*APPLICATION OF A SOCIAL SKILLS TRAINING PROGRAM
IN THE MODIFICATION OF INTERPERSONAL DEFICITS
AMONG RETARDED ADULTS: A CLINICAL REPLICATION*

PHILIP H. BORNSTEIN, PAUL J. BACH, MILES E. MCFALL,
PATRICK C. FRIMAN, AND PATRICIA D. LYONS

UNIVERSITY OF MONTANA

Six mentally retarded adults, equally divided into two treatment groups, were provided with individualized social skills training programs. Treatment, evaluated via a multiple-baseline design strategy, was sequentially and cumulatively applied across target behaviors over a four-week intervention period. Behavioral observation probes and social validation measures served as the primary dependent variables. Results indicated that (a) treatment was effective for virtually all behaviors across all subjects, (b) improvements occurred for both training and generalization scenes, and (c) behavioral performance was maintained one month following the termination of treatment.

DESCRIPTORS: social skills, behavioral observation probes, social validation measures, retarded adults

Developmentally disabled adults are frequently deficient in the skills necessary for effective interpersonal functioning (McDaniel, 1960). Consequently, response acquisition models (Goldsmith & McFall, 1975) designed to remediate specific interpersonal deficits have been recently extended to mentally retarded populations. Turner, Hersen, and Bellack (1978), for example, successfully trained both positive and negative assertive responses in a retarded inpatient. Gibson, Lawrence, and Nelson (1976) similarly developed specific component behaviors of verbalization, recreation, and cooperation to improve the peer interaction of three retarded adults. Finally, Rychtarik and Bornstein (1979) engaged three mentally retarded adults in a conversational skills training program that sequentially increased the target behaviors of eye contact, conversational questions, and

conversational feedback in a multiple-baseline design.

The purpose of the present investigation was to further extend the application of a social skills training model to interpersonal deficits among mentally retarded adults. Moreover, the design of this study allowed for incorporation of several methodological desiderata, including (a) social validation measures (Kazdin, 1977) to evaluate the effects of training specific component behaviors on judgments of overall interpersonal effectiveness, (b) assessment of treatment generalization to untrained simulated interpersonal situations, (c) follow-up evaluation of treatment effectiveness, and (d) clinical replication (Hersen & Barlow, 1976) of treatment effects across subjects evaluated via a multiple-baseline design strategy (Baer, Wolf, & Risley, 1968).

METHOD

Subjects and Assessment

Based on staff reports of interpersonal skill deficits (e.g., "quiet in interactions with others," "moody," "hard-to-work-with," "self-centered,"), six mild-to-moderately retarded sheltered workshop employees (5 females, 1 male) were recruited to participate in the present investiga-

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tion. They ranged from 21 to 39 years of age and were presently living either with friend, family, or in a group home situation. All were seen individually in treatment with Group B participants receiving a direct replication of the social skills program six weeks following the baseline condition of Group A.

Six scenes depicting commonly encountered social interactions were selected and modified from Goldsmith and McFall's (1975) Interpersonal Behavior Role-Playing Test and used for both assessment and training purposes. One-half of the scenes were directed toward a male role model and the other half toward a female role model. In addition, six scenes tapping different content areas than those included in training interactions were chosen to serve as a test for generalization effects of treatment. All phases of the investigation were conducted at the University of Montana Clinical Psychology Center with videotape apparatus providing for unobtrusive recording of subjects' responses to roleplayed situations. The following target behaviors were selected based upon retrospective ratings of baseline videotapes.

Number of words spoken (Subjects A₁, A₂, A₃, B₂, B₃). Total number of words (i.e., utterances found in standard modern dictionaries) used in responding to prompts.

Speech latency (Subject A₁). Length of time (in seconds) from termination of prompt to initiation of subject response.

Inappropriate hand-to-face gestures (Subject A₁). Total seconds of inappropriate face-touches (e.g., stroking, picking, stereotypic movements); a ratio was computed dividing the above by corresponding scene response duration.

Overall interpersonal effectiveness (Subjects A₁, A₃). Effectiveness was scored on a 5-point Likert-type scale (1 = poor effectiveness; 5 = highly effective). Prior to conducting ratings, judges were familiarized with Goldsmith and McFall's (1975) scoring manual and previous research definitions of interpersonal effectiveness (Bornstein, Winegardner, Rychtarik, Paul, Naifeh, Sweeney, & Justman, 1979).

Posture (Subjects A₂, B₁, B₂). Sitting posture when responding to each prompt was scored on a five-point scale (1 = inappropriate sitting position; 5 = highly appropriate sitting position). Judges were asked to pay particular attention to lower back slouching, stoop shoulders, and leg positioning.

Enunciation (Subjects A₂, A₃, B₁, B₂, B₃). Enunciation was also scored on a five-point scale (1 = poor enunciation; 5 = excellent enunciation). Ratings reflected both intelligibility of response and crispness of vowel-consonant speech forms.

Inappropriate speech content (Subject A₂). Total seconds of inappropriate speech (i.e., irrational speech [Wincke, Leitenberg, & Agras, 1972]) divided by corresponding speech duration.

Loudness (Subjects A₃, B₂). Loudness was rated on a five-point scale (1 = inappropriate levels; 5 = appropriate levels). Judges' ratings were based upon standard conversational levels of speech.

Inappropriate hand movement (Subject B₁). Seconds of inappropriate hand movements divided by corresponding scene response duration. Raters' evaluations were based upon rigidity of movement and idiosyncratic physical gesturing (e.g., repetitive hand motions).

Intonation (Subject B₁). Intonation was scored on a 5-point scale (1 = inappropriate; 5 = appropriate) based upon pitch and voice quality characteristics (e.g., raspy, smooth).

Eye contact (Subject B₃). Length of time during which the subject looked directly at the role model divided by corresponding speech duration.

Rate of speech (Subject B₃). Speech rate ratios were computed by calculating number of words spoken divided by corresponding speech duration.

Procedure

Baseline and training procedures followed similar formats for all subjects. During baseline, three videotaped probes were conducted

during a 1-wk period. Training was then begun using a multiple-baseline design with target behaviors introduced sequentially and cumulatively over the course of a 4-wk treatment period (Hersen & Bellack, 1976).

Training was conducted by a graduate student in clinical psychology experienced in working with retarded adults and social skill development. Two experimental assistants observed the training interaction on a monitor in a nearby room and videotaped predetermined selected segments. The actual training package, consisting of instructions, modeling, rehearsal, feedback, and social reinforcement, has been used in previous skill development research (see Rychtarik & Bornstein, 1979). Training sessions averaged 50 min in duration and were conducted twice per week with practice on each of the six training scenes occurring during each session.

Probes. Probes were conducted twice a week during treatment, independent of and immediately following training sessions, and at 1 mo follow-up. During each probe session, both training and generalization scenes were administered by experimental assistants.

Social Validation

Scenes and responses from Sessions 1, 2, 3, (baseline) and 10, 11, 12 (final two sessions of treatment plus follow-up) were arranged and played in random order to a group of three volunteer raters who had agreed to judge subjects' general social competence. Judges were highly knowledgeable in the area and represented professional fields of psychology, education, and social work. Before viewing the tapes, judges were instructed to evaluate overall interpersonal effectiveness along a 7-point (1 = "poor"; 7 = "excellent") bipolar semantic differential scale (Osgood, Suci, & Tannenbaum, 1957). In addition, judges were asked not to base ratings on direct comparisons between subjects, to rate independently of one another, and to avoid being influenced by subjects' age, appearance, etc.

RESULTS

Two judges (both of whom had extensive experience in rating similar behaviors) independently rated videotapes for all subjects across baseline and treatment sessions. Results indicated Pearson Product-Moment reliability coefficients ranged from .82 to .99 across the 12 target behaviors. In addition, percent agreement and exact agreement on Likert-scale ratings and ratio reliabilities (defined as a $\pm 5\%$ agreement criterion) were all within acceptable levels (range = .80 to 1.00).

The results of training are presented in Figures 1 and 2. Because no differences were observed in subjects' responses to male and female role models, data are presented collapsed across the six training and generalization scenes. Aside from inappropriate speech content for Subject A₂, all target behaviors demonstrated clear and consistent behavioral improvement. Although enunciation and intonation for Subjects A₃ and B₁, respectively, did not evince rapidity of change comparable to that expressed in other target behaviors, mean changes of a therapeutic nature were exhibited for every behavior under study.

Baselines appear to be rather independent in response to treatment although the target behaviors of overall assertiveness (Subjects A₁ and A₃) tend to increase gradually throughout the training period. In addition to the clear treatment effects for training scenes, generalization scenes evinced similar dramatic improvements. Moreover, 1 mo follow-up data for almost all behaviors indicated maintenance of behavioral improvement over time (exceptions were moderate reversals for Subjects B₁ [inappropriate hand movement generalization scenes] and B₂ [loudness training scenes]).

Social validation. The mean rating by judges for overall interpersonal effectiveness across all six subjects was: Sessions 1, 2, 3 = 1.72; Sessions 10, 11, 12 = 4.36. Thus, although substantial improvement was noted, subjects' final evaluation allowed for continued improvement.

Fig. 1. Probe sessions during baseline, treatment, and follow-up for Subjects A₁, A₂, A₃. Data are presented in blocks of six scenes.

A Kendall coefficient of concordance (W) was employed to determine the extent of interjudge agreement regarding overall interpersonal effectiveness ratings (Siegel, 1956). This was accomplished by rank ordering each judges' semantic differential scores from the six sessions evaluated. A resulting W of .31.47 was obtained ($p < .001$), indicating extremely high agreement among judges with regard to overall social effectiveness.

DISCUSSION

The results of the present investigation indicate clear behavioral improvement for all subjects across virtually all behaviors targeted for change. Moreover, the apparent success of the interpersonal effectiveness training program was

augmented by increases in socially appropriate behaviors for both trained and untrained roleplayed vignettes. Thus, it would appear that subjects had developed interpersonally competent "styles" rather than idiosyncratic responses to selected problem situations. Furthermore, that improvements in behavioral performance maintained one month following the termination of treatment, attests to the robust nature of a skills training approach in the modification of interpersonal deficits among mentally retarded adults. However, future research must attempt both to assess and program generalization of social skills to naturalistic settings.

Two unique aspects of the present report involve the utilization of a clinical replication design and the assessment of therapeutic change via social validation procedures. Treatment gen-

Fig. 2. Probe sessions during baseline, treatment, and follow-up for Subjects B₁, B₂, B₃. Data are presented in blocks of six scenes.

erality and improvement across subjects was clearly demonstrated, but judges' overall evaluation of subject performance did not surpass an "average" level of interpersonal effectiveness. This finding is similar to the results of Rychtarik and Bornstein (1979) and tends to suggest that when working with retarded subjects, instruction in a wide variety of interpersonal skills may be a prerequisite to the attainment of "socially significant change" levels. In any case, the application of skill-acquisition approaches toward the modification of interpersonal deficits among mentally retarded adults certainly appears worthy of continued investigation. In addition, longer follow-ups and direct, more naturalistic observation of interpersonal behavior would add even greater credibility to the results obtained.

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