguished from the psychotherapeutic case by several characteristics. First, it is primarily task-oriented, (i.e., gathering of relevant medical information). Second, a high degree of information exchange frequently occurs between both patient and physician, often ranging across apparently unrelated physical and psychological topics. Third, the interaction is usually relatively brief. Finally, the expectation of both physician and patient is for effective closure within a single encounter, (i.e., appropriate diagnosis and development of a treatment plan). Implicit in the interaction is a complex set of both physician and patient expectations, (e.g., who will direct the interview, what topics are appropriate for discussion, etc.) (Waitzkin & Stoockle, 1976).

A review of the literature in clinical practice is replete with references to the normative qualities which should characterize the physician-patient relationship (Morgan & Engel, 1969). The physician is admonished to "develop trust and openness," "encourage free expression by the patient," and "create the necessary rapport for cooperative action," while "preventing the patient from diverging too greatly from the relevant data regarding the present illness." Rarely, however, are the appropriate physician behaviors specified for creating these conditions.

Szasz and Hollender (1956) identified three major types of physician-patient interaction. Active-passive is an appropriate mode under emergency conditions. Guidance-facilitation is used in the management of long-term illness (e.g., diabetes or hypertension). Collaborative interaction is applicable to the typical primary care contact where a joint effort between practitioner and patient is required to accurately assess the present illness, formulate a treatment plan with which the patient will comply, and facilitate patient education and health maintenance behaviors. The latter category is particularly relevant to medical practice where continuity of care and out-patient delivery settings are the norm (e.g., family practice).

The development of training strategies for medical students to achieve the necessary competencies for establishing collaborative relationships has lagged behind similar training efforts in psychotherapeutic skills (Matarazzo, et al., 1966; Matarazzo, 1971; Pacoe, Naar, Guyett, & Wells, 1976). Some representative training approaches and their effects are reported below.

Both Enelow and Swisher (1972) and Froelich and Bishop (1972) have developed programmed instruction texts. Case studies are presented in transcript form, alternative behaviors are described, and interactions between physician and patient are analyzed. These approaches attempt systematically to alter the student's written responses to various categories of patient statements.

Kagan's Interpersonal Process Recall (IPR) model was originally developed as counseling strategy and has since been

adapted to medical education settings (Kagan, 1972; Werner & Schneider, 1974). An extensive trainer's manual and series of video-tapes have been developed which focus on recognition of and appropriate responses to the emotional content in an interpersonal situation. In medical education settings, students are video-taped while interviewing a patient, and the tape is subsequently reviewed by a small group of peers and an expert observer who comments on both the medical and psychosocial competencies of the interviewer. Werner and Schneider (1974) describe the use of this model at the Michigan State University Medical School and report limited experimental evidence of its effect. They note the limiting features of the program include the extensive video equipment required and the semester-long curriculum design required to achieve the stated program goals.

Ward and Stein (1975) report a review of the literature in interview training for medical practitioners, and they conclude that a major deficit exists in effectively responding to emotional content in patient statements. Their training approach attempts to reduce "emotional distance" between psychiatric interviewer and patient through a group-therapy training process with medical students.

Rasche, Bernstein and Veenhuis (1974) describe a systematic approach to interview training which demonstrates effects along classification dimensions unique to their training program. Generalization from the training environment to actual interview situations were reported for a sample (N = 16) of the training population on whom behavioral data was gathered following the 64-hour training process.

A promising approach is the microtraining paradigm developed by Ivey (1971). This model emphasizes the isolation and development of discrete and sequential interviewer behaviors in a training setting as the foundation for more complex interactions in actual interviewing settings. Distinguishing characteristics include the focus on behavioral interaction skills of the interviewer, immediate feedback to facilitate learning, a video-tape evaluation model, and a strong emphasis on the supplementary rather than replacement quality of this training in interviewer preparation.

This approach has been demonstrated to effect changes in interviewer behavior during relatively brief training experiences (Ivey, Normington, Miller, Morrill, & Hasse, 1968). Moreland (1971) reviews the development of microtraining research within the history of therapist training and extends the application of the model to medical interview training (Moreland, Ivey, & Phillips, 1973).

Comparing a training mode of higher behavioral specificity to one of lower behavioral specificity ( $N = 24$ ), Moreland, et al. (1973) reported limited gains using dependent measures of the Rogerian "core facilitative conditions." The experimental intervention consisted of a total of 12 training hours over six consecutive weeks and used volunteer psychiatric patients for the pre and posttest interviews. The equivocal results reported in this study may be due, in part, to the limited capacity of the dependent measures to assess effects as demonstrated in a medical interview and also to the unique patient population.

Carr (1976) reports a study using the microcounseling paradigm with first-year nursing students. Dependent measures focused on the generalization of skills from the training to the clinical setting. Results indicated that the skills did not generalize, although students trained with the microcounseling model were able to demonstrate the appropriate behaviors during cognitive posttest evaluations.

The work of Litton-Hawes (1976) is an example of the in situ research required in medical education settings; that is, the development of conceptual models for the complex interaction between physician and patient which will directly facilitate training efforts which have favorable patient outcomes.

Faoe, et al. (1976) reviewed the medical literature related to interview training and noted a dearth of experimental evidence regarding effectiveness. A training model was designed and implemented to increase students' levels of comfort with emotionally intense material (N = 20). Dependent measures were devised, including a video-tape stimulus presentation mode to which students made a written response which was scored on the Rogerian "core facilitative conditions." Gains in the experimental treatment group were reported, including changes in subscales of a personality measure (Personal Orientation Inventory, Shostrom, 1974) employed as a pre and posttest after the 15-hour training intervention.

The variety of approaches to medical interview training reported in the literature reflects both the complexity and urgency of the task. To combine an efficient training methodology with a

systematic evaluation process and to develop dependent measures meaningfully related to medical interviewing will build upon isolated research already completed and extend knowledge in the field.

Because the investigator's field setting at the University of Utah Medical Center offers an opportunity to assess the effects of another training model with a larger subject sample and non-psychiatric patients during a more time-limited intervention, this study will be undertaken to evaluate systematically current program efforts and provide guidance to future training models. A training design which varies the level of behavioral specificity in both didactic and experiential presentation modes will be employed. A comparison will be made of both written and behavioral interviewing responses as effective dependent measures. A rating system focusing on the actual behavioral interactions of the interviewer will be refined and used. Finally, an initial assessment of the effect of "interpersonal orientation" on interviewing style will be conducted.

#### Specific Statement of the Problem

This study explores the question:

What is the effect of providing behaviorally specific feedback during time-limited training on the interviewing skills of medical students in standardized interviewing situations?

The investigator will provide different levels of behavioral specificity (defined in following sections) during the training of

medical students and assess the impact on both written and behavioral performance measures.

#### Definition of Terms

The following terms are defined for the purpose of this study:

Behavioral Specificity - the degree to which interviewing skills are operationalized or divided into discrete, sequential components by the trainer.

Time-Limited Interventions - treatment or training experiences, consisting of both didactic and experiential presentation modes. Total training time is six and one-half hours under the field constraints of this study. Details are provided under Method.

Interviewing Skills - medical student interviewer behaviors categorized as Disruptive, Neutral, or Facilitative by the Interviewer Response Categorization Scale (IRCS) described in detail under Method.

Standardized Interviewing Situation - interactions between the medical student and an actor (simulated patient) who portrays a standard set of physiologic and psychosocial complaints. The interviewer's goal is to elicit the relevant history of the presenting complaint in 7-10 minutes.

Interpersonal Orientation - individual personality characteristics as measured by the Nowicki-Strickland Locus of Control Inventory (Nowicki & Duke, 1973) and



Ray's Directiveness Scale (Ray, 1976), described under Method.

Psychosocial Debriefer - a member of the staff of the Division of Behavioral Science, Department of Family and Community Medicine, at the University of Utah. Training for the debriefer includes observation of a model training tape and instruction by the investigator. The emphasis of the psychosocial debriefer during his interaction with the medical student is on the communication process elements of the interview, as contrasted to the medical content portions. Additional information is provided in the Method section below.

Simulated Patient - an actor who is trained by the investigator to portray a standardized script of a specific presenting medical complaint. Details of the actor training are provided in the Method section. Copies of the scripts are appended.

Medical Interview - a 7-10 minute interaction between a medical student and the simulated patient which is video-taped for review with the student and the psychosocial debriefer. The purpose of the interview is to elicit relevant information from the simulated patient regarding the present illness. Additional information will be provided in the Method section.

Video-Tape Vignettes - interview segments enacted on video-tape as a stimulus mode to which medical students make written responses. These segments will be administered as pre and posttest measures, and responses will be scored with the IRCS to assess the effect of training. Details of development and use are provided in the Method section.

### Hypotheses

The major hypothesis is:

Students trained with a higher level of behavioral specificity during both didactic and experiential phases of treatment will demonstrate a higher frequency of facilitative behavior on both written and behavioral measures than those trained with lower levels of behavioral specificity.

Additional hypotheses are:

A student's interpersonal orientation will be related to his interviewing behavior in a standardized situation.

A student's performance on a written assessment of interviewing skill will be related to his behavioral performance as assessed by ratings of a video-taped interview.

## Method

### A. General Introduction

The research methodology employed will be a quasi-experimental design (Campbell & Stanley, 1963) because of the limited degree of investigator control available in the field setting. Particularly in an area, i.e., medical interviewing, where the current state of knowledge lacks the consistency or internal coherence of either concepts or methodologies, an evaluation research paradigm is applicable (Kerlinger, 1970; Litton-Hawes, 1976). As Azrin (1977) notes, a preoccupation with the "true experimental design" as the only methodological procedure, rather than the methodology of choice under certain conditions, too often restricts the researcher in drawing conclusions of applied importance.

Kuhn (1970) describes this methodological problem in terms of the larger problems when a scientific discipline lacks a "shared paradigm." That is, when theoretical constructs are well articulated and extensively documented, the hypothesis-testing model is appropriate, i.e., true experimental designs. However, in the face

of inconclusive or contradictory data (such as the case with the behavioral sciences), the hypothesis-generating model is indicated. A field study or "quasi-experimental" investigative procedure is more appropriate (Glaser & Strauss, 1967; Sommer, 1977; Willems & Rausch, 1969).

Cook and Campbell (1976) review the issues of generalizability from research conducted in field settings, exploring the problems and potential solutions under four categories of validity. They state:

It would be wrong to see true experiments as having any necessary advantage over quasi-experiments with respect to external validity. Each type of research is likely to be restricted to a few sites, a homogeneous population, and a few times in history. Nor is it clear whether one type of research enjoys any advantage of construct validity over the other. (p. 299)

The investigator decisions described in the sections that follow, therefore, represent an informed compromise between many competing forces. Those include the necessity for program delivery within a medical education setting, the requirements of methodological rigor and meaningful interpretation of results, and the panorama of approaches reflected in the literature, none of which is indicated as clearly preferable in accomplishing this complex task. Finally, the availability of students and the cooperation of program administrators for the conduct of a research effort within an ongoing educational program are limitations considered in the design and implementation of this project.

A description of the field constraints within which the research is to be conducted will illuminate the reader.

1. The experimental sample will consist of all 106 sophomore medical students currently enrolled in the "Introduction to Medicine" course at the University of Utah. These students have been preassigned to 26 permanent learning groups of four students each on a nonsystematic but nonrandom basis by the course coordinator. The assignment of student groups to various training phases at particular dates during the semester was made by the course coordinator without prior consultation with the investigator. One consequence, for example, (to be explained in greater detail below) is that the range of the interval between phases of treatment varies from 1 to 18 weeks. Attention to statistical and planning controls has attempted to minimize sources of confounding variability.

2. Medical curriculum requirements (determined by the course coordinator, Dr. John Holbrook, Associate Professor of Internal Medicine) dictate that all students (a) receive a minimum quality level of training, therefore eliminating the possibility of direct comparison groups of treatment versus no treatment, (b) participate in both didactic and experiential levels of training (to be explained in greater detail below), therefore limiting the opportunity for direct comparison of training modes, and (c) are exposed to specific

durations of training, (i.e., 4 hours of didactic training and 2½ hours of video-taped interviewing and debriefing), again limiting the potential for varying the treatment conditions to which various subjects are exposed.

3. The "Introduction to Medicine" course requires 1½ years to complete at the University of Utah. Consequently, all students have received "orientation to interviewing" sessions totaling 6 hours during the spring of their freshman year as medical students. Focusing on "the patient as a person," this portion of the course curriculum includes 2 hours of communication skill training. This sensitizing experience coupled with the demand characteristics of the experimental setting (e.g., use of simulated patients, video-taping, knowledge that the student will be debriefed by a psychosocial observer oriented to the "relationship" elements of his/her interaction) creates the possibility of a response set in the subjects.

4. Medical students as subjects are "preselected" by virtue of their admission to medical school. That is, one would expect a relatively higher degree of interpersonal sophistication a priori by persons in this sample as compared to a random sample of more naive subjects. Differences between groups are anticipated to be subtle. Unfortunately, no behavioral base line data (i.e., the most sensitive dependent measure) can be obtained on the subjects due to constraints

of time and cost. Pre-post gains as a basis of comparison will not be possible in this setting.

While these constraints pose threats to the internal validity of the study as a true experimental design, a substantial degree of investigator control is possible. Although all groups must receive both phases of training (didactic and experiential) and the training must meet minimum quality standards, the independent variable of major interest, behavioral specificity of target interviewing behaviors, will be varied at two levels, high and low (specified below), during both sections of the training process. The confounding variability of the interval between phases of training will be controlled statistically by including length of interval as a blocking variable in the experimental design. Individual subject variables (i.e., Locus of Control and Authoritarianism) will be employed in an analysis of covariance to strengthen the sensitivity of the dependent measures. Finally, two different dependent measures (i.e., written response to video-tape vignettes and a video-taped interview) will be employed to more thoroughly assess the effects of the various levels of training. Specifics of these and other investigator decisions will be given in the following sections.

It should be noted that while the field conditions for this study limit the opportunities for maximum yield and generalizability, the present effort is a substantially increased commitment by the University of Utah Medical School to assess the impact of its educational efforts. Insights gained, although limited by a less than

optimum level of investigator control, will be applied to ongoing research efforts in medical education. Further, investigator decisions have been made in consultation with several other researchers in the area and procedures used reflect the best available compromise between the current state of the art in investigating medical interviewing and the existing reality constraints of the field setting.

### Sampling Procedures

The subject sample will consist of the entire class of 106 sophomore medical students at the University of Utah Medical School enrolled in the required core curriculum course, "Introduction to Medicine." These students have interviewed only one patient at this point in their professional training, taking a brief history and physical examination during their freshman year. The interview training provided by the investigator represents one segment of the 1 1/2 year course which attempts to develop student skills in medical data-gathering and decision making.

The course coordinator, Dr. John Holbrook, Associate Professor of Internal Medicine, will nonsystematically but nonrandomly assign each student to a permanent learning group of four students by listing the names of groups of four from the class roster. Thus, there are 26 learning groups of 4 students each. These groups comprise the basic scheduling unit for the course during the period between September and May.



Student activities during the course will fall into three major areas. First, lectures to the entire class will be given on the major components of the medical interview (e.g., structure, purpose, protocol, presentation of findings, etc.). These activities are concentrated during the first months of the course, the class meeting once per week for 4 hours. Second, interview training (provided by the investigator) will orient the students to the communication dynamics in a medical interview and provide training and practice in the "interpersonal process" elements of data-gathering. This activity will consist of both didactic experiences and a videotaped interaction with a simulated patient followed by feedback from a psychosocial debriefer. These procedures will be detailed below. This portion of the course requires 18 weeks to complete because student groups of four are used for scheduling purposes.

The third activity will involve a "medical preceptor", or medical role model, who will work with each group of four students. When not involved in the interview training, student groups will be assigned to a specific hospital where they will interview a different hospitalized patient each week for a current history and physical examination. Teams of two students will present their clinical findings to the medical preceptor for review of their accuracy. In general, medical preceptors will not observe the students during the interviewing or examination of the patient but make their comments on the students' work on an after-the-fact basis. The emphasis during this activity will be focused on the accuracy of the medical data

gathered, and the conclusions or diagnosis formed.

The course coordinator will employ the learning groups of four students as the scheduling unit for the events of the course. Assignment of treatment conditions to groups by the investigator will be made to (1) maintain equality of cell sample size for data analysis, (2) control for the interval between didactic and experiential phases of training by blocking on "short" and "long" intervals (specified below), and (3) meet the scheduling and logistical constraints of providing the training to the entire class within the bounds of manpower, time, and money.

#### Subject Characteristics

All subjects are second-year medical students at the University of Utah Medical School enrolled in the required core curriculum course "Introduction to Medicine," and are completing the second year of the two year "pre-clinical" curriculum. The purpose of the course is to enable the student to integrate his acquired knowledge of basic biomedical sciences around the experience of interacting with patients in a data-gathering mode, both interviewing and physical examination. A prominent feature of the student's activity is the gathering of information in a standardized manner, synthesizing that data into a "differential diagnosis," and the presenting of his conclusions to a medical instructor for verification of his physical findings.

As part of the present investigation, subjects will complete brief personality measures prior to the didactic phase of their training. It is hoped that the results from their portion of the data-gathering will suggest trends or relationships between individual interpersonal orientation and medical interviewing style that can inform future research efforts. In this regard, the entire current freshman class at the University of Utah Medical School has been administered the Myers-Briggs Type Indicator (Myers, 1970) as a source of longitudinal research data.

### Procedure

To enhance clarity for the reader in the sections that follow, the sequence of treatments and observations has been schematically represented in Figure 1 (p. 11). Symbols in parentheses in the text refer to the diagram.

An explanation of the procedure in assigning treatment conditions to groups will be made, followed by a description of the treatment conditions in both Phase I and Phase II.

Assignment of Treatment Conditions to Groups. As discussed in preceding sections, interview training will be conducted in two separate phases. In Phase I ( $X_1$ ) the didactic phase of interview training, aggregates of 5 - 6 learning groups, or 20 - 24 students, will independently participate in one of five sessions during a period of six weeks. These 4 hour sessions (detailed below) will focus on the interpersonal dynamics of a medical interview. Each session will

FIGURE 1

Sequence of Observations and Treatments With Brief Explanation

Sequence Over Time

$O_1$ ---->  $X_1$ ----> I ---->  $O_2$ ---->  $O_3$ ---->  $X_2$ ---->  $O_4$

Explanation of Symbols

- $O_1$  = individual personality measures (locus of control and authoritarianism) for all students administered immediately prior to Phase I training ( $X_1$ ; didactic training)
- $X_1$  = Phase I (didactic) training of 4 hours duration conducted in large groups of 20 - 24 students; two treatment levels, high and low specificity, assigned to groups
- I = interval between Phase I and Phase II training; range of 1 - 18 weeks with two levels of this variable used for scheduling, and the exact length included in the experimental design as a covariate for each group
- $O_2$  = written responses to video-tape vignettes representing five interview segments to which each student responded; administered immediately prior to the video-taped interview with the simulated patient ( $O_3$ ); responses rated using the IRCS
- $O_3$  = video-taped interview of each student independently with a simulated patient; interviews were 7 - 10 minutes in length with the task of assessing the presenting patient complaint.
- $X_2$  = Phase II (experiential) training of 2 1/2 hours duration (including video-taping); feedback regarding each student's interview to the small learning group by a psychosocial debriefer; two treatment conditions, high and low specificity were used; this intervention occurred within 1 hour of the actual taping.
- $O_4$  = written responses to video-tape vignettes (equivalent to the pretest forms at  $O_2$ ) administered immediately following the interview debriefing; responses were rated using the IRCS.

be designated as of either "high" or "low" specificity to reflect levels of the independent variable of interest, behavioral specificity during training.

In the case of the single training session which will include 24 students, two different training groups will be conducted simultaneously by the investigator and his associate, a fellow staff member at the University of Utah Medical School. One session will be designated high and one, low specificity to equalize the number of students exposed to each level of treatment within each interval between phases of training. In this case two groups of 12 students each will be trained.

A possible source of confounding variability will be the length of the interval (I) between phases of training. Consequently, the investigator will assign treatment conditions so as to equalize the number of groups exposed to each level of the independent variable within each of two intervals. "Short interval groups" will refer to those groups with 1 - 9 weeks elapsing between training phases and "long interval groups" will refer to those groups with 10 - 18 weeks elapsing between the same two experiences. There will be 14 of the former (including 56 students) and 12 of the latter (including 50 students).

Because the activity of students during either interval will consist of interviewing one patient per week over the length of the interval, this source of variability will be included as a "blocking variable" in the experimental design (Kirk, 1968). A student's

interaction with a medical role model and the experience of interviewing patients was judged to be an important influence in shaping the student's interviewing competency, but one outside the control of the investigator.

Within each level of the interval between phases of the training, groups will be assigned to either "high specificity" or "low specificity" training conditions for both Phase I and Phase II ( $X_2$ ; experiential) portions of the training. While all 20 - 24 students in each large group during Phase I will be exposed to the same treatment conditions, the individual learning groups of four students will be exposed to different treatment conditions in Phase II. Consequently, an additional research question regarding the relative effect of behavioral specificity in didactic and experiential presentation modes can be explored by crossing the levels of behavioral specificity between Phase I and Phase II.

Therefore, assignment of treatment conditions for individual learning groups during Phase II will be made to equalize the cell sample size for each combination of treatment conditions. Consideration of the sample sizes in each cell of the experimental design (below at page 92 in this section) indicates 12 subjects for each combination of treatment conditions.

It was judged by the investigator that this assignment of treatment conditions in both phases of the training provided the optimum combination of levels of the independent variable within the constraints of the field research setting.

Description of Treatment Condition: Phase I (Didactic). The treatment conditions will be described by indicating those elements of the 4-hour training common to both levels of the independent variable, followed by the distinguishing characteristics between levels of the treatment condition.

Elements common to both treatment conditions during Phase I ( $X_1$ ) are:

- A. Administration of the pretesting instruments (locus of control and authoritarianism, discussed below).
- B. Identification of the goals of a medical interview.
- C. Presentation of a conceptual model for analyzing the inhibitors and facilitators of the communication process in a medical interview.
  1. Application of the model to video-taped examples
  2. Application of the model to the interviewing experience of the students themselves
- D. Presentation of the "typical medical interviewing model" and assessment of its effect in video-taped examples and personal experiences.
- E. Role-playing of medical interviewing in groups of three, with role designations rotating.
  1. Specified patient role portrayed by one student
  2. Observer-feedback role for another student
  3. Medical interviewer played by third student

Subjects in the low specificity condition will receive:

- A. Identification of the goals of a medical interview, but no presentation of specific strategies by the trainer for accomplishing those goals.
- B. An equivalent period of individual role-playing to subjects in the other treatment condition, but without specification of the feedback criteria.

Subjects in the high specificity condition will receive:

- A. Identification of the goals of a medical interview and presentation of specific behavioral strategies for achieving those goals. Skills will be discussed, modeled by the trainer, and practiced in sequential order, from those requiring minimum interviewer activity (e.g., appropriate attending behavior) to those requiring more active interviewer involvement (e.g., an empathic or active listening response to the patient's statement).
- B. An equivalent period of individual role-playing, but with the feedback criteria highly specified by the trainer.

Total training time, exclusive of short breaks and the pre-testing period, for both groups will be approximately 3 hours and 15 minutes. The sequencing of various portions of the training in each treatment condition will be carefully designed to insure that both treatment conditions receive an equal amount of practice and feedback time.

Description of Treatment Condition: Phase II (Experiential).

Independently of their Phase I experience, the small learning groups



of four students each will be assigned by the course coordinator to a date for Phase II of their training. This will consist of interviewing a simulated patient while being video-taped, with feedback from a psychosocial debriefer. As noted above, the interval between Phase I and Phase II varies from 1 to 18 weeks. A description of the simulated patient will follow and a comparison of the common and different elements of the treatment conditions during Phase II.

Male and female actors will be selected by the investigator from the Fine Arts Department of the University of Utah. It was judged that the use of simulated patients as the student's first experience after training would facilitate his learning by ensuring in advance the complexity of the patient's presenting problem and controlling for the variability in ease or difficulty of interviewing based on the patient's cooperativeness. Previous research efforts have employed actual patients to include a reality dimension to the experience, but have experienced a bias of results due to (a) the patient's "interview-wise" behavior if interviewed sequentially by several students, or (b) the variability in patient stimulus if different patients are used for each student (Adler, Ware, & Enelow, 1970; Jason, Kagan, Werner, Elstein, & Thomas, 1971).

Three simulated patient scripts will be prepared by the investigator in conjunction with medical faculty members, building on the work of Taylor, et al. (in press). Consideration will be given to equivalence of scripts along the dimensions of (a) the severity of the medical complaint, (b) the amount of factual medical data available to the interviewer, and (c) the extent and severity of the psycho-

social concomitants of the patient's present illness, such as situational anxiety or psychogenic factors, if any.

Medical faculty will be consulted regarding the appropriateness of the patient script and asked to make any modifications in detail or suggestions regarding patient presentation style which will enhance the credibility of the simulation. Two of the scripts will be used a total of nine times each, and the third, eight times. Copies of the scripts and interviewer instructions are in Appendix B.

Simulated patients will be trained by observing video-tapes of similar interactions in previous years, receiving specific coaching from the investigator to standardize their roles as much as possible, and experiencing an interview from a medical faculty member in preparation for the medical student interviews. Standardization procedures will include observation by the investigator of the actual interviews, noting factors such as the level of voluntary information giving, appropriate and inappropriate occurrences of simulated patient behavior during the interview, and making recommendations to the simulated patients when necessary.

Elements common to both treatment levels during Phase II ( $X_2$ ) are:

- A. Administration of a video-tape pretest ( $O_2$ , described below) to each student independently, immediately prior to the interview.
- B. Presentation of instructions, including the availability

of 7 - 10 minutes to assess the patient's present illness and verbal clarification of any questions regarding procedure.

- C. Video-taping (0<sub>3</sub>) of the student's interaction with the patient, up to a limit of 10 minutes, at which point the interview will be terminated by the observer (positioned in a remote setting).
- D. Feedback (within 1 hour) to each student as the video-tapes are reviewed in the learning group of four with a psychosocial debriefer.

Subjects in the low specificity condition will receive:

- A. A minimum frequency of comments from the debriefer as the tape is reviewed, generally focusing on normative qualities of the interviewer's performance (e.g., "the patient seemed to be comfortable with you").
- B. A minimum focus by the debriefer on either appropriate or inappropriate interviewer behaviors.

Subjects in the high specificity condition will receive:

- A. A high frequency of debriefer input regarding specific positive or negative interviewer behaviors as the tape is reviewed. Discussion will also include alternative methods of eliciting the same or additional information.
- B. Debiefer feedback based on the target interviewer behaviors specified in the high treatment condition during Phase I.

- C. The actor will be present during the debriefing session with the students to provide feedback regarding the effect of various interviewing techniques from a patient's perspective.

At the conclusion of Phase II, students will be administered a video-taped posttest (O<sub>4</sub>; described below) as a group of four.

### Instrumentation

Data will be gathered on each subject in three major categories:

1. Pretest of personality variables prior to Phase I.
2. Pre-posttest of written responses to video-taped interview segments immediately before and after Phase II.
3. Video-taped interview (Phase II) rated by Interviewer Response Categorization Scale.

Instrumentation in Phase I. The Nowicki-Strickland Scale to assess locus of control was devised to correct identified methodological problems with the Rotter I-E Scale, especially susceptibility to influences of social desirability among adult respondents. Nowicki and Duke (1973) describe the development of the instrument, report split-half reliability of .74 to .86 (N = 766), and provide evidence of its improved validity. The scale consists of 40 items to which a subject responds regarding his agreement, disagreement, or lack of opinion with respect to individual statements as descriptive of himself (a copy of the instrument is in Appendix C). Total time for administration is approximately 7 - 10 minutes.

Ray's Directiveness Scale (1976) measures the authoritarian attitudes of the respondent. "Authoritarianism" is operationally defined as the desire or tendency to impose one's own will on others. The 26 item list (a copy of which appears in Appendix C) requires the respondent to indicate "Yes" or "No" to whether he believes the statement is representative of himself. Administration time will be approximately 5 - 7 minutes.

Ray reports the development of the scale, including test/retest reliability estimates of .74 on a sample (N = 117) of sophomore students at the University of New South Wales, Australia. The investigator examined the wording of the scale for cultural idiosyncracies and found no contraindications for use with an American sample. In contrast to the earlier definitions of authoritarianism cited by Ray, his scale purports to measure behavioral characteristics rather than complex personality traits.

Scores on both measures for an individual subject will be considered as an index of interpersonal orientation. These scores will be used as covariates in an analysis of covariance with the other dependent measures described below. The inclusion of this data is intended to suggest directions for future research efforts by illuminating existing relationships between the interpersonal orientation of an interviewer and his interviewing behavior.

Instrumentation in Phase II. Selection of a dependent measure to assess the effects of the interview training presents a significant methodological problem. Because most measures reported in the literature are either closely tied conceptually to the training model whose

effects they are designed to assess (Hess, 1969; Kagan, 1972) or represent adaptations of rating scales devised primarily for measuring relevant dimensions in psychotherapeutic interactions (Moreland, et al., 1973), it is believed by the investigator that another measuring instrument is required. Specific characteristics required include (a) sensitivity to relatively subtle behavioral differences between individual interviewers, (b) a stimulus presentation mode that includes the non-verbal dimensions of a patient's statements, and (c) operational specificity in the rating process sufficient to achieve a high level of interrater reliability (above 85% agreement).

The measuring device used in this research is the Interviewer Response Categorization Scale (IRCS; a copy of the Training Manual and rating forms are found in Appendix D). The IRCS operationalizes three discrete nominal categories of interviewer behavior: Disruptive, Neutral, and Facilitative. The Facilitative category is further delineated into five discrete types of facilitating responses.

The IRCS is based on work done by researchers at the University of Utah Medical School (Taylor, et al., in press). Reports of interrater reliability expressed as percent agreement by two raters on 178 segments rated indicated a 91% rate of agreement. Further analysis of the disagreements indicated that less than 2% of the disagreements were between the operationally defined Disruptive and Facilitative categories.

The investigator will extend the capabilities of the IRCS as part of the work for this study by (a) revising and tightening the

operational definitions for each category, (b) calculating inter-rater reliability on a much larger sample, (c) stating the decision rules for categorization and the definition of a ratable unit, and (d) using the variety of categories under Facilitative employed by the interviewer as a more rigorous test of the integration of a range of appropriate interviewing behavior.

Using the Training Manual, the investigator and his associates will train two teams of three undergraduate raters each until inter-rater agreement is consistently 85% or better. Raters will view a total of over 50 video-taped training examples of each operational definition under the three categories, observe and rate over 300 video-taped interview segments from previous years of student training, and during the training phase will discuss the rationale for each of their ratings.

Interrater reliability will be calculated as the percentage of segments on which two independent raters agree divided by the total number of segments rated. The third rater on each team will be used to arbitrate in the case of a disagreement between the other two raters, but will not be included in the reliability estimate. Details are included in Appendix D in the Training Manual.

The IRCS also has the potential property of being applicable to both written and behavioral responses. Consequently, two different types of dependent measures will be used to assess the impact of the training during both phases.

1. Video-Tape Vignettes and Written Responses. A series of

interactions from a medical interview transcript (Froelich & Bishop, 1972) will be enacted (copies of the scripts and response forms are found in Appendix E). Five brief (30 - 90 second) segments of the total interview will be video-taped in the television studio. Following presentation of each segment, the student will be instructed to formulate and write within 30 seconds what he would actually say if he were the interviewer and had heard the last patient statement. Response points within the script will be selected to maximize the number of potential responses an interviewer could make. For example, he might choose to ask about the specific character of the symptom the patient has mentioned (e.g., "Where does it hurt the most?"), or he might choose to respond to the affect portrayed by the patient (e.g., "You seem to be very upset about this. Could you say something more about how it is affecting you?").

Two equivalent series of five interview segments each will be prepared, one for use at the pretest, the other for the posttest. The procedure with both tests will be identical. The pretest vignettes will be administered to each student independently immediately prior to his interview with the simulated patient during Phase II. The posttest will be administered to the learning group of four students simultaneously, immediately following the



conclusion of the debriefing session with the psycho-social debriefer. Responses will be coded to make the identity of a specific respondent anonymous to the raters, as well as whether the responses are pre or posttest items.

Raters will categorize each item for each student on both pre and posttest items using the IRCS. Using the rules for rating described in the Training Manual, each student will receive a single number score on both pre and posttests representing the percentage of his total responses out of five possible items which are designated Facilitative. Other possible dependent scores which may reflect greater sensitivity and meaning will also be used in supplementary analyses (e.g., the ratio of Facilitative to Neutral responses or the variability of specific categories of Facilitative responses). This score will then be used in the subsequent analysis of variance design.

2. Video-Taped Interviews. Each student's interview with the simulated patient will be video-taped during Phase II for use during the debriefing session. These tapes will be retained for further data analysis using the IRCS. Interviews will range up to ten minutes in length. Using a combination of time and incident definitions, raters will rate the interviewer responses which occur following each 15

second interval on the tape and which is within the operational boundaries of a "ratable unit." A "ratable unit" is defined as that interviewer response which occurs between patient statements which (1) are content-related; that is, more than simple non-verbal acknowledgment of the interviewer's statement, and (2) express some logical unit.

Consideration will be given in a pilot study using taped interviews from previous years to rating every interviewer response during the interview, rather than the more limited sampling procedure described above. The major criteria will be the technical logistics, the relative time-efficiency in accomplishing the rating task, and the comparative reliability achieved.

Each interviewer's score will be tabulated using the scoring rules detailed in the Training Manual and converted to a single number representing the percentage of interviewer responses judged Facilitative of an equal number of responses for all interviews. Because the length of the interview will vary across students, the fewest number of interviewer responses rated (or the shortest length of an interview) will effectively become the denominator for the number of responses on which the percentage of facilitative responses is determined. This percentage of facilitative responses will then be

used in the analysis of variance design.

Because previous research using the IRCS (Taylor, et al., in press) has used only the comparative frequencies of Disruptive versus Facilitative responses to assess group differences, no information is currently available regarding other possible dimensions available from the instrument. Supplementary analyses of potentially greater precision and meaning will be performed. For example, those stated above under the section on written response categorization or a sampling of percentage Facilitative responses during time segments of the interview (e.g., first third, middle third, last third).

The decision of which measures offer the greatest information yield in answering the research problem will be made by the investigator in consultation with his advisers and other experts in the field. Essentially, this offers an additional opportunity for extending and refining the capabilities of the IRCS as a more reliable and valid measurement tool as a consequence of this study.

### Experimental Design

The reader may wish to refer to Figure 1 (p.11) to clarify understanding of the following section.

Design 1. It is expected that the cumulative effect of treat-

FIGURE 2. Experimental design for analysis at  $O_4$ , Design 1.

INTERVAL	SEQUENCE	GROUPS	SUBJECTS	
Short	H x H	1	S = 4	n = 12
		2	S = 4	
		3	S = 4	
	H x L	4	S = 4	n = 12
		5	S = 4	
		6	S = 4	
	L x H	7	S = 4	n = 12
		8	S = 4	
		9	S = 4	
	L x L	10	S = 4	n = 12
		11	S = 4	
		12	S = 4	
Long	H x H	13	S = 4	n = 12
		14	S = 4	
		15	S = 4	
	H x L	16	S = 4	n = 12
		17	S = 4	
		18	S = 4	
	L x H	19	S = 4	n = 12
		20	S = 4	
		21	S = 4	
	L x L	22	S = 4	n = 12
		23	S = 4	
		24	S = 4	

TABLE 8. Sources of variance in Design 1.

SOURCE	LEVELS	df
I = Interval	2	1
Se = Sequence	4	3
Se x I = Sequence x Interval Interaction	8	3
G/Se x I = Groups	3	16
S/G x Se x I = Subjects	4	72

FIGURE 3. Experimental design for analysis at  $O_2$  and  $O_3$ , Design 2.

INTERVAL	SPECIFICITY	GROUPS	SUBJECTS	
SHORT	H	1	S = 4	n = 24
		2	S = 4	
		3	S = 4	
		4	S = 4	
		5	S = 4	
		6	S = 4	
	L	7	S = 4	n = 24
		8	S = 4	
		9	S = 4	
		10	S = 4	
		11	S = 4	
		12	S = 4	
LONG	H	13	S = 4	n = 24
		14	S = 4	
		15	S = 4	
		16	S = 4	
		17	S = 4	
		18	S = 4	
	L	19	S = 4	n = 24
		20	S = 4	
		21	S = 4	
		22	S = 4	
		23	S = 4	
		24	S = 4	

TABLE 9. Sources of variance in Design 2.

SOURCE	LEVELS	df
I = Interval	2	1
Sp = Specificity	2	1
Sp x I = Specificity x Interval Interaction	4	1
G/Sp x I = Groups	6	20
S/G x Sp x I = Subjects	4	72

ment and interval variables will present a significant interaction effect at  $O_4$ . Since significant main effects would be difficult to interpret in the presence of a higher order statistical interaction, the first analysis will be made using the dependent measures on each subject at  $O_4$ . The experimental design is shown below in Figure 2 (p.92) and sources of variance are shown in Table 8 (p.92).

The between subject variables evaluated in this one-way analysis of variance design are described below. Sequence (Se) with four levels (H x H; H x L; L x H; L x L) is crossed with interval (I) with two levels (short and long). Group (G) with three levels for each Se x I combination is nested within Se x I. Subjects (S) are nested within G x Se x I with four subjects per group.

The variable "sequence" (Se) is included to assess the effect of order of presentation of behavioral specificity during both phases of training. Assuming that a significant interaction occurs between levels of treatment and interval (Se x I), a series of individual comparisons of all means will be made (Kirk, 1968). The dependent measure used in this analysis will be the rating of written responses to the video-tape vignettes administered immediately following Phase II training ( $O_4$ ).

Design 2. While Design 1 will be used to assess the cumulative effect of Phase I and Phase II training and the interval between those phases, a separate analysis will be conducted to evaluate the effect of Phase I training and the interval between phases of training (i.e., analyses using  $O_2$  and  $O_3$ ). The experimental design is shown below in

Figure 3 (p.93), and sources of variance are shown in Table 9 (p.93).

The between subject variables evaluated in this one-way analysis of variance are described below. Specificity of training at Phase I (Sp) with two levels (H; L) is crossed with interval (I) with two levels (short and long). Group (G) with six levels for each Sp x I combination is nested within Sp x I. Subjects (S) are nested within G x Sp x I with four subjects per group.

Should a significant interaction be detected between levels of treatment and interval (Sp x I) a series of individual comparisons of all means will be made (Kirk, 1968).

This design will be used for analysis of two different dependent measures. The effect of specificity of training and interval between treatment will be evaluated through two different data sources. A correlation between these scores will be computed as an index of the relative efficiency of these measurement modalities. Ratings from written responses to video-tape vignettes administered prior to Phase II training ( $O_2$ ) will be analyzed, and ratings from the video-taped interviews ( $O_3$ ) will be assessed in a separate analysis.

Statistical power for each of the analyses in both designs was evaluated (Toothaker, 1977). For differences of  $SD = 1.5\sigma$ ,  $\alpha = .05$ , using the correct degrees of freedom, all tests were shown to have minimum power equal to .95. Comparable power was calculated for  $SD = 1.0\sigma$ ,  $\alpha = .05$ . The only exception was the Group (G) effect in both designs, where power was approximated as equal to .82. However, because groups are used in this study as a scheduling unit rather than

a variable of interest, the group effect is not critical. Sufficient power is available, nonetheless, to detect confounding variability due to groups.

Design 3. Individual subject scores on the personality measures ( $O_1$ ; locus of control and authoritarianism) will be used in both Design 1 and Design 2 as covariates in an analysis of covariance. This analysis will be conducted only after a sufficiently high correlation ( $r \geq .40$ ) between either or both covariates and the dependent measures ( $O_2$ ,  $O_3$ , or  $O_4$ ) has been established in a preliminary analysis. It is hoped that trends between a subject's interpersonal orientation and his interviewing performance will be illuminated. A further purpose of the proposed analysis of covariance is the increased precision of the dependent measures achieved by the statistical control of individual differences not accounted for in the design.

As mentioned in Instrumentation, (p.84 ), supplementary analyses using different combinations of the data from the IRCS may be required to provide greater meaning to the interpretation of the results. Details of the analyses, including exact descriptions of the dependent measure, will be provided in the Method section.



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**APPENDIX B**

**Scripts for Simulated Patients and Interviewer Instructions**

## CHEST PAIN

Mr. Bob Smith/Mrs. Judith Smith

(actor use own age)

### CHIEF COMPLAINT: Chest Pain

**STORY:** Last night you were awakened from a sound sleep around 2:30 a.m. with a tight feeling, like indigestion or bloating, in your chest and some discomfort in your neck. You had to sit up and take deep breaths. When the pain didn't go away immediately you tried Alka-Seltzer, which didn't seem to help. The pain gradually went away after what seemed like a long time (about 10 minutes). Since the pain early this morning, you have had no other pains like it, nor are you now in any discomfort. You have had occasional heartburn and indigestion in the past, but Alka-Seltzer has always helped. Since this pain didn't seem to be helped by Alka-Seltzer, you thought you'd better check it out. Actually, you're quite concerned, but feel confident that the doctor will take care of your problem.

**EMOTIONAL AFFECT:** Concern about the sudden onset of the symptom, especially since your father had a heart attack, and your grandfather died of a heart attack. Also, your spouse has taken off work to bring you down, and is concerned about what the problem really is.

### PRESENT ILLNESS:

**Onset:** Last night\*/ awakened from sound sleep about 2:30 a.m.

**Character of symptom(s):** Tight feeling (like indigestion or bloating in your chest\*)/ had to sit up and take deep breaths (if asked: not the worst pain ever had; not like someone sitting on chest; not like a hammer hitting chest)

**Location:** Point (middle front and to left)

**Radiation:** Some discomfort in neck/neck discomfort is gone now

**Duration:** Seemed like a long time/10 minutes/gradually went away

**Frequency:** Only once

**Factors that aggravate or alleviate:** Not much help from Alka Seltzer/only cleared gradually after taking/(not related to activity, emotion, breathing, neck or shoulder motion)

\* Volunteer information

CHEST PAIN, Cont.

Associated symptoms: Couldn't catch breath (shortness of breath)/  
shortness of breath went away with pain  
No chills, fever  
Awoke with mild sweating  
No swollen or sore legs or ankles  
No heartburn/only occasionally (once a month)  
No nausea or vomiting  
No lightheadedness (faintness)  
No racing of heartbeat or skipped beat  
No tenderness over neck or shoulder now  
Effect on patient: In no discomfort now, but concerned/took time  
off work for appointment  
Previous occurrences: None like this pain, but did have pneumonia  
three years ago/lasted 5 days/not hospitalized/whole chest  
ached/cough, thick, yellow sputum/treated with shot and  
capsules (antibiotics)  
Other: Appendectomy/6 years ago/no problems since  
Smokes/1-1/2 packs a day/10 years  
Father had heart attack, age 51/now in good health, going  
strong (age 70)  
Mother has diabetes/on diet  
No recent injuries  
No undue exertion  
No birth control pill use (if female)  
No food intolerance, eats gravies, fatty meat, etc./no heavy  
feeling after meals/no abdominal pain  
Diet consists of at least one meal a day with meat  
No rheumatic fever as a child  
No blood pressure check recently  
Occasional social drink

BIOGRAPHICAL INFORMATION:

Family structure: Married, two teenaged children  
Occupation: High school teacher/teaches summer school/money no  
problem - buying boat/spouse also teaches high school  
Activity level: Moderately active/knows should be more active  
Interpretation of illness: Concerned (feels confident doctor will  
take care of problem)  
Reaction to stress: Never have enough time to do everything I  
want to do during the day; always have a lot of projects  
I'm working on (not anxious or nervous, just too much to  
do)



CHEST PAIN  
INSTRUCTIONS TO INTERVIEWER

Mr./Mrs. Smith, a patient never seen by you or any of the staff at the clinic, called this morning complaining of chest pain. Your task is to assess the present illness.

You will have 7 - 10 minutes to complete the interview. You do not have to take the entire 10 minutes if you do not feel it is necessary. Terminate the interview whenever you think appropriate. If you continue as long as 10 minutes, you will be interrupted by the technician.

PLEASE DO NOT DISCUSS ANY PORTION OF THIS INTERVIEW WITH YOUR COLLEAGUES!!

## ABDOMINAL PAIN

Mr/Ms. Broughton

(actor use own age)

CHIEF COMPLAINT: Abdominal pain for three days

STORY: You have been experiencing a pain in your "stomach" which has grown in intensity over the past three days, but you have been able to go to work. This morning, about 4:00 a.m., you were awakened with a piercing pain in the same area, unlike anything you have experienced before. Unable to go back to sleep, you took Roloids (which didn't help), and then about 5:30 a.m. you became nauseated and vomited. You noticed something in the vomit which appeared to be blood.

This pain is similar, but much more intense, than the abdominal pain you experienced about 1 year ago, at which time you were hospitalized for a number of tests (all of which proved normal), and discharged after three days. Your immediate concern is the possibility of surgery since there has been a history of "stomach problems" in your family.

EMOTIONAL AFFECT: Concern and anxiety regarding the immediate pain, the inability of a previous hospitalization to determine the problem, history of similar disease in the family, and the uncertainty regarding surgery.

PRESENT ILLNESS:

Onset: 3 days ago\*/slow, progressive  
Character of symptom: Now sharp, pressing/worst pain ever had  
Location: Right upper abdomen, just below ribs  
Radiation: To shoulder blade  
Duration: 1-2 minutes  
Frequency: Irregular at first/very frequent now/awoke during night with pain  
Factors increase: Greasy food, large meal  
Factors decrease: Not eating  
Associated symptoms: One episode of nausea and vomiting this morning  
No fever or chills  
No diarrhea

\* Volunteer information

ABDOMINAL PAIN, Cont.

Effect on patient: In pain/worried that surgery may be needed  
Prior similar symptoms: Several bouts of abdominal pain (right upper abdomen) this past year which were similar but went away  
Treatment: Roloids, rest, aspirin/without success  
Interpretation of illness: Severe, unknown  
Response to stress: Nervous

PAST HISTORY:

Hospitalizations: Hospitalized 1 year ago for similar pain/ tests (results normal)/ 3 days/no diagnosis or surgery  
Appendectomy/age 12/no problems

FAMILY HISTORY:

Mother had gall bladder disease and diabetes/surgery for removal of gall bladder about 10 years ago/doing fine now/age 60  
Father: age 62/had an "ulcer" for about 20 years (i.e., a nervous stomach)  
Husband: age 30, health okay  
Daughter: age 12, health fine

SOCIAL HISTORY:

Education/occupation: College/Social Worker/little activity  
Hobbies: Reading, crafts  
Diet: On diet/presently 20 lbs. overweight  
Tobacco: Smokes 1 pack a day/10 years  
Alcohol: Social drinker

REVIEW OF SYSTEMS:

On diet/20 lbs. overweight  
Occasional tension headache/related to stress  
Last dental exam in March  
Wears glasses for reading  
Regular periods/last period 2 weeks ago/only one pregnancy

ABDOMINAL PAIN  
INSTRUCTIONS TO INTERVIEWER

Mr./Ms. Broughton, a patient never seen by you or any of the staff at the clinic, called this morning complaining of stomach pain. Your task is to assess the present illness.

You will have 7 - 10 minutes to complete the interview. You do not have to take the entire 10 minutes if you do not feel it is necessary. Terminate the interview whenever you think appropriate. If you continue as long as 10 minutes, you will be interrupted by the technician.

PLEASE DO NOT DISCUSS ANY PORTION OF THIS INTERVIEW WITH YOUR COLLEAGUES!!

RECTAL BLEEDING

Mr./Mrs. Atkinson

(actor use own age)

CHIEF COMPLAINT: Note blood in stools for approximately the past week.

STORY: About 1 week ago you were startled to notice (by accident) some bloody mucous in your stools after a BM. This has continued with each trip to the bathroom since that time. Urgency to go to the bathroom is now 5 - 10 times per day, and you are feeling progressively weaker. You have never had anything like this happen, and you are afraid and confused about what the problem might be.

EMOTIONAL AFFECT: Confused, embarrassed, concerned

PRESENT ILLNESS:

Onset: Noticed blood in stools about 1 week ago\*/continued to the present/seems to have some mucous (white puss) mixed in

Character of Symptoms: Blook is dark red in color/stools have become progressively more loose and watery

Duration: Never had before this episode/blood in the stools for the past week/noticed with each BM

Frequency: Bloody, loose stools now 5 - 10 times per day

Factors Increasing: Nothing in particular/seems worse since you have been aware of it

Factors Decreasing: Nothing/diet has little effect/tried Combid and Milk of Magnesia without success

Associated Symptoms: (1) Have had abdominal pain and cramps with MB's/about two weeks ago noticed an onset of urgency to have BM with lower abdominal cramps/now have episodes with severe urge to have BM, frequently nothing happens

(2) Feel like have had fever/for past 3 days/haven't taken temperature

Effect on Patient: Since onset have been feeling progressively weaker (overall)/worried about symptoms since never had the problem before/necessity for frequent trips to bathroom

\* Volunteer information

RECTAL BLEEDING, Cont.

is embarrassing and disrupting to your work as a retail salesperson

Interpretation of Illness: Unknown, but severe problem

Prior Similar Symptoms: Never had blood in stools before/ have noticed some tendency to have cramps and diarrhea when get nervous or upset during the past 2 years/never anything like this

Treatment: Milk of Magnesia always seemed to settle your "nervous stomach" in the past/Combid controlled diarrhea during a "flu" episode about six months ago

Response to stress: Some diarrhea and cramping, a "nervous stomach"/no nausea and vomiting with job-related stress

PAST HISTORY:

Hospitalizations: None, except delivery of 2 children/ no severe illnesses

FAMILY HISTORY:

Mother: age 57/obese, but no serious medical problems

Father: age 58/high blood pressure for past 10 years/had surgery to remove part of lower intestine about five years ago/ since then, OK

Husband/Wife: 2 years older than you/no serious medical problems

Children: 2/son, age 5 years/daughter, age 18 months

SOCIAL HISTORY:

Marriage: married for 7 years/no problems/both work to support family

Education/Occupation: college degree as teacher, no jobs available/work as salesperson at Sears/holiday season stressful

Diet: Nothing remarkable

Tobacco: smoke about 1 pack per day/since started job/about two years

Alcohol: social drinker

Activity level: minimal, some tennis/know should be more active, but no time

Financial: lack of teaching job is of major concern, since finances are particularly tight with new (unexpected) child

RECTAL BLEEDING  
INSTRUCTIONS TO INTERVIEWER

Mr./Mrs. Atkinson, a patient never seen by you or any of the staff at the clinic, called this morning complaining of stomach problems. Your task is to assess the present illness.

You will have 7 - 10 minutes to complete the interview. You do not have to take the entire 10 minutes if you do not feel it is necessary. Terminate the interview whenever you think appropriate. If you continue as long as 10 minutes, you will be interrupted by a technician.

PLEASE DO NOT DISCUSS ANY PORTION OF THIS INTERVIEW WITH YOUR COLLEAGUES!!

APPENDIX C

Instruments for Assessing Interpersonal Orientation

Locus of Control  
Authoritarianism



ID \_\_\_\_\_

Date \_\_\_\_\_

\*Nowicki-Strickland Scale

Please answer each of the following items either "yes" or "no" in the space provided. Do not omit any items.

- \_\_\_\_\_ 1. Do you believe that most problems will solve themselves if you just don't fool with them?
- \_\_\_\_\_ 2. Do you believe that you can stop yourself from catching a cold?
- \_\_\_\_\_ 3. Are some people just born lucky?
- \_\_\_\_\_ 4. Most of the time do you feel that getting good grades meant a great deal to you?
- \_\_\_\_\_ 5. Are you often blamed for things that just aren't your fault?
- \_\_\_\_\_ 6. Do you believe that if somebody studies hard enough he or she can pass any subject?
- \_\_\_\_\_ 7. Do you feel that most of the time it doesn't pay to try hard because things never turn out right anyway?
- \_\_\_\_\_ 8. Do you feel that if things start out well in the morning that it's going to be a good day no matter what you do?
- \_\_\_\_\_ 9. Do you feel that most of the time parents listen to what their children have to say?
- \_\_\_\_\_ 10. Do you believe that wishing can make good things happen?
- \_\_\_\_\_ 11. When you get punished does it usually seem its for no good reason at all?
- \_\_\_\_\_ 12. Most of the time do you find it hard to change a friend's opinion (mind)?
- \_\_\_\_\_ 13. Do you think that cheering more than luck helps a team to win?
- \_\_\_\_\_ 14. Did you feel that it was nearly impossible to change your parent's mind about anything?

- \_\_\_\_\_ 15. Do you believe that parents should allow children to make most of their own decisions?
- \_\_\_\_\_ 16. Do you feel that when you do something wrong there's very little you can do to make it right?
- \_\_\_\_\_ 17. Do you believe that most people are just born good at sports?
- \_\_\_\_\_ 18. Are most of the other people your age stronger than you are?
- \_\_\_\_\_ 19. Do you feel that one of the best ways to handle most problems is just not to think about them?
- \_\_\_\_\_ 20. Do you feel that you have a lot of choice in deciding whom your friends are?
- \_\_\_\_\_ 21. If you find a four leaf clover, do you believe that it might bring you good luck?
- \_\_\_\_\_ 22. Did you often feel that whether or not you did your home-work had much to do with what kind of grades you got?
- \_\_\_\_\_ 23. Do you feel that when a person your age is angry at you, there's little you can do to stop him or her?
- \_\_\_\_\_ 24. Have you ever had a good luck charm?
- \_\_\_\_\_ 25. Do you believe that whether or not people like you depends on how you act?
- \_\_\_\_\_ 26. Did your parents usually help you if you asked them to?
- \_\_\_\_\_ 27. Have you felt that when people were angry with you it was usually for no reason at all?
- \_\_\_\_\_ 28. Most of the time, do you feel that you can change what might happen tomorrow by what you do today?
- \_\_\_\_\_ 29. Do you believe that when bad things are going to happen they just are going to happen no matter what you try to do to stop them?
- \_\_\_\_\_ 30. Do you think that people can get their own way if they just keep trying?
- \_\_\_\_\_ 31. Most of the time do you find it useless to try to get your own way at home?
- \_\_\_\_\_ 32. Do you feel that when good things happen they happen because of hard work?

- \_\_\_\_\_ 33. Do you feel that when somebody your age wants to be your enemy there's little you can do to change matters?
- \_\_\_\_\_ 34. Do you feel that it's easy to get friends to do what you want them to do?
- \_\_\_\_\_ 35. Do you usually feel that you have little to say about what you get to eat at home?
- \_\_\_\_\_ 36. Do you feel that when someone doesn't like you there's little you can do about it?
- \_\_\_\_\_ 37. Did you usually feel that it was almost useless to try in school because most other children were just plain smarter than you?
- \_\_\_\_\_ 38. Are you the kind of person who believes that planning ahead makes things turn out better?
- \_\_\_\_\_ 39. Most of the time, do you feel that you have little to say about what your family decides to do?
- \_\_\_\_\_ 40. Do you think it's better to be smart than to be lucky?

ID \_\_\_\_\_

Date \_\_\_\_\_

### Authoritarianism Scale

Please complete the following items by indicating in the space:

"yes", "no", or "?" (if you are uncertain)

- \_\_\_\_\_ 1. Are you the sort of person who likes to get his own way?
- \_\_\_\_\_ 2. Do you tend to boss people around?
- \_\_\_\_\_ 3. Do you like to have things "just so"?
- \_\_\_\_\_ 4. Do you suffer fools gladly?
- \_\_\_\_\_ 5. Do you think one point of view is as good as another?
- \_\_\_\_\_ 6. Are you often critical of the way other people do things?
- \_\_\_\_\_ 7. Do you like people to be definite when they say things?
- \_\_\_\_\_ 8. Does incompetence irritate you?
- \_\_\_\_\_ 9. Do you dislike having to tell others what to do?
- \_\_\_\_\_ 10. If you are told to take charge of some situation does it make you feel uncomfortable?
- \_\_\_\_\_ 11. Would you rather take orders than give them?
- \_\_\_\_\_ 12. Do you dislike standing out from the crowd?
- \_\_\_\_\_ 13. Do you find it difficult to make up your own mind about things?
- \_\_\_\_\_ 14. If someone is going to be Top Dog would you rather it be you?
- \_\_\_\_\_ 15. Do you give in to other people rather easily?
- \_\_\_\_\_ 16. Do you tend to dominate the conversation?
- \_\_\_\_\_ 17. Do you let your spouse get his/her own way?
- \_\_\_\_\_ 18. Are you generally a follower rather than a leader?

\*Ray's Directiveness Scale, from Ray, 1976.

- \_\_\_\_\_ 19. Do you like to make your own decisions without assistance from others?
- \_\_\_\_\_ 20. When you are going out socially, do you always like to have the say about where you will go?
- \_\_\_\_\_ 21. Are you a fast driver?
- \_\_\_\_\_ 22. Are you argumentative?
- \_\_\_\_\_ 23. Do you like being waited on?
- \_\_\_\_\_ 24. Would you prefer to hear a lecture rather than give one?
- \_\_\_\_\_ 25. Would you prefer to be a worker rather than a manager?
- \_\_\_\_\_ 26. Do you very often accept advice from other people?

APPENDIX D

Training Manual for Interviewer Response Categorization Scale (IRCS)

## TRAINING MANUAL

### Interviewer Response Categorization Scale (IRCS)

The Interviewer Response Categorization Scale (IRCS) is designed to evaluate interviewer behaviors during an interaction by categorizing each interviewer response into one of three major nominal categories: Disruptive, Neutral, or Facilitative. Within the Facilitative category there are five possible types of facilitative behaviors.

The sections of this Manual are:

1. Definition of a Ratable Unit
2. Decision Rules
3. Rater Roles and Rating Process
4. Scoring Procedure
5. Definitions and Examples of Categories
6. Scoring Sheet
7. Tally Sheet

1. RATABLE UNIT is the interviewer's verbal and nonverbal behavior which is bracketed by patient statements which are:

- A. Verbal (i.e., more than only non-verbal acknowledgement of the interviewer's statement
- B. Content-related, expressing some logical unit or thought

Every interviewer behavior occurring between patient statements meeting the above criteria will be rated. Disregard the opening statement of the interviewer (e.g., "Hello, Mrs. Smith. I'm Dr. Jones. What brings you to the office today?").

IMPORTANT: If you are confused about what the interviewer said or what the unit to be rated is, indicate this to the machine operator immediately to have the unit replayed!

2. DECISION RULES

A. Multiple Responses within a Ratable Unit. Sometimes during the interviewer's response more than one discrete statement occurs. In those cases the following rules will apply:

- 1. Disruptive + Facilitative = Disruptive
- 2. Disruptive + Neutral = Disruptive
- 3. Neutral<sub>1</sub> + Neutral<sub>2</sub> + . . . + Neutral<sub>n</sub> = Neutral
- 4. Facilitative + Neutral = Neutral
- 5. Neutral + Facilitative = Facilitative
- \*6. Facilitative<sub>1</sub> + Facilitative<sub>2</sub> + . . . + Facilitative<sub>n</sub> = Facilitative<sub>n</sub>

\* In the case of multiple facilitative statements within a single ratable unit, the entire segment will be rated at the last facilitative statement.

In other words:

Disruptive comments are weighted over any other component. The order of Neutral and Facilitative comments determine the rating of the segment.



B. Questions. In a medical interview the majority of interviewer responses are questions. The following rules will apply:

1. Obvious request for the patient to continue (e.g., "Can you say some more about that?")

RATED: Facilitative, Open-ended question

2. Question structured so that it can be answered with a simple "yes/no" response (e.g., "Can you point to the place it hurts with one finger?")

RATED: Neutral

3. Questions which contain multiple suggested options (e.g., "Is it a stabbing pain or a burning pain?"; "Does it hurt more in the morning or at night?")

RATED: Neutral

4. If the question meets any one or all of the following criteria, it is a direct question:

a. Focuses on a specific topic area (e.g., "What kind of work do you do?")

b. Can probably be answered with one word or a brief phrase (e.g., "What kind of pain is it?")

c. Is asked to quantify, qualify, or characterize the symptom (e.g., "How long does it last?")

d. Requests the patient to list information (e.g., "What have you taken in the past?")

RATED: Neutral

5. Questions which have multiple possible options for the patient to respond (e.g., "Tell me about the pain;" or "Describe what happens when you feel this;" or "What else do you notice?")

RATED: Facilitative, Open-ended Question

C. Summarizing by categories.

1. Neutral

a. Yes/No Response

- b. Multiple Suggested Options
  - c. Direct Question
2. Facilitative
- a. Yes/No Question, but obvious request for patient to continue
  - b. Multiple possible options

3. RATER ROLES AND RATING PROCESS

Raters will work in teams of three persons with a machine operator. Two raters will be randomly selected for each session and designated as Recording Raters. The third will be the Arbitrating Rater.

Each rater will rate and record each segment. It is vital to the validity of the study that raters do not discuss their individual ratings during the rating process.

The machine operator is responsible for making certain that each rater is marking the same segment on the score sheet, ensuring each rater has the correct identification of the interview marked on the score sheet, and for monitoring the clarity of the unit to be rated. In cases where the interviewer's response cannot be understood or agreed upon, the operator will declare the unit "Unratable" and each rater will mark that number segment as such on his/her score sheet. The operator will also replay any unit on which any rater requests clarification. The operator shall be the final judge regarding any points of confusion regarding the clarity or definition of a unit to be rated.

4. SCORING PROCEDURE

Following each rating session, the operator will collect the scoring sheets from each rater and designate the Recording and Arbitrating Raters for that session. For each interviewer, the following procedure will be used for scoring:

- A. For each segment:

1. If both Recording Raters agree for the segment, the segment is so rated and "complete agreement" is checked.
2. If the Recording Raters disagree, then the Arbitrating Rater's score is checked:
  - a. If 2 of 3 raters agree, the segment is rated as such, and "partial agreement" is checked
  - b. If none of the raters agree, the segment is rated according to the designated #1 Recording Rater for that session, and "no agreement" is checked
- B. For each interview the percentage of "complete agreement" is calculated. In cases where this is less than 80%, the interview is to be rerated by the alternate rating team.

## 5. DEFINITIONS AND EXAMPLES OF CATEGORIES

### A. Disruptive

1. Questions phrased in such a way that the probability of an invalid response is increased or the patient's flow of information is interrupted.
  - a. Yes/No questions which interrupt the patient's statement
 

Pt: "The pain seems to be stronger. . . ."

Dr: "In the morning or the afternoon?"
  - b. Multiple questions which change the focus or subject of the question.
 

Dr: "Do you find that the pain is worse in the morning or does it go to your neck, or what?"
  - c. Leading questions prematurely suggest the desired response and may inadvertently distort the data.
 

Dr: "Before taking the pills, do you always try to relieve the pain by resting?"

Dr: "You have been taking your pills regularly?"
  - d. Vague questions are poorly constructed or worded or too general and may contain jargon, so that the

patient response is uncertainty regarding the interviewer's intent.

Dr: "Has there been, or is there now, do you think, any history of cardiovascular or pulmonary disease in your immediate family?"

Dr: "What else?"

e. Why questions call upon the patient to account for or justify his behavior.

Dr: "Why do you take that medication?"

f. Questions that antagonize the patient or make him defensive.

Dr: "According to the record, you haven't lost any weight. Why do you keep eating so much?"

B. Interrupting the patient's story with any response.

C. Forced solution messages. These responses take away all responsibility from the patient and put him under the control of the interviewer. The message to the patient is "You're too dumb to figure out the problem, so I have to do it for you." (Note: contrast with response to legitimate dependency.)

1. Ordering, directing, commanding. Telling the other person to do something: giving him an order or command.

2. Warning, admonishing, threatening. Alluding to the use of your power by telling another person what consequences will occur if he does something.

3. Moralizing, preaching, obliging. Telling the other person what he should or should not do.

4. Advising, giving suggestions or solutions. Telling the other person how to solve his problems.

5. Persuading with logic, arguing, instructing, lecturing. Trying to influence the other person with facts, counter-arguments, logic, information, or your own opinions.

- D. Put-down messages. These responses directly attack the self-worth and integrity of the patient, saying in effect: "There is something wrong (bad) about you that needs to be fixed."
1. Judging, criticizing, disagreeing, blaming. Making negative judgments or evaluations of another person.
  2. Praising, agreeing, evaluating positively, approving. Manipulating another through flattery or implied promise of reward.
  3. Name-calling, ridiculing, shaming. Making the other person feel foolish; stereotyping or categorizing him.
  4. Interpreting, analyzing, diagnosing. Telling the other person what his motives are or analyzing why he is doing or saying something; communicating that you have figured out or diagnosed him.
  5. Reassuring, sympathizing, consoling, supporting. Trying to make the other person feel better; talking him out of his feelings; trying to make his feelings go away; denying the strength of his feelings.
  6. Probing, questioning, interrogating. Trying to find reasons, motives, causes; searching for more information to help you solve the problems.
- E. Avoidance messages. These responses minimize or deny the importance of the patient and his feelings or needs, saying indirectly: "Your feelings are ridiculous, and you should forget them."
- Withdrawing, distracting, humoring. Trying to get the other person away from the problem; withdrawing from the problem yourself; distracting the person, kidding him out of his feelings; pushing the problem aside.
- F. Defense. Perceiving a patient's comment as threatening or challenging and defending one's position.
- G. Jargon or big words. Use of medical terms or obscure and sophisticated terminology when more highly communicative

terms or phrasing are available.

H. Stumped

B. Neutral

NOTE: These responses are primarily for data clarification purposes in a medical interview and are appropriate during certain phases of the interviewing process. However, they represent lower-yield responses on the part of the interviewer. That is, the data elicited from the patient is usually less expansive, requiring follow-up questions from the interviewer. Those cases where a neutral response elicits more patient information than might be expected are judged to be the result of patient sophistication regarding the interviewer's intent, rather than the quality of the interviewer's question per se. In addition, Neutral questions tend to place more of the responsibility for the interview with the interviewer than with the patient.

1. Questions structured so that they can be answered with a simple "Yes/No"

Dr: "Have you noticed any nausea with this?"

Pt: "No"

Dr: "Have you had any fever?"

2. Questions which contain multiple suggested options for the patient's response

Dr: "Is it worse in the morning or in the evening?"

Pt: "Usually at night."

3. Questions which meet any one or all of the following criteria are direct questions:

- a. Focuses on a specific topic area

Dr: "What were you doing at the time?"

- b. Can probably be answered with one word or a brief phrase

Dr: "What medications do you take for this?"

- c. Quantifies, qualifies, or characterizes the symptom
  - Dr: "How long do these usually last?"
  - Dr: "How badly were you burned?"
  - Dr: "What tests did they run in the hospital?"
  - Dr: "Where does it hurt the most?"
- d. Requests the patient to list information
  - Dr: "What did you have for dinner?"
  - Dr: "What other stomach problems have you had?"

C. Facilitative

1. Appropriate attending behavior/Non-committal acknowledgment. Appropriate posture, eye contact, head nodding, etc. that communicates interest and concern. Allowing space in which the patient may again pick up the interaction without interviewer response. This may include brief expressions that communicate understanding and empathy (e.g., "Oh," "I see," "Mm-hmm," "Really," etc.)

NOTE: Appropriate attending behavior must be present in any facilitative response. For example, even if the interviewer makes an appropriate verbal statement, but lacks the nonverbal attention required, the interaction is to be designated "Disruptive".

2. Open-Ended Questions. These are high-yield responses which encourage the patient to provide data to the interviewer in his/her own words, or to expand or continue the expression of thought or description of the symptom/problem.
  - a. Yes/No questions which are an obvious request for the patient to continue
    - Dr: "Can you say more about what effect that has on you?"
  - b. Any question structured with "Tell me about. . ." or "Describe for me. . . ."
    - Dr: "Describe how the pain feels."

- c. Door-openers, such as "Could I hear more about that?", or "Please tell me more."
  - d. Questions to which there are multiple possible options for the patient to respond
    - Dr: "What seems to be associated with this?"
    - Dr: "What other symptoms have you had?"
    - Dr: "How was it treated?"
    - Dr: "What else seems to be going on with you?"
3. Content Paraphrase. Putting the factual portion of the patient's statement into the interviewer's own words, and reflecting that back to check for accuracy. Should be a concise statement.
- Dr: "This has been a problem for about 2 weeks?"
- Dr: "The pain seems to be worst in the evening, especially after you have eaten a meal?"
4. Active Listening. Feedback to the patient of both facts and feelings in the message.
- a. Reflection of feelings only
    - Dr: "This really scares you?"
  - b. Reflection of facts plus feelings and/or interpretation
    - Dr: "You're confused about what the symptoms really mean?"
5. Appropriate Giving of Information. Responding to the patient's legitimate (i.e., not emotionally loaded) request for information.
- Dr: "We'll need to make some preliminary lab tests before I can say too much about the problem."

6. SCORING SHEET

Note the copy of the rating form attached. The information at the top left corner will be completed prior to the rating of each interview.

Note that "Disruptive" and "Neutral" do not require discrimination of the specific type of that category. However, "Facilitative" as a



category appears on the form as each of the five (5) types of facilitating responses noted in the definitions. You will designate what kind of facilitating behavior was exhibited in the segment if it falls into the "Facilitative" category.

7. TALLY SHEET

A form for the total rating on each interviewer is attached. This will be completed by the investigator after each interview is rated according to the procedure described in Section 3.

STUDENT ID \_\_\_\_\_ MAIN RATER \_\_\_\_\_ AR \_\_\_\_\_ DATE \_\_\_\_\_  
 TAPE/SEGMENT \_\_\_\_\_ #2 RATER \_\_\_\_\_ OP \_\_\_\_\_ TIME \_\_\_\_\_

Segment #	Disruptive	Neutral	Non-comm Ackn.	Open- Ended Q.	Content Para.	Active Listen	Giving Info.	Agree	Partial Agree	No Agree
1.										
2.										
3.										
4.										
5.										
6.										
7.										
8.										
9.										
10.										
11.										
12.										
13.										
14.										
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23.										
24.										
25.										
26.										
27.										
28.										
29.										
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**APPENDIX E**

**Video-Tape Vignette Scripts and Response Forms**

Video-Tape Vignette Script #1 (0<sub>2</sub>)

INTRODUCTION

This patient is a 27 year old male, skilled laborer, who experienced a compound fracture of his right arm approximately four months ago with some damage to the radial nerve. You have been following him and have had the radial nerve damage assessed by an independent consulting physician. Impairment seems to be slight, if at all. However, he continues to return with a complaint of numbness and an inability to return to work.

SITUATION 1

Dr: "Good morning, Mr. Devoe. What brings you to the office today?"

Pt: "Well, Doc, it's still trouble with this hand of mine. I just can't seem to use it like I used to."

RESPONSE 1 (30 seconds black on tape)

SITUATION 2

Pt: "Yeah, it's about the same every day. I pick up some, and then it gets worse. I don't know what it is."

Dr: "Can you tell me how it picks up and then gets worse?"

Pt: "Well, it gets to where I can use it for awhile, and then it gets to where I can't use it for awhile. I don't know what it is, I just seem to lose the use of it. I can't seem to get it to do what I want it to do."

Dr: "How does your hand feel then?"

Pt: "Well, it feels numb, like you've got a piece of frozen meat in your hand and you've held it too long, you know?"

RESPONSE 2 (30 seconds black on tape)

SITUATION 3

Dr: "How does this effect your life?"

Pt: "Well, it ruins my life! I can't go back to work. I can't do anything."

Dr: "Then you have tried to go back to work?"

Pt: "Yeah, for a couple of days (sighs), but my hand was still bad and it's not getting any better."

RESPONSE 3 (30 seconds black on tape)

SITUATION 4

Pt: "A lot of people have said I could apply for permanent disability because my hand's not getting any better. My wife's friend is a lawyer, and he says I can sue the company for the liability for the loss of my hand."

Dr: "And you would sue for this?"

Pt: "I might--if my hand didn't get any better. At the company, they used to have these skid pads on the floor so we wouldn't fall down. The boss removed them two days before I fell down. He said we didn't need them, even on that slippery floor. I'd say that company wasn't too concerned about our safety."

Dr: "So you would rather sue the company than go back to work for them?"

Pt: "No, I didn't say that. But I'm thinking about it. (pauses)  
Yeah, I might -- if my hand doesn't get any better."

RESPONSE 4 (30 seconds black on tape)

SITUATION 5

Pt: "You know, when I got hurt, my boss wasn't that concerned that I had been hurt. He was concerned because I would miss some work."

Dr: "Well, did you tell him how you felt?"

Pt: "Listen, I liked my job at that time. I didn't want to get fired! What I wanted to tell him was what I thought of his 'safety program!' They're not concerned about safety around there. They're just interested in how much meat they can push through that room in one day. "

Dr: "Do you feel like you might get hurt if you go back to work again?"

Pt: "Well, a guy who gets hurt once is just as likely to get hurt again."

RESPONSE 5 (30 seconds black on tape)

Video-Tape Vignette Script #2 (0<sub>4</sub>)

INTRODUCTION

This patient is a 25 year old woman who has come to the doctor for the first time complaining of stomach pains.

SITUATION 1

Dr: "Good morning, Barbara. I'm Dr. Green. What seems to be the trouble today?"

Pt: "It's this stomach pain. It's just a real sharp, burning, intense stomach pain."

RESPONSE 1 (30 seconds black on tape)

SITUATION 2

Pt: "It started about three weeks ago, that's when I first noticed it. I was having trouble sleeping, and the pains became more intense by morning. I thought maybe if I ate something that would help. So I fixed some Cream of Wheat, and just as I was about to eat that, Johnny started crying. I had to run and take care of him, change his diaper and all that. By the time I got back to it, it was all cold."

Dr: "Did anything seem to help it?"

Pt: "I took some Alka-Seltzer. That seemed to alleviate it somewhat."

RESPONSE 2 (30 seconds black on tape)

SITUATION 3

Pt: "I've had a lot on my mind lately because I was recently divorced. I got custody of the child. Johnny's only eight months old, and he needs a lot of attention and I just can't give it to him



because I work full-time, 8 hours a day, five days a week. I love my job, and I really don't have time to take care of Johnny. And I get no help, no help at all from my ex-husband. He doesn't care. I need someone to help with Johnny, but the father. . . (pauses). I can't even talk about that!!"

RESPONSE 3 (30 seconds black on tape)

SITUATION 4

Dr: "Have you ever had any problem like this before?"

Pt: "No, I've never noticed it before. I've never had any trouble with my stomach. My mother used to have a lot of trouble with her stomach. She was always nervous and seemed to be under a lot of pressure. She eventually had to have surgery."

RESPONSE 4 (30 seconds black on tape)

SITUATION 5

Dr: "I'd like you to take a good look at the diet. I want you to stay on that for at least two weeks, and at that time phone me back and we'll check you again. "

Pt: (Pauses) "I only have one question. Looking over this, I don't see how I can follow this. I don't have time to cook the vegetables like this. I really don't like Cream of Wheat that much. Is there a pill you can give me that would speed up the recovery, or help me get rid of this pain?"

RESPONSE 5 (30 seconds black on tape)

ID# \_\_\_\_\_

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Response Sheet - I

You will observe five (5) brief segments (10 - 30 seconds each) of an interaction between patient and physician. A brief introduction to each patient will precede the interview.

At the conclusion of each segment you will have 30 SECONDS during which to formulate and write your immediate verbal response to the patient's statement in the appropriate space below.

PLEASE INDICATE WHAT YOU WOULD ACTUALLY SAY.

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Response Sheet - II

You will observe five (5) brief segments (10 - 30 seconds each) of an interaction between patient and physician. A brief introduction to each patient will proceed the interview.

At the conclusion of each segment you will have 30 SECONDS during which to formulate and write your immediate verbal response to the patient's statement in the appropriate space below.

PLEASE INDICATE WHAT YOU WOULD ACTUALLY SAY.

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