

ASSESSMENT AND TRAINING OF CLINICAL INTERVIEWING
SKILLS: ANALOGUE ANALYSIS AND
FIELD REPLICATION

BRIAN A. IWATA, STEPHEN E. WONG, MARY M. RIORDAN,
MICHAEL F. DORSEY, AND MERLE M. LAU

THE JOHN F. KENNEDY INSTITUTE AND JOHNS HOPKINS UNIVERSITY
SCHOOL OF MEDICINE, CAMARILLO NEUROPSYCHIATRIC INSTITUTE (UCLA)
RESEARCH PROGRAM, FLORIDA STATE UNIVERSITY, AND OCCIDENTAL COLLEGE

Two studies were conducted to assess and train clinical interviewing skills. In Experiment 1, eight university practicum students ("therapists") and either role played or volunteer "clients" were audiotaped during simulated interviews. Following the collection of baseline data on both therapist and client responses, training was provided by way of written materials, classroom instruction and practice, and quizzes. Results of a multiple baseline design across subjects showed improvements in therapists' interviewing skills and subsequent increases in client responding. Experiment 2 replicated and extended the research to a hospital outpatient clinic, in which therapists interviewed the parents of children with behavior problems. In addition, four months following the completion of Experiment 2, follow-up data collected during a maintenance condition showed continued high levels of therapist and client behavior. Finally, a panel of expert peers indicated that each response category was judged highly relevant to the behavioral assessment process.

DESCRIPTORS: behavioral assessment, interviewing, staff training

The development and implementation of behavioral treatment programs are often preceded by interviews with clients, their relatives, and other mediators, in which information is sought regarding the focus and goals of intervention. Such assessment interviews are especially common in clinical settings, where the initial contact between therapist and client usually involves some verbal interaction. Although the information obtained in an interview may be of uncertain reliability, it often serves as the basis for further, more systematic inquiry (Cone & Hawkins, 1977; Hawkins, 1980; Haynes, 1978; Hersen & Bellack, 1976; Linehan, 1977).

Research on interviewing behavior has been

This research was supported in part by Grant #000917-15-0 from the Maternal and Child Health Service. We thank Beverly Adler, Theodore Berry, Ann LeFevre, and Gregory Murphy for their helpful assistance. Reprints may be obtained from Brian A. Iwata, Division of Behavioral Psychology, The John F. Kennedy Institute, 707 North Broadway, Baltimore, Maryland 21205.

published extensively in the more traditional psychotherapy literature (for reviews, see R. G. Matarazzo, 1978; Wiens, 1976), and has been devoted primarily to the study of variables related to overall style (Gilmore, 1973), language structure (J. D. Matarazzo & Wiens, 1972), and nonverbal behavior (Mahl, 1968). These studies suggest that behaviors such as positive statements and facial expressions may differentially affect the *general* nature of client responding.

In contrast, little research has focused on *specific* methods for conducting behavioral interviews, although a number of useful guidelines have been offered (Gottman & Leiblum, 1974; Holland, 1970; Kanfer & Grimm, 1977, 1980; Kanfer & Saslow, 1969; Morganstern, 1976). For example, Bergan (1977) presented definitions for verbal behavior sought from an interviewer, and a scheme for coding the responses of both interviewer and client. Such specification offers several advantages. First, it allows for the development of objective standards in evaluating

interviewer behavior. Second, if client as well as interviewer verbal behaviors are identified, one dimension of interviewer "effectiveness" can be evaluated by observing the number of relevant client responses that occur during an interview. Finally, quantification permits the objective appraisal of training programs.

This study reports two experiments designed to assess and teach interviewing skills. Furthermore, in light of recent criticism (R. G. Matarazzo, 1978) that most research on interviewer/therapist behavior has been characterized by the absence of well-defined variables and adequate measurement, the use of nonprofessional trainees (e.g., undergraduate students) as subjects, a general lack of replication, and little attention paid to client behavior, this research incorporates several methodological and procedural refinements over previous studies. First, detailed interviewer verbal responses were measured repeatedly before and after training. Second, the instructional program used procedures that resembled the "microcounseling" approach described by Ivey (1971) and applied in teaching a variety of related verbal skills (cf. Fawcett, Miller, & Braukmann, 1977; Hall, Sheldon-Wildgen, & Sherman, 1980; Kelly, Wildman, & Berler, 1980; Mathews & Fawcett, 1977). Third, although Experiment 1 examined the behavior of university students during simulated clinical interviews, Experiment 2 both replicated and extended the analysis in an outpatient clinical setting. Fourth, interviewer effectiveness was assessed by measuring the extent to which interviewers' questions produced desired client responses. Finally, the behavioral categories used for assessment and training in Experiment 2 were evaluated by a panel of expert peers.

EXPERIMENT 1

METHOD

Participants and Setting

Eight psychology students (three female, five male) at Western Michigan University partici-

pated in the study as part of a class practicum in the department's Behavioral Contracting Service. Four participants were graduate students, and four were advanced undergraduates. The study took place in a university office, where each student individually conducted a series of 20-min simulated assessment interviews while seated across a table from a "client." A classroom was used for training and testing participants.

Simulated Interviews

Written instructions were given to each student prior to an interview, containing the forthcoming client's name, age, occupation, general problem description, and a reminder to end the interview after 20 min. Students were to: (a) obtain sufficient information to analyze the client's major problem and develop a contracting program, and (b) establish a "positive relationship" with the client so that he or she would return for further treatment. Students interviewed two types of "clients" who were blind to the sequence of experimental conditions—research assistants role-playing client scripts and unscripted volunteers. Role-played and unscripted interviews were presented in random order, with each student conducting either eight or nine interviews during the course of the study.

Role-played clients. Written scripts described seven hypothetical clients, each having a single behavior problem. Each script contained information that would be provided during an interview in response to a student's questions. A sample follows: *Name:* Michelle Hall; *Age:* 31; *Occupation:* Housewife; *Major Complaints:* The client is seeking assistance to deal with the problem behavior of her only child, an 8-yr-old boy. The child cries excessively for a boy his age, and he has become increasingly difficult to manage; *General Description:* "Danny is easily frustrated and upset. If something goes wrong, or he doesn't have his way he will start crying. It disturbs me because I expected him to grow out of this stage by now."; *Specification & Dimensions:* Child sits on floor or chair, sobbing aloud. Cry-

ing incidents occur 3-5 times per week; *Onset*: No distinct time of onset. Sickly as a younger child, Danny also cried frequently in the past; *Antecedents*: When Danny is refused a request he begins sobbing (e.g., asks, but is not allowed to go to the store); *Consequences*: The client "gives in" or "bargains" with Danny (promises to get him something if he will be quiet); *Prior Treatments*: "I've taken him to a doctor, and they said there is nothing physically wrong with him."; *Priority*: There is no other problem requiring treatment.

Three research assistants each role played two client scripts while a fourth assistant portrayed a single client. Assistants were instructed to role play their scripts in a consistent fashion across interviews, and to respond as though in an actual interview.

Unscripted probes. At least one of the interviews conducted by each student involved the presentation of an actual problem by one of two female volunteers in an unscripted situation. The volunteers were instructed to act as though they were undergoing their first interview but otherwise to behave in a manner they felt most comfortable.

Interviewer Response Measures

Based on suggested interviewing formats (Bergan, 1977; Kanfer & Grimm, 1977), and on existing guidelines within the contracting service, 25 therapist responses were targeted for training. Interviewer and client responses used in Experiment 1 were the same as those used in Experiment 2 (see Table 1), except for items providing setting-specific information. The responses were organized into two categories—professional courtesy and behavior assessment—and were scored for occurrence/nonoccurrence during each 20-min interview.

Professional courtesy responses were selected to ensure that interviewers introduced themselves, described behavioral contracting procedures, and requested approval of the treatment modality. Behavioral assessment questions iden-

tified target behaviors and their controlling variables, including behavior specification, time of onset, physical dimensions, antecedents, consequences, prior attempts to alleviate the problem and their outcomes, treatment goals, potential reinforcers, and a request for data collection.

Client Response Measures

The quality and thoroughness of questions asked by interviewers (as well as the consistency of the role-players' answers) were assessed by analyzing verbal responses made by the clients. Fifteen client responses were scored for their occurrence/nonoccurrence during each interview. The responses were of two general types: (a) providing information—description of the problem and its relevant characteristics (e.g., onset, antecedents, consequences), (b) consenting to procedures—approval/disapproval of treatment and data collection, and interviewer restatements.

Reliability

Audiotapes for 26% of the interviews were independently rated by two research assistants blind to the sequence of experimental conditions, or by a research assistant and one of the authors. At least two reliability checks were performed for each interviewer, one taken in each experimental phase. Agreements were scored if the independent observers indicated that a response either did or did not occur. Reliability was computed by dividing the number of response-by-response agreements by the number of agreements plus disagreements, and multiplying by 100. Mean percentages of agreement were 89.7% (range = 83% to 97%) and 83.6% (range = 60% to 100%) for interviewer and client behavior, respectively.

Procedure

Baseline. Throughout the study, interviewers met weekly for regular classes in behavioral contracting. Activities included class discussion of readings, contracting exercises between class

members, and individual projects. Before conducting their first simulated interview, all interviewers were formally tested on *Writing Behavioral Contracts* (DeRisi & Butz, 1975), and received a manual containing general information on interviewing and contracting. However, the specific protocol for interviewing was not presented in any systematic fashion. Simulated interviews were scheduled for each student approximately twice per week during nonclass times.

Training. Following their last baseline interview, students received a detailed description and examples of interviewer and client response definitions. Interviewers later completed two short quizzes and received feedback on their answers. Test items on both quizzes were transcribed responses from a fictitious interview, which interviewers matched to categories in the list of response descriptions.

After completing the tests, interviewers met in pairs for role-playing sessions during which they rehearsed interviewer responses. An experimenter observed the interviewers, scored target responses, and discussed the data with them at the end of a practice interview. Training terminated when each interviewer completed two role-playing sessions. The total time required to train one pair of interviewers was approximately 2 h.

Feedback and reinforcement. Two contingencies were introduced following training. First, as a means of providing feedback, interviewers were shown the data sheet indicating their performance on their last completed interview. Second, interviewers were informed that if they reached a criterion of 80% correct responses by their eighth interview, they would not have to schedule a ninth interview.

Experimental Design

A multiple baseline design across subjects (Baer, Wolf, & Risley, 1968) was used to assess the effects of training on interviewing skills. Interviewers received training after either their third, fourth or fifth baseline interview. Feedback and reinforcement were also introduced at

different points following the completion of training.

RESULTS AND DISCUSSION

The data shown in Figure 1 indicate noticeable improvement in each interviewer's performance following training, and suggest that interviewing behavior was not affected by repeated exposure to scripted role players or by probes with novel persons in an unscripted situation. Interviewers averaged 30.1% correct responses during baseline (30.4% and 28.4% for scripted and unscripted interviews, respectively), compared to 76.6% correct responses following training (76.1% and 79.8% for scripted and unscripted interviews, respectively). The mean improvement ranged from 40.4% (Student 4) to 56.8% (Student 2). The addition of feedback and reinforcement following training produced no consistent changes in performance. Data taken on "client" responses showed a high degree of correspondence to interviewer behavior. Clients averaged 39.4% appropriate responses (39.1% and 40.0% for scripted and unscripted interviews, respectively) during baseline, compared to 75.8% (75.9% and 75.0% for scripted and unscripted interviews, respectively) following interviewer training.

The results for interviewer and client responses suggest that the instructional procedures were effective in improving students' ability to gather clinical information under simulated conditions. The nature of the instructional program also suggests that training may not require extensive modeling or in vivo practice because written instructions, role playing, and feedback were sufficient for the development of a basic interviewing repertoire. Additional training, however, may be necessary to procedure consistently high levels of performance. For example, although seven of the eight students scored at least 80% correct responses on their final interview, only five of the eight exceeded 90% during any of the interviews. Motivational variables may also differentially affect performance; however, in light of the brevity of conditions and/or

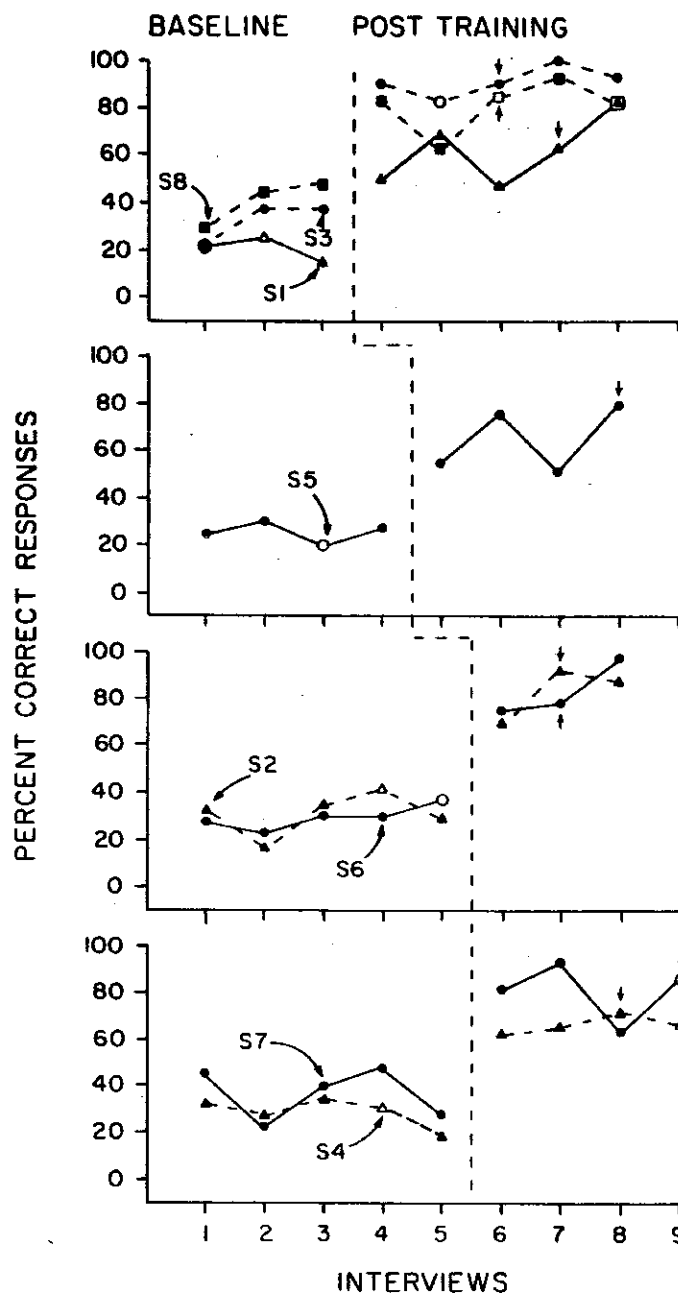


Fig. 1. Percentage of interviewer responses exhibited by interviewees during baseline and posttraining conditions in Experiment 1. Closed data points indicate performance during role-played simulations; open data points show scores during unscripted interviews. Arrows indicate the first interview after implementation of the feedback plus reinforcement contingency.

inconsistent changes following the addition of reinforcement, little can be said about the effect of maintenance contingencies in the present study.

The analogue approach provided a convenient means for assessing and training interviewing skills under controlled conditions, and in situations that obviated concerns regarding the clini-

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cal consequences of poor performance. Thus, analogue training may be particularly useful in the initial instruction of untrained interviewers. However, in spite of the encouraging results obtained in the present study, conclusions based on analogue investigations have questionable external validity. For instance, responses of role players and volunteers may not accurately reflect the behavior of any clinical population. Client variability and a number of other variables associated with clinical settings may limit the usefulness of procedures developed in analogue situations. Therefore, a second experiment was conducted to replicate the findings of Experiment 1 and to extend them to a clinical services setting.

EXPERIMENT 2

METHOD

Participants and Setting

Two female and five male therapists in the Division of Behavioral Psychology at the John F. Kennedy Institute (JFKI), a pediatric hospital affiliated with the Johns Hopkins University School of Medicine, participated in this study. Five were postdoctoral fellows and two were predoctoral clinicians. Participants at these levels were chosen because they could be kept naive to experimental manipulations, yet they had sufficient clinical experience to see clients independently during baseline.

The study focused on initial evaluations conducted by the division's outpatient service, which provided behavioral assessment and treatment for clients between the ages of 0-21 years. Clients presented a variety of behavioral, educational, and/or medical problems, and were referred by local pediatricians, schools, families, or through the JFKI interdisciplinary admissions process. The goals of the interview were to determine the feasibility of an active outpatient therapy program, to obtain information relevant to treatment and, where appropriate, to initiate data collection by parents. Prior to the evaluation, therapists were given a summary of bio-

graphical information and presenting problem(s). Evaluations usually lasted 1-1.5 h, and involved the client and his or her parents, the therapist, and an occasional trainee or consultant. Evaluations were conducted in treatment rooms containing furniture and toys and connected to observation rooms by a one-way mirror.

Interviewer Response Measures

Target behaviors observed during the evaluations were essentially the same as those used in Experiment 1, although slight modifications were made due to differences in the client population and the need to conform to various institute and division guidelines. In all, 33 therapist responses were selected for assessment; it was felt that these constituted a minimally acceptable interview. The responses are listed in Table 1 and are divided into two categories—professional courtesy and behavioral assessment.

Client Response Measures

Nineteen of the interviewer responses were questions requiring some type of client response (e.g., providing information; or agreeing or disagreeing with the therapist). In order to assess therapists' ability to gather information, data were taken on the extent to which clients provided responses whose content matched that of the questions.

Observation

Data were collected during regularly scheduled outpatient evaluations by one of the authors or one of two trainees naive to the sequence of experimental conditions. Observers scored the occurrence or nonoccurrence of each of the interviewer and client responses from the observation room during all sessions, with the following exceptions. First, since interaction between the therapist and client usually began prior to entering the therapy room, observers were initially stationed near the client waiting area. Second, items 13 through 22 (see Table 1) were scored only for the first problem that was discussed, since these items were repeated for subsequent

Table 1
Therapist Responses Used During Assessment and Training

1. *Gives salutation*—Greets client prior to interview.¹
2. *Gives name*—States first and last name.¹
3. *Gives job title*—States that (s)he is a postdoctoral fellow, clinical assistant, etc., in the Division of Behavioral Psychology.¹
- 4-7. *Describes clinical functions of division: (a) Identification of client strengths and problems, (b) gathering of specific information about behavior problems, (c) identification of prior treatments and their outcomes, (d) training of parents in alternative treatments*—Outlines services provided by division that differentiate it from other disciplines within the institute (e.g., psychological testing, psychiatry).¹
8. *Completes/verifies biographical information*—Asks for address, phone number, school, teacher, medical information, family structure.^{2,3}
9. *Describes purpose of behavior checklist*—Explains to parents that they will be presented with a list of problems typically treated by the division.²
10. *Presents at least 10 checklist items*—Therapist selects and describes problems, asks parents if the item represents a problem for the child/parents.^{2,3}
11. *Determines if there are further problems*—Asks parents if they can identify any additional problems not covered by the checklists.^{2,3}
12. *Requests problem ranking*—Reviews problems identified by parents, and asks them to rank in terms of priority.^{2,3}
13. *Elicits general description of highest priority problem*—Asks parents to provide an example of the problem in terms of observable behavior.^{2,3}
14. *Requests additional description*—Using parents' initial comments as a base, asks parents to be more specific regarding instances and noninstances of problem.^{2,3}
15. *Requests approval of an operational definition*—Summarizes parents' description as an observable, countable behavior, and asks parents to comment on the accuracy of the definition.^{2,3}
16. *Determines onset of problem*—Requests that parents describe when the problem began, along with events that appeared correlated with its onset.^{2,3}
17. *Identifies significant dimensions*—Asks parents to estimate frequency, duration, etc., of problem.^{2,3}
18. *Identifies antecedents/settings*—Asks parents to describe times, places, events, or persons associated with the occurrence of the problem.^{2,3}
19. *Identifies current consequences*—Asks parents to describe what happens after the behavior does/does not occur, and who provides consequences.^{2,3}
20. *Notes prior treatments*—Asks parents to describe any prior attempts to deal with the problem and their outcomes.^{2,3}
21. *Reviews problem*—Summarizes discussion of problem, requests confirmation, and asks if parents would like to expand on any area.^{2,3}
22. *Determines goals of treatment*—Asks parents to specify criteria for successful "problem solution."^{2,3} (NOTE: items 13-22 are repeated for additional problems previously identified).
23. *Identifies strengths and reinforcers*—Asks parents to describe things the child does well, likes to do, etc.^{2,3}
24. *Conducts direct observation*—When appropriate (e.g., if the problem lends itself to observation during the evaluation), therapist asks parents to engage in one of several activities with the child, and collects data on parent and child behavior.²
25. *Describes active treatment program*—When the formal evaluation has been completed, therapist describes goals and requirements of outpatient program, including appointments, parent training, data collection, and homework.¹
26. *Describes referral service*—Presents alternative options of receiving general recommendations without active treatment, or of receiving referral to another program.¹
27. *Determines parent option*—Asks parents to select one of the service options described.^{1,3}
28. *Initiates data collection procedures*—In an active case, therapist describes home data collection procedures, and prompts verbal commitment to collect data.^{2,3}
29. *Completes therapy contract*—In an active case, therapist presents contract specifying therapist and client behavior, and asks parents to sign contract.^{1,3}
30. *Schedules next appointment*—In an active case, therapist arranges date and time of next appointment.^{1,3}
31. *Informs parents of interdisciplinary conference*—In cases where a number of disciplines are conducting evaluations, therapist explains that final determination of case status will be made at an interdisciplinary conference.¹
32. *Provides recommendations or referral*—In cases where active treatment will not take place, therapist provides general recommendations and/or makes referral to another program.¹
33. *Closing*—Escorts parents from room, says, "Good-bye," etc.¹

¹Professional courtesy item.

²Behavioral assessment item.

³Items for which a client response is appropriate.

problems. Third, interviewer responses were scored "nonapplicable" if: (a) the response was not appropriate for the interview (e.g., item 28, requesting the parent to collect data, was not scored if the parent did not participate in a therapy program), or (b) the client provided the desired information prior to the therapist asking the question. Finally, on a number of occasions it was not possible to observe a complete interview when clients arrived late for their appointment, if an observer could not rearrange his or her schedule to accommodate the change. In cases where an observer was not present during the entire interview, the resulting data were not calculated and were deleted from the study.

Reliability

Two observers were present during 32% of the sessions and independently scored both interviewer and client responses. The mean percentages of agreement for professional courtesy, behavioral assessment, and total interviewer responses, respectively, were 93% (range = 79%-100%), 90% (range = 76%-100%), and 91% (range = 73%-100%). The mean percentage of agreement for client responses was 92% (range = 81%-100%).

Procedures

Baseline. Therapists had previously completed a routine training program used for all new staff and trainees. The components on interviewing consisted of verbal instructions on conducting an interview, observing experienced staff conduct interviews, participating with an experienced staff member as a "co-interviewer," and conducting "solo" interviews while supervisors observed.

Throughout baseline, therapists were not informed that a study was being conducted. However, announcements were made that the outpatient evaluation process was being reviewed, and that observers would be present periodically. Routine supervision was provided throughout baseline in the following manner. First, thera-

pists summarized their evaluations and proposed treatment programs during weekly case conferences attended by all division faculty, staff, and trainees. During the conferences, questions were asked and suggestions were made regarding treatment; however, feedback was not provided on interviewing performance. Second, therapists met individually with a faculty member each week to discuss the management of individual cases. Faculty members were aware of the study, and agreed not to discuss interviewing performance during the individual meetings.

Training. Formal training was provided during two weekly case conferences, the first covering behavioral assessment and the second professional courtesy. Prior to the meetings, therapists were given detailed definitions for the interviewing behaviors. During the meetings, one of the authors provided a rationale for further objectification of the outpatient evaluation process, paraphrased and provided examples of each behavioral definition, and led a general group discussion. An assignment similar to the quizzes used in Experiment 1 was completed and reviewed during the meeting, although the therapists were not formally tested, nor were individual role-playing sessions held. Approximately 2 h were required for both training sessions. Feedback was not provided on therapists' interviewing performance throughout this condition.

Maintenance. A system of peer observation and feedback was later implemented to increase the likelihood that short-term changes in therapist behavior would endure over time. During an outpatient case conference, the purpose and design of the study were described, and the previously collected data were presented. It was also decided that interviews would be observed intermittently, and therapists were invited to examine the data sheet and to discuss the results with an observer. All outpatient therapists ($N = 11$) were trained in the observation procedures used in the study, and each therapist was scheduled to observe and provide feedback to another therapist once per month. During this condition, for-

mal data were collected for interviews during which at least one of the authors was present as an observer.

Experimental Design

A multiple baseline design across behaviors (Baer et al., 1968) was used to evaluate the effects of training on therapists' performance during interviews. Following an initial baseline of 11 interviews conducted by the seven therapists, training was provided on behavioral assessment items. Training on professional courtesy was initiated following completion of an additional nine interviews. The maintenance program was implemented 4 mo later and data were collected for seven additional interviews. Formal assessment was discontinued at that time, due to the departure of five of the therapists who had completed their traineeships.

Social Validation

Following the completion of Experiment 2, an attempt was made to establish the "social validity" of the responses and definitions used to assess and train interviewing skills (Kazdin, 1977; Wolf, 1978). Twenty Ph.D. psychologists who taught graduate courses, supervised interns, and/or conducted research in areas related to child behavior therapy were asked to respond to a survey sent through the mail. The survey listed each of the interviewer responses, and included a definition and a brief description or example of each item. Respondents were instructed to indicate the "usefulness" of each item in conducting a clinical interview by rating each on a scale from "1" (indicating "irrelevant") to "5" (indicating "essential"). Respondents were also invited to note any areas or to add items they felt were not covered adequately.

RESULTS AND DISCUSSION

Figure 2 shows the data on therapist behavior across experimental conditions. Compared to interviewers in Experiment 1, therapists' performance was rather high during baseline, averag-

ing 70.5% correct responses in the behavioral assessment category. Still, their performance increased following training to a mean level of 93.3%, and improved further during the maintenance condition to 98.3%. Similar results were seen in the area of professional courtesy, where therapists averaged 51.8%, 85.1%, and 90.7%, respectively, during baseline, posttraining, and maintenance. Although some variability is evident across interviews, the data show noticeable improvement following training, which was consistent across the two categories of interviewing behavior.

Figure 3 presents the percentage of client responses to therapist questions during interviews. Also presented are the combined therapist data for the behavioral assessment and professional courtesy categories. With few exceptions, the two sets of data show close correspondence across experimental conditions. Client and therapist responses, respectively, averaged 68.9% and 64.2% during baseline; 87.4% and 75.1% following training in behavioral assessment; 90.7% and 89.3% following training in professional courtesy; and 95.7% and 94.9% during the maintenance period.

Some discrepancy between therapist and client behavior can be seen in Figure 3 (e.g., interviews 11-16). In a majority of cases, the level of client behavior exceeded slightly that of the therapists, indicating a tendency for some clients to provide more information than was requested. Very seldom, on the other hand, did questions by a therapist fail to produce an appropriate client response.

Therapist and client behavior continued at high levels and actually increased during the maintenance condition. Although it is not clear that the observation and feedback program was necessary, growing evidence suggests that staff are not likely to perform at optimal levels in the absence of planned contingencies (cf. Hutchison, Jarman, & Bailey, 1980; Iwata, Bailey, Brown, Foshee, & Alpern, 1976). Therefore, a participatory program of maintenance was developed and

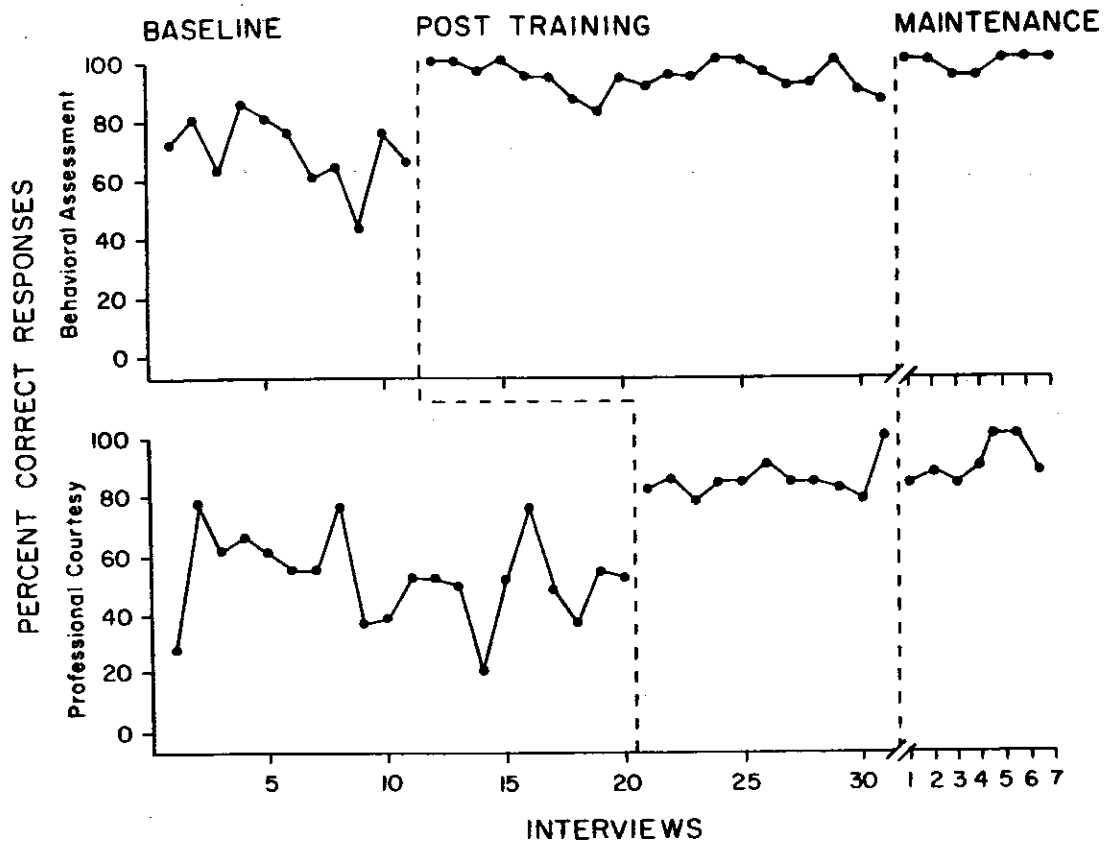


Fig. 2. Percentage of interviewer responses exhibited by therapists during baseline, posttraining, and maintenance conditions in Experiment 2. Interviewer behavior is divided into two categories—behavioral assessment and professional courtesy—and data reflect successive interviews conducted across all therapists.

incorporated directly into the division's ongoing activities. In addition, a combination of the training and maintenance procedures used in Experiments 1 and 2 were combined and have been used with all staff and trainees who entered the division following the termination of the study.

Social validity questionnaires were returned by 60% of the survey sample, with 98.5% of the items completed. The results of the survey were summarized in several ways. First, an overall mean score of 4.6 out of a possible 5.0 was obtained by summing the scores for all items rated and dividing by the total number of items rated. Second, mean ratings were calculated for each respondent; these ranged from 4.1 to 5.0. Third, ratings within the categories of behavioral assessment and professional courtesy yielded means of 4.5 and 4.6, respectively. Fourth, the

mean ratings for individual items ranged from 3.9 to 4.9. Finally, none of the respondents identified any deficiencies in either the content or format of the interviewing guidelines. These data indicate a high degree of consistency among respondents, and suggest that the target behaviors included in the present research are viewed as highly relevant to the interviewing process.

GENERAL DISCUSSION

Results of the two studies demonstrate that certain aspects of clinical interviewing are amenable to experimental analysis. The studies offer an empirical method for defining interviewing behavior as a series of therapist statements and questions designed to prompt both general and specific client responses, describe procedures for

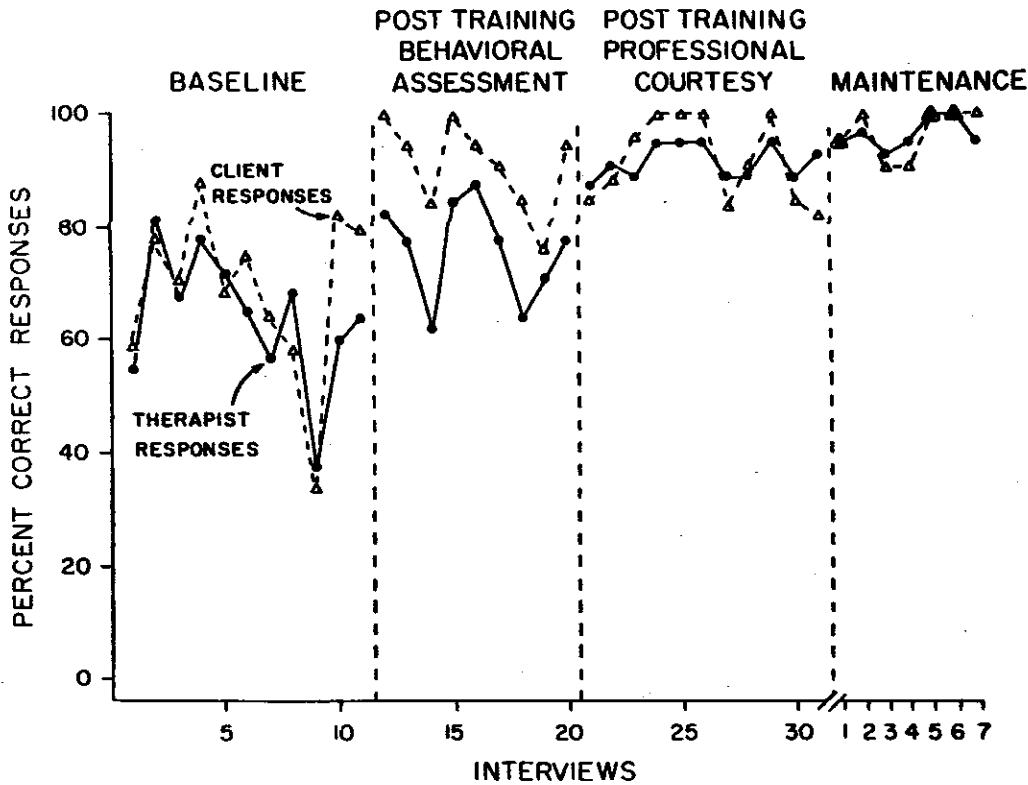


Fig. 3. Percent client responses, and percent total interviewer responses across experimental conditions in Experiment 2.

assessing both interviewer and client conversational behavior in either analogue or clinical settings, and provide a means for teaching interviewers how to obtain more useful information from their clients by modifying the questions they ask. One limitation of the present research is that it did not include a thorough analysis of behaviors related to interpersonal effectiveness, a variable that may affect clients' responding to all types of questions. These behaviors should be taken into consideration during therapist training, and assessed and taught as observable response classes.

Several differences existed between the two studies in terms of participant and setting characteristics, necessitating some change in procedure. In Experiment 2, for example, response definitions were altered slightly and session duration was lengthened, in keeping with the change in client population. Total training time

was also reduced by using group instruction and deleting the formal testing and role playing used in Experiment 1. Still, the data collection and training procedures were similar across the studies, and results were comparable with respect to both interviewer and client behavior. Experiment 2 thus provided a systematic replication (Sidman, 1960) of the methods used in Experiment 1, and demonstrated the generality of those methods in assessing and teaching interview skills.

A novel feature of both studies was the inclusion of client data as an indirect measure of therapist performance. The high degree of correspondence between these variables suggests that posttraining improvements in interviewer behavior not only reflected changes in quantitative or topographical aspects of questions (e.g., Did the therapist ask about the onset of the problem?), but also indicated functional improvement as

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well (i.e., Did the question produce a relevant response?). Moreover, the social validity data from Experiment 2 suggest that these functional changes were not of a trivial nature. Given that each interviewer question was rated as either "very important" or "essential," responses to those questions provided clinically useful information.

The relationship between appropriate process and desired outcome is often an assumed one; however, it is one that merits closer examination in research that emphasizes training in process-related variables (Agras & Berkowitz, 1980; Greene, Willis, Levy, & Bailey, 1978). The ultimate criteria for determining the adequacy of an interview would seem tied to variables other than client verbal responding, such as whether or not information obtained in the interview leads to the development of more effective treatment programs. Few attempts have been made to establish any relationship between interview behavior and final client outcome (e.g., Bergan & Tombari, 1976), and such an undertaking was clearly beyond the scope of the present research. However, the possibility of empirically examining such issues indicates a need for quantifying and controlling multiple aspects of the treatment process, of which interviewing can be seen as the initial component.

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Received April 6, 1981

Final acceptance November 24, 1981