

*THE EFFECTIVENESS OF INTERPERSONAL SKILLS TRAINING
ON THE SOCIAL SKILL ACQUISITION OF
MODERATELY AND MILDLY RETARDED ADULTS*

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Sixteen moderately and mildly retarded adults were selected from a group residential facility and randomly assigned to experimental and control groups. The experimental group received a 12-session interpersonal skills training program consisting of instruction in the following areas: (1) Introductions and Small Talk, (2) Asking for Help, (3) Differing with Others, and (4) Handling Criticism. The social skills instructional package included verbal instruction, modeling, role playing, feedback, contingent incentives, and homework. As a result of this training program, moderately and mildly retarded adults acquired new social skills as evidenced by performance on a situation role play assessment. These gains generalized to untrained role play situations but did not result in significant group differences when assessed in a more natural setting (i.e., local grocery store).

DESCRIPTORS: interpersonal skills, social skills, multiple baseline, assertiveness training, retarded adults

The development of a repertoire of interpersonal skills that enable one to interact successfully with other people has been recognized as critically important by both personality theorists and educators. Despite this recognition, social skill development has been largely ignored from the standpoint of developing effective intervention procedures for those who are deficient in interpersonal behaviors (Greenwood, Walker, & Hops, 1977; Strain, Cooke & Apolloni, 1976).

Recently, a treatment regimen involving verbal instruction, modeling, behavior rehearsal, and response feedback has been used to teach effective interpersonal skill behaviors to both normal and psychiatric populations (Rich & Schroeder, 1976). This treatment regimen has

evolved from the work of Salter (1949) and Wolpe (1958). Salter originally developed the position that "excitation" may be directly trained to overcome an individual's inhibitions (passiveness) through modeling and role playing. However, it was Wolpe who popularized this procedure as a clinical technique by introducing the term "assertiveness" in place of excitation (Wolpe, 1958). By using modeling and role playing, Wolpe arranged for his clients to engage successfully in behaviors which had previously been sources of debilitating anxiety for them.

As the success of Wolpe's assertiveness training became known, clinicians began to apply these techniques to a wider range of interpersonal behavior and to a more diverse subject population (e.g., psychiatric patients). With the more socially unskilled populations, the goal of therapy shifted from relieving interfering anxiety to that of establishing basic interpersonal behaviors. Since socially unskilled individuals may need to learn what, how, and when to engage in particular interpersonal behaviors (Bellack & Hersen, 1977), a combination of instructional components may be essential for their

This research was conducted in partial fulfillment of the requirements for the degree of Doctor of Philosophy at the University of Wisconsin-Madison. I would like to acknowledge the contributions of several people who assisted my completion of this work. These include Gib Koula, Cleone Jermstad, Barbara Van Gelder, Paul Wehman, Sheldon Rose, William I. Gardner, Adelle Renzaglia, Orv Karan, and the residents of Orchard Hill in Madison, Wisconsin. Requests for reprints should be directed to Paul Bates, Department of Special Education, Southern Illinois University, Carbondale, Illinois 62901.

social skill acquisition. Using a treatment regimen including verbal instruction, modeling, role playing, and contingent incentives, psychiatric inpatients were able to acquire more effective interpersonal behavior (e.g., Goldstein, 1973; Matson & Stephens, 1978).

Mentally retarded adults also represent a population of socially unskilled individuals (Stanfield, 1973, Wehman, 1979). With the increasing trend toward deinstitutionalization and integration of the mentally retarded into community programs, the development of appropriate interpersonal behavior must be a priority (Brody & Stoneman, 1977; Strain & Shores, 1977). If programs are to be developed that facilitate the acquisition of effective social skill repertoires in the mentally retarded, empirical investigation of instructional sequences must be conducted.

Because a multifaceted treatment package has proved effective in facilitating social skill gains in other unskilled populations (e.g., psychiatric patients), its applicability to the mentally retarded should be investigated. The paucity of studies available which have applied this intervention package to the interpersonal skill performance of the retarded adult have yielded equivocal results (e.g., Bangs, 1977; Perry & Cerreto, 1977; Zisfein & Rosen, 1974). However, despite the inconsistency in program results, several common suggestions for future investigation have evolved. These include the following: (1) develop sensitive measures of interpersonal skill performance; (2) measure generalization of interpersonal skill behavior change; and (3) develop and assess the effectiveness of specific interpersonal skill treatment packages. In light of these suggestions, the present research investigation was formulated.

This study was designed to investigate the effectiveness of an interpersonal skill training package (i.e., verbal instruction, modeling, rehearsal, feedback, incentives, and homework) on the social skill performance of moderately and mildly retarded adults. A unique aspect of this investigation was the development of situation role

play assessment which allowed for the measurement of interpersonal behavior across trained situations and across generalization situations. As another measure of generalization, a natural environment assessment was obtained through direct behavioral observation of subjects' interpersonal skills in a natural setting. In addition, the effect of specific instructional sequences was evaluated by presenting each sequence individually and conducting ongoing evaluation of subject performance.

METHOD

Subjects

From 20 referrals for this investigation, 16 participants were randomly selected and randomly assigned to experimental and control groups of 8. The experimental group was further subdivided by randomly assigning half to experimental group one (Exp. 1) and half to experimental group two (Exp. 2). The participants were nine males and seven females, nine of whom were classified as mildly retarded and seven of whom were classified as moderately retarded according to the AAMD criteria (Grossman, 1973). The IQ scores in the control group ranged from 46 to 69, with a mean score of 59. For Exp. 1 and Exp. 2 the IQ scores ranged from 41 to 60 and 41 to 55, respectively. The mean IQ score for Exp. 1 and Exp. 2 was 50.

These 16 participants, ages ranging from 21 to 50 ($\bar{x} = 31$), were all residents of a group facility for retarded adults, located in a large midwestern city. All residents were independent in their basic self-care skills and participated in daytime habilitation programs in the community. Referrals for this investigation were encouraged from those residents who were verbal, who had interpersonal skill deficits, and who were available for three 1-hour meetings a week.

Settings

All training sessions were conducted in a section of a 30' \times 30' (9.14 m \times 9.14 m) lounge area, located in the basement of a cottage at the

group residential facility. All situation role play assessments were conducted in a social workers office, located in an office building on the same grounds as the residential cottages. This room was a 10' × 12' (3.05 m × 3.66 m) office, equipped with two desks, chairs, and audiotape equipment.

The natural environment assessment was conducted in a Stop-N-Go grocery store, located within walking distance of the group residential facility. Stop-N-Go is a 24-hour multipurpose store containing a variety of grocery items as well as other practical necessities. This store is approximately 50' by 100' (15.2 m × 30.5 m) in size, employing no more than two employees at any one time.

Experimenters, Observers, and Tape Raters

The primary investigator conducted the audiotape assessments, acted as the leader of the interpersonal skills classes, and accompanied the subjects to the store for the natural environment assessment. Two social workers from the residential facility assisted in conducting the study by serving as co-leader of either Exp. 1 or Exp. 2.

The three confederate observers involved in the natural environment assessment received training on the observational system through simulated exercises. All three confederate observers were uninformed as to which residents had been assigned to experimental and control groups.

Two persons were trained to rate the audiotape and natural environment assessments. Each of these persons received several hours of instruction on the scoring system by rating simulated responses. Both raters were naive regarding which residents were in experimental or control groups, which assessments were conducted first, second, third, etc., and which particular assessment situations had been included as training or generalization items.

One of these tape raters evaluated all of the situation role play assessments and the natural environment responses. The second rater evalu-

ated a randomly selected sample of 50% of the situation role play assessments and all of the natural environment assessments. Interrater agreement was determined by dividing the exact content effectiveness score agreements by the total number of content effectiveness scores given. In addition to exact score interrater agreement, total score interrater agreement was also calculated by dividing the lower observer score totalled by the higher observer score.

Assessment

Two different measures of interpersonal skills were used with all subjects in this study. One of these assessed resident performance on a situation role play assessment, while the other was on observation of each resident's behavior in a natural setting (i.e., small grocery store). In both the situation role play assessment and the natural environment assessment, the following four areas of interpersonal competence were assessed: (1) introductions and small talk, (2) asking for help, (3) differing with others, and (4) handling criticism.

The situation role play assessment was developed according to Goldfried and D'Zurilla's (1969) guidelines for a behavioral analytic method of assessing social competence. These guidelines include the following procedural steps: (1) situational analysis, (2) response enumeration, and (3) response evaluation. In conducting a situational analysis, significant others in the residents' environment (e.g., house parents, work supervisors, etc.) were surveyed to determine the residents' commonly encountered situations involving the four targeted interpersonal skill areas. From this survey, two types of problematic situations were generated for each skill area. For each particular type of problem, two parallel situation role plays were constructed. Through a random assignment process, one of these parallel situations was eventually included in training, but the other was included only as an assessment of generalization. As a result of this situational analysis, a 16-item situ-

ation role play assessment was developed. This assessment consisted of eight items included in the interpersonal skills training classes and eight parallel items not so included. Each situation role play consisted of a detailed description of the interpersonal situation followed by the statement, "You say," as a prompt for the person to respond. For example, situation number one was the following: "A new person moves into your house. You see this person for the first time and you say. . ."¹ The parallel situation for this item involved a new person starting work at the client's work table.

After the 16 situations were delineated for the role play assessments, sample responses to these situations were solicited from group home parents, retarded adults, vocational supervisors, and assertiveness training leaders. The sample of responses to the role play situations was categorized by the principal investigator into five content-similar response groupings per situation. These response groupings were included in a questionnaire regarding content effectiveness and were administered to a sample of 10 individuals involved in direct programming with moderately and mildly retarded adults. Each person sampled was asked to rank order the five response groupings in terms of their likely effectiveness in resolving each particular role play situation. Based on the ranking of response effectiveness, a scoring system for coding the content effectiveness of the residents' responses to the specific role play situations was developed. The response grouping that was judged the most effective on the questionnaire was assigned a value of 5 on the content effectiveness scoring system, and the response grouping judged the least effective was assigned a value of 1. In some instances the ranking of 1 to 5 appeared to be based on the number of components included in the response, and in others, it was based on qualitative factors. For example, Table 1 provides the content effectiveness score breakdown

TABLE 1

Content effectiveness scoring system for situations 11 and 12 of Role Play Assessment.

Score	Criteria
5	1 Get person's attention (e.g., excuse me), 2 tell him or her you were in line first, and 3 ask him or her to go to the back of the line. Example: "Excuse me. I was here first. Would you go to the back of the line, please."
4	Include <i>two</i> of the above three components. Example: "Excuse me. I was here first." "I've been in line. Would you please wait your turn?"
3	Include <i>only one</i> of the three components. Examples: "Pardon me." "I was here first." "Wait your turn."
2	Say nothing, or state that it's OK to go ahead of you.
1	Call the other person names or make irrelevant comments. Example: "You're so rude." "Who the hell do you think you are?"

for two of the items from the situation role play assessment.²

In the natural environment assessment, the content effectiveness scoring of each participant's response to the contrived interpersonal situations was developed in the same manner as above. Once the situations were delineated, effective responses were sampled and evaluated to yield a natural environment assessment of interpersonal competence.

Procedures

Prior to beginning the interpersonal skills training groups, all participants were individually given the full 16-item situation role play assessment. The experimental group participated in a second pretraining assessment on the eight situation role plays eventually presented in training. This second assessment was conducted with the experimental group in order to obtain two baseline measures before they were involved in training activities. Since both groups were to

¹A full copy of the situation role play assessment can be obtained from the author.

²A full copy of the content effectiveness scoring system is available upon request from the author.

be assessed on several subsequent occasions, it was determined that the potential confound resulting from one additional assessment exposure by the experimental group would be minimal.

After the group training procedures were implemented, all participants were assessed weekly on their responses to the eight situational role plays involved in the experimental groups' training exercises. These weekly assessments followed the third training sessions of each week for the experimental participant and were routinely conducted with the control participants on Friday afternoons.

One week after the completion of the last instructional module for both experimental groups, the full 16-item situation role play assessment was administered to all participants. This assessment provided a 1-week follow-up of treatment gains as well as an assessment of any generalization from trained items to untrained items of the situation role play. All situations on each role play assessment were presented in a predetermined random order to all participants.

The experimental groups met three times a week for approximately 1 hour each meeting. The group meetings were held in the afternoon and early evenings for 4 consecutive weeks. Each group training session was conducted by the primary investigator and one of the social workers from the group residential facility. Both Exp. 1 and Exp. 2 received three consecutive sessions of training on each of four modules of instruction, with ongoing review of previously presented material. The modules of instruction were as follows: (1) Introduction and Small talk, (2) Asking for Help, (3) Differing with Others, and (4) Handling Criticism. The modules were presented in different orders to Exp. 1 and Exp. 2.

Two problematic situations from the situation role play assessment were included in each interpersonal skill instructional module. One of these situations was presented in the first session of the week; the other was presented at the second meeting; and both were reviewed during the

final weekly session. For each instructional module, the basic components of the group training procedure were the same. These components consisted of modeling, behavior rehearsal, coaching, structured feedback, contingent incentives, homework assignments, and houseparent involvement.

Modeling. The group leaders presented each new behavioral situation with a modeled demonstration of an effective interpersonal response. All group members were instructed to carefully observe the leaders' model so that they could provide feedback. After the leaders modeled and received comments from the group members, each person received a chance to practice responding to the same situation. Each member's rehearsal provided an additional model for others.

Behavior rehearsal. This treatment component involved the members practicing responses to the situations. During the rehearsals, one of the leaders always served as the interpersonal partner. The group leaders would initiate the situation role play interaction by approaching each resident and presenting the introductory statement. Each member had the opportunity to re-rehearse the situations two to three times in succession to allow for increased learning trials.

Verbal instruction (coaching). During the first 2 weeks of the training program, one of the leaders was always with the member during the behavior rehearsal, acting as his or her coach. Prior to practicing the situation, the coach conferred with the resident regarding the content of the response. During the actual practice, the coach stood behind the resident and whispered instructions when needed. The coach was also available for the resident during the re-rehearsals.

In the last 2 weeks of the program, each resident had the opportunity to assist in the coaching of a fellow resident. The residents only assisted each other with situations previously practiced during weeks 1 and 2. One of the leaders was also available to assist the group members in coaching each other. By having residents

assist each other with interpersonal situations, an attempt was made to promote transfer to the posttraining environment.

Feedback. The group leaders presented several component behaviors that should be looked for in the effective response. These included appropriate content, eye contact, appropriate voice volume, effective use of gestures, fluency of speech, and appropriate facial expressions. The primary investigator prepared cue cards regarding these component behaviors. One of these cards was distributed to each member during the meetings as a reminder for those behaviors that they should be looking for in their friends' responses. These cards were traded during the meetings to ensure that each person gave feedback on different components of effective interpersonal communication.

After each behavior rehearsal, the group leader asked the members to provide positive feedback to the role player regarding what he or she did well. If the members failed to provide feedback spontaneously, the group leader suggested that they refer to their cue cards. By arranging for positive resident-to-resident interpersonal behavior during the group sessions, the structure of the training environment was contributing toward enhanced interpersonal communication functioning. The group leaders also provided specific positive comments regarding each person's rehearsal.

Following several positive comments regarding the rehearsal, the group leader asked if anyone had any suggestions for the role player which might contribute toward response effectiveness. The group leaders also provided suggestions for the role player.

Incentives. In addition to role play contingent social praise, the group leaders paid each participant 10¢ for attendance and 10¢ for homework completion. This money was provided for attendance immediately upon arrival and for homework completion at the time of the assignment review. Social praise from the group leaders was always paired with the monetary incentive.

Homework assignments. At the completion of each meeting, homework assignments were given to each experimental participant. These assignments were typed on 5" × 7" (127 mm × 178 mm) cards and required each resident to practice the interpersonal response skills with his or her houseparent. The houseparent had to sign the card, indicating knowledge of practice, for the resident to receive payment for assignment completion. The homework assignments were designed to maximize transfer of training from the group sessions by involving practice within a more natural setting, with a different instructor, and with more individualized situations.

Natural Environment Assessment Procedures

One week following the final group training session, the primary investigator escorted each participant to a local grocery store and provided the following directions: "(Resident's name), here is a quarter. I would like you to buy me a package of Cheetos. For buying the Cheetos for me, I'll share them with you." While in the store, each resident's interpersonal skills in the following areas were assessed: small talk, asking for help, and differing with others. *Small talk* was assessed by having experimental confederates initiate a conversation regarding food prices. *Asking for help* was assessed by arranging with the store management to have the needed item hidden from view on the store shelf. The assessment of *differing with others* was conducted by having an experimental confederate cut in line in front of each participant at the check-out counter. After the residents left the store, the primary investigator assessed *handling criticism* behavior by approaching each person and stating, "I don't think you did a very good job in the store." After waiting for the response to the criticism situation, the experimenter terminated the assessment by assuring the participants that they had performed well and that he was just assessing their methods of handling different situations. Although the experimenter was sensitive to potential problems resulting from artificially

criticizing residents' performance, it was determined that this arrangement resulted in the most controlled natural observation of their performance in this area. After the residents completed this exercise, each was thanked for participating in the program. If any resident had experienced difficulty with this situation, the handling criticism assessment would have been dropped from the natural environment assessment.

Confederate observers recorded all participant responses in the store setting, and the primary investigator tape recorded each resident's response to the handling criticism situation.

RESULTS

Data Analysis

By implementing the instructional modules 1 week at a time for the experimental groups and maintaining weekly role play assessment across instructional modules, a multiple baseline analysis of treatment gains across interpersonal skill behaviors was made possible. For this design to demonstrate the effectiveness of the intervention, gains in an interpersonal skill area should only be evidenced after that specific instructional module has been introduced into group training. In the analysis of treatment effects, the content effectiveness scores of all four members in each group were averaged, resulting in each group serving as its own control via the multiple baseline design. This analysis also controls for the potential influence of the "Hawthorne Effect." If the attention resulting from meeting together was responsible for skill gains, improvements would be expected in all skill areas rather than in only those involved in training.

Because the generalization role play assessment was only conducted before and after the 12-session training procedure, a multiple baseline analysis was not possible. For the generalization items of the situation role play assessment and the natural environment assessment, a Mann-Whitney U Test was used to determine if the experimental and control groups differed

significantly in regard to content effectiveness. In conducting this nonparametric rank order analysis, Exp. 1 and Exp. 2 were combined to yield an *N* of 8 for the experimental group.

On the preassessment of content effectiveness for generalization role play items, a two-tailed Mann-Whitney failed to demonstrate group differences. As a result, on the past assessments for generalization to nontrained role play items and the natural environment assessment, a one-tailed test for group differences, favoring the experimental group, was conducted. Because this investigation compared a treatment and no-treatment control group, a one-tailed test, favoring the experimental participants, was selected to provide more statistical power for detecting meaningful group differences.

The multiple baseline analysis of the content effectiveness scores to trained items of the situation role play assessment for Exp. 1 and Exp. 2 revealed that consistent improvements in specific skill areas were evidenced only after the introduction of an instructional module geared toward that particular area (see Figures 1 and 2). Because the instructional modules were presented in different orders to Exp. 1 and Exp. 2, inspection of Figures 1 and 2 together reveals even more demonstrable information in support of the effectiveness of the group training procedures. The weekly assessments of trained role play items with participants designated as control group members maintained a consistently low content effectiveness score throughout the study for all interpersonal skill behaviors (see Figure 3).

With a cumulative score of 10.0 being possible in each skill area, the average content effectiveness scores during baseline and treatment increased for Exp. 1 from 4.29 to 8.53 on Introductions and Small Talk, from 3.58 to 9.19 on Asking for Help, from 4.15 to 9.5 on Differing with Others, and from 4.37 to 8.63 on Handling Criticism. For Exp. 2, the average content effectiveness scores increased following group instruction from 5.13 to 9.5 on Asking for Help, from 4.25 to 8.31 on Differing with Others,

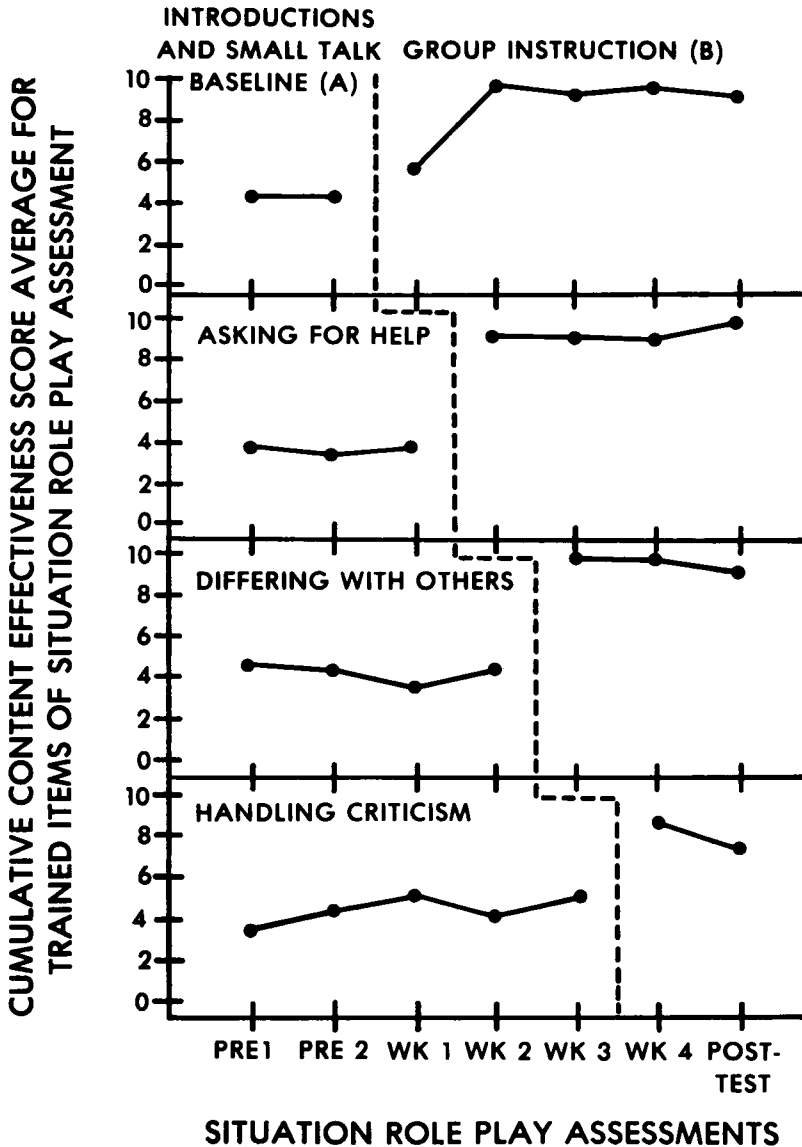


Fig. 1. A multiple baseline analysis of the influence of interpersonal skills training on Exp. 1's cumulative content effectiveness score average across four social skill areas.

from 4.25 to 9.5 on Handling Criticism, and from 6.3 to 7.5 on Introductions and Small Talk.

The data presented in Figures 1 and 2 represent group means for Exp. 1 and Exp. 2 participants, respectively. Data were also plotted separately for each individual in the experimental groups, yielding eight multiple baseline analyses. All individual behavior change was consistent with the group results.³

Analysis of the experimental and control participants' responses to the pretraining situation role play assessment revealed no significant differences between groups on the content effectiveness scores to generalization items, $p < .05$ (U obtained = 32, U critical ≤ 13). However, the posttraining assessment of participants' re-

³Individual multiple baseline graphic displays for all eight experimental subjects are available upon request.

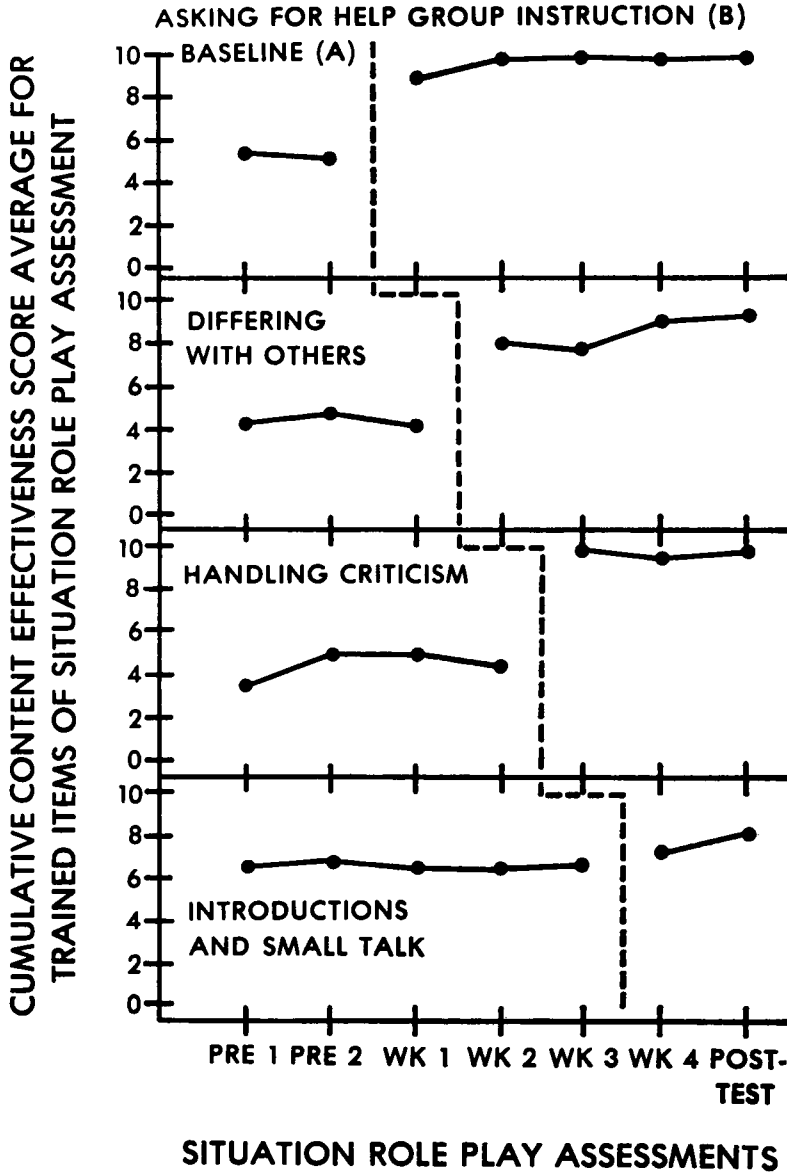


Fig. 2. A multiple baseline analysis of the influence of interpersonal skills training on Exp. 2's cumulative content effectiveness score average across four social skill areas.

sponses to the generalization items demonstrated significant differences for content effectiveness scores favoring the experimental participants, $p < .05$ (U obtained = 0, U critical ≤ 15). All the experimental participants scored higher on content effectiveness to generalization items than any of the control members.

In the natural environment assessment, a one-tailed Mann-Whitney U test for differences be-

tween experimental and control groups did not attain significance, $p < .05$ (U obtained = 22, U critical ≤ 15). Although the total content scores obtained by the experimental group to the four natural assessment items were not significantly higher than those of the control group, the average score for the experimental participants ($\bar{x} = 9.625$) was slightly higher than that of the control participants ($\bar{x} = 8.875$). On the

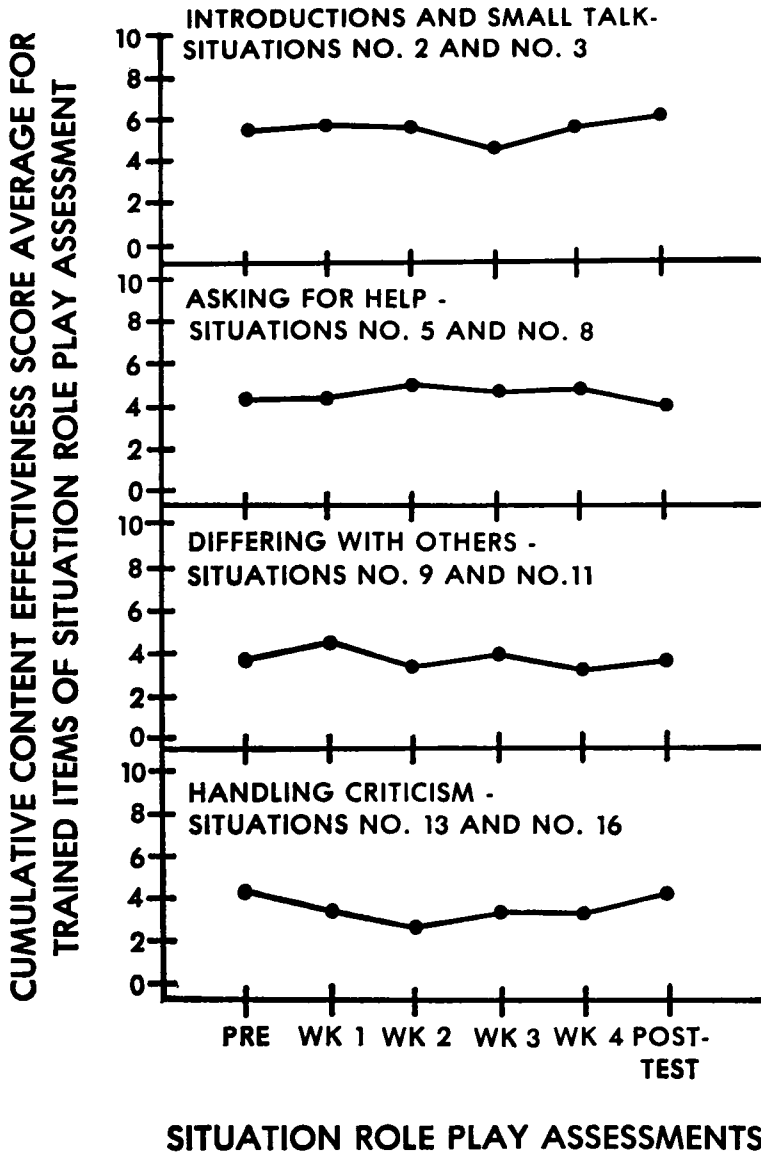


Fig. 3. Control group's cumulative content effectiveness score average across four social skill areas.

handling criticism assessment in the natural environment, the experimental and control members showed no ill effect or resentment after being debriefed by the experimenter.

The interrater agreement for content effectiveness on the situation role play assessment averaged 84% across all conditions for exact score given and 99% for total score. In the natural environment assessment, the exact content effectiveness score reliability between raters was 96%.

DISCUSSION

As the result of a 12-session interpersonal skills training program, moderately and mildly retarded adults acquired more effective content responses to trained items of a situation role play assessment in each of the following areas: (a) introductions and small talk, (b) asking for help, (c) differing with others, and (d) handling criticism. A multiple baseline analysis demonstrated that gains in particular skill areas were evi-

denced only after these specific situations were included in the group instruction sessions. The experimental residents' improvements in content effectiveness generalized to untrained items of the situation role play assessment, but did not generalize to a more natural situation (i.e., local grocery store).

In this study a 16-item situation role play assessment was developed according to Goldfried and D'Zurilla's (1969) guidelines. By selecting highly relevant situations, the likelihood of the role play assessment eliciting the resident's actual behavior was maximized (Eisler, 1977). The scoring system for response content to these situations was developed primarily through the responses of individuals directly involved in programming with mentally retarded adults (e.g., houseparents and vocational supervisors). By involving these significant others in evaluating response content, the social validity of the group training goals and subsequent response evaluation was increased.

Although the situation role play assessment used in this study was a reliable method of measuring interpersonal skill acquisition and generalization, more research is needed to establish the psychometric validity of such assessments. In some research with normal individuals, the correspondence between performance on a situation role play assessment and behavior in a natural setting has been reported to be low. Another problem with the situation role play assessment used in this study was the potential confound resulting from using the trainer as the assessor. Future interpersonal skills training research with mentally retarded populations should investigate the validity of role play assessments and utilize a neutral party as the assessor.

This study was designed to investigate the effectiveness of an interpersonal skills training package (i.e., verbal instruction, modeling, behavior rehearsal, feedback, incentives, and homework) with moderately and mildly retarded adults. Future researchers could profitably analyze the relative contributions of each compo-

nent of the instructional package as well as identify those procedures which maximize transfer of training.

In conclusion, as a result of this research study, moderately and mildly retarded adults acquired new interpersonal skills, reliable assessment measures of social skill acquisition and generalization were developed, and the effectiveness of specific interpersonal skill packages was validated.

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Received February 16, 1979

Final acceptance September 20, 1979