A Review and Critique of Social Skills Training With Schizophrenic Patients

by Charles J. Wallace, Connie J. Nelson, Robert Paul Libertman, Robert A. Aitchison, David Lukoff, John P. Elder, and Chris Ferris

Abstract

The literature dealing with social skills training of schizophrenic patients indicates that topographical features and self-reports of anxiety and discomfort can be changed for the better by social skills training. Unfortunately, these changes do not occur for every patient and, when they do occur, often do not generalize to new situations. Research must be directed to determining the interaction between patient characteristics and training procedures as they affect outcome. The scope of the procedures must also be expanded if meaningful changes in patients' quality of life are to be effected.

Over the past 20 years, the availability of neuroleptic drugs and community care has made possible the release of many schizophrenic patients from long-term custodial facilities. The rate of relapse and readmission for such patients has not diminished, however. Approximately 50 percent of schizophrenic patients discharged from hospitals are rehospitalized within 2 years, and 60 percent of admissions to state hospitals are readmissions (Mosher 1971; Talbott 1974). Thus, neuroleptics, open wards, the therapeutic community, and community mental health programs have lowered censuses of hospitals but have not slowed the "revolving door" chronicity of schizophrenic and other severely impaired patients.

Although neuroleptic drugs undoubtedly extend periods of remission (Hogarty et al. 1974), they do not prevent relapse and are associated with disturbing side effects. Perhaps the greatest limitation of an exclusive reliance on drug therapy is its inability to impart new instrumental role behaviors and interpersonal skills with consequent improvements in patients' quality of life.

As Strauss and Carpenter (1974) have indicated, premorbid levels of behaviors and skills are important predictors of subsequent social adjustment, clinical outcome, and quality of interpersonal life for the schizophrenic patient. Furthermore, many schizophrenic patients are socially isolated and do not become part of a natural social network that might assist them in coping with social demands (Gleser and Gottschalk 1967; McCelland and Walt 1968). The only natural network of which they may be a part is their families; unfortunately, not only may certain family interactional patterns increase the probability of relapse (Brown, Birley, and Wing 1972; Vaughn and Leff 1976), but patients often lack the skills to cope with stressful interpersonal interactions.

Within the past 10 to 15 years, two therapies have been developed that hold promise for increasing both the performance of instrumental role behaviors and the development and maintenance of appropriate social behaviors. Both therapies have a behavioral perspective and use techniques such as shaping, positive and negative reinforcement, prompting, modeling, and behavior rehearsal. One therapy, the token economy, has been used primarily with inpatients to increase instrumental role behaviors. Several recent reviews of the token economy literature have appeared (Hersen 1976; Kazdin 1977); these reviews, in combination with the results of an exceptionally well-controlled study by Paul and Lentz (1977), clearly indicate the ef-
fectiveness of a properly implemented token economy.

The second therapy, variously labeled assertiveness training, personal effectiveness training, structured learning therapy, and social skills training, has been used with both inpatients and outpatients to increase a broad spectrum of behaviors labeled social skills. The purpose of this article is to review the current state of social skills training for chronic psychiatric patients. First to be summarized will be the conceptual definitions of social skills that have been proposed by several authors. Studies of social skills training will then be reviewed in terms of their methods of evaluation, results, and methodological shortcomings. An expanded conceptual definition will be presented, along with a brief description of a training method that flows directly from this expanded definition.

Unfortunately, diagnostic practices in the social skills research literature are rather lax, and this review cannot be focused solely on the effects of training with schizophrenic patients. However, to avoid overinclusive-ness, this review will not include studies that have been conducted with nonpsychiatric populations (e.g., college students) or with psychiatric groups clearly diagnosed as nonschizophrenic (e.g., depression, character disorder, neurosis). It will include studies that have been conducted with psychiatric groups that include at least some patients who have been labeled schizophrenic.

Articles focused on extremely discrete behavior such as specific words (Kale et al. 1968) or limited classes of words (O’Brien, Azrin, and Henson 1968; Wallace and Davis 1974) will not be reviewed. Although the restricted focus of such studies may be methodologically sound, their results seem to have little relevance for the broader, clinical goal of community adjustment. Moreover, two recent reviews have summarized that literature (Alevizos and Callahan 1976; Wallace 1976).

**Conceptual Definitions**

Implicit in the choice of a particular method of training and evaluating social skills is a conceptual definition of social skills. Different conceptual definitions result in different methods of training and evaluation, but only a few authors have explicitly defined what they mean by social skills (see table 1). A common basis for all definitions, of course, is an interpersonal context consisting of the patient, who is the focus of the definitions, and at least one other person.

There are four major elements of most definitions of social skills:

- The patient’s internal state—his feelings, his attitudes, and his perceptions of the interpersonal context.
- The topography of the patient’s behaviors—the rate of behaviors such as eye contact, hand gestures, body posture, speech disfluencies, voice volume, and latency of verbal response.
- The outcome of the interaction as reflected in the achievement of the patient’s goals.
- The outcome of the interaction as reflected in the attitudes, feelings, behaviors, and goals of the other participant(s).

There is considerable variation in the comprehensiveness of the few definitions that have been used by different investigators (table 1). Some are rather limited. For example, Doty (1975, p. 679) focuses on the responses made by others and defines social skills as the “skill to elicit social reinforcement from others.” In a similar vein, Liberman et al. (1975, p. 1) define social skills in terms of internal states and topography—the “ability to express feelings or to communicate interests and desires to others.” Expression and communication are synonyms for topography; feelings, interests, and desires are examples of internal states.

In contrast, the definitions of Hersen and Bellack (1977) and Trower, Bryant, and Argyle (1978) are rather comprehensive. Hersen and Bellack (1977) define social skills as the ability to express both positive and negative feelings in the interpersonal context without suffering consequent loss of social reinforcement. Such skill is demonstrated in a large variety of interpersonal contexts and involves the coordinated delivery of appropriate verbal and nonverbal responses. In addition, the socially skilled individual is attuned to the realities of the situation and is aware when he is likely to be reinforced for his efforts. [p. 512]

Trower, Bryant, and Argyle (1978) define social skills as the ability to [understand] other people’s use of elements of expression [convey] impressions through appropriate verbal and non-verbal behaviors . . . . ability to effect behaviors and feelings of others in ways the person intends and [which are] socially acceptable . . . . ability to influence environment sufficiently to attain basic personal goals. [pp. 2-5]

Hersen and Bellack (1977) also note
Table 1. Conceptual definitions of social skills

<table>
<thead>
<tr>
<th>Article</th>
<th>Internal states</th>
<th>Topography</th>
<th>Outcome—goal</th>
<th>Outcome—other</th>
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<tr>
<td>Hersen &amp; Bellack (1977)</td>
<td>Attuned to the realities of the situation . . . awareness of when reinforcement for one’s efforts is likely</td>
<td>Involves coordinated delivery of appropriate verbal and nonverbal responses . . . ability to express positive and negative feelings in the interpersonal context</td>
<td>Effectiveness is the overriding concern . . . effectiveness depends upon the context of the interaction</td>
<td>No loss of special reinforcement from others . . . maximize positive reinforcement from others</td>
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<td>Libet &amp; Lewinsohn (1973)</td>
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<td>—</td>
<td>—</td>
<td>Minimize others’ punishment and . . . maximize others’ positive reinforcement</td>
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<tr>
<td>Doty (1975)</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>Elicit social reinforcement from others</td>
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<tr>
<td>Liberman et al. (1975)</td>
<td>Feelings, needs, desires</td>
<td>Ability to express feelings or to communicate needs and desires to others</td>
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<tr>
<td>Trower et al. (1978)</td>
<td>Understands other people’s use of elements of expression</td>
<td>Appears pleasant as though person will be rewarding to others . . . conveys impression through appropriate verbal and nonverbal behaviors</td>
<td>Ability to influence environment sufficiently to obtain basic personal goals . . . affect others in ways person intends and society accepts</td>
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the situational specificity of social skills. They assert that the overriding factor is effectiveness of behavior in social interactions. However, determination of effectiveness depends on the context of the interaction . . . and, given any context, the parameters of the specific situation. [p. 512]

**Methods of Training**

All of the conceptual definitions of social skills imply that the objective of training is to increase patients’ skills in coping with a wide variety of interpersonal situations. Since implementation of any training method is always tied to a specific time, place, and trainer, role playing is used to broaden the horizon of training to include the necessary breadth of interpersonal situations. In a prototypical training session (for a more extensive description, see Liberman et al. 1975), the patient is first asked to act out an interpersonal situation either with the trainer or a fellow patient. The trainer then reviews the patient’s performance, reinforces the correct behaviors, and provides instructions to use certain other behaviors that will presumably result in a more socially skilled performance. This cycle is repeated until the performance meets a criterion specified by the trainer. Video taping may be used to aid in the reviewing process;
modeling and coaching may also be used to demonstrate and prompt the more effective behaviors, although instructions alone are frequently effective (Goldstein et al. 1973; Hersen and Bellack 1976b; Hersen, Eisler, and Miller 1974; Jaffe and Carlson 1976). Training is generally conducted in groups (e.g., Bellack and Hersen 1978; Doty 1975; Finch and Wallace 1977; Liberman et al. 1975), although sessions are sometimes conducted on an individual basis (Frederiksen et al. 1976; Hersen and Bellack 1976a; Marzillier, Lambert, and Kellett 1976; Goldsmith and McFall 1975). Liberman et al. (1975) and Trower, Bryant, and Argyle (1978) discuss the advantages and disadvantages of each format.

The focus of the feedback is almost universally the topography of the patient's performance: noncontent behaviors such as eye contact, speech disturbances, smiles, voice intonation, response duration, response latency, posture, and use of hand gestures; and content-related behaviors such as number of requests for behavioral change and expressions of compliance, independence, appreciation, affection, and hostility. Every article without exception contains one or more of these behaviors in the training programs. This suggests that the shared conceptual definition of social skills is in terms of its topographical features. Inadequate social skills are conceptualized as insufficiencies in the rate of occurrence of the topographical features focused upon in the feedback process; increasing the rates through instruction, modeling, coaching, and reinforcement increases social skills which, in turn, presumably increase the potential for community adjustment.

Several authors have included additional variables in the feedback process that suggest a broader conceptual definition of social skills. For example, several authors have attempted to change patients' internal states by providing rationales that emphasize the correctness or positive value of a particular behavior such as refusing unreasonable requests (e.g., Goldstein, Sprafkin, and Gershaw 1976; Longin and Rooney 1975). Similarly, several authors mentioned their attempts to change patients' perceptions of the outcomes of their behaviors. They explained to patients that inadequate social skills prevented discharge or contributed to symptomatology (e.g., Bloomfield 1973; Goldstein, Sprafkin, and Gershaw 1976; Longin and Rooney 1975). The assumption is that because internal states affect the performance of socially skilled behaviors, changing internal states will lead to improved performance or, at the very least, assist in performance of the newly acquired behaviors.

Bellack and Hersen (1978) also focus on internal states but do so in terms of cognitive functions that they label "social perception." "Included in these functions are listening, identifying emotions, getting clarification, determining the relevance of one's own social behaviors, and correctly timing the behaviors. The last function seems as much a topographical element as it does an element in the patient's internal state; however, Bellack and Hersen (1978) classify these functions under the categories of attention, analysis, and knowledge, all of which are clearly internal states. Unfortunately, no specific training suggestions are given. Finch and Wallace (1977) also attempted to train patients to attend not only to the relevant interpersonal cues but to discriminate when they were and were not attending.

Goldsmith and McFall (1975) trained patients in the "principles" of effective responding that were gleaned from lengthy interviews with various hospital personnel. However, the authors do not provide examples of these principles.

Similar in emphasis but far more extensive in detail is Trower, Bryant, and Argyle's (1978) program for changing patients' internal states. They train observational skills (getting information about the situation and others' feelings and attitudes, generating the cause of the others' behavior, and recognizing emotions), listening skills, meshing skills (timing and relevance of responses), and problem-solving skills (selecting a response strategy). Their techniques consist of 51 sketchily outlined exercises that are all used with "demonstration, imitation, feedback, practice, and guidance" (p. 179).

Goldstein, Sprafkin, and Gershaw (1976) describe a similar program designed to train skills that they label "gathering information, concentrating on a task, setting a goal, and decision making" (p. 3).

Homework assignments are frequently used to extend the effects of training beyond the immediate session. These are assigned tasks that require patients to practice outside of the sessions the socially skilled behaviors that they have been taught (Falloon et al. 1977; Finch and Wallace 1977; Goldstein, Sprafkin, and Gershaw 1976; Liberman et al. 1975; Marzillier, Lambert, and Kellett 1976; Trower, Bryant, and Argyle 1978). These assignments may be performed by the patient alone, the patients may be paired and then asked to complete assignments as pairs, or the trainer may accompany the patient to the homework site. Interestingly, King et al. (1977) found that
the patients' reported completion of homework assignments was an accurate indicator of actual completion. The use of homework assignments extends the training to encompass an implicit definition of social skills in terms of the outcomes of the interaction. As King et al. (1977, p. 86) note, homework assignments result in "real world" performance that leads directly to the patient's obtaining the satisfaction of his or her needs, desires, or interpersonal transactions.

Although homework may be used to extend the effect of training beyond the specific sessions, training time is limited and only a certain number of interpersonal situations can be covered. The criterion for selecting these situations thus becomes an important issue. The usual criterion is a report by the patients that a particular situation has been mishandled or has provoked anxiety (e.g., Argyle, Trower, and Bryant 1974; Bloomfield 1973; Falloon et al. 1977; Finch and Wallace 1977; Frederiksen et al. 1976; King et al. 1977; Lazarus 1966; Liberman et al. 1975). Although this practice maximizes the relevance of training for each patient, the criterion may overlook social inadequacies of which the patient is unaware. Occasionally, significant others have been queried to assess the problematic situations (Field and Test 1975; Lazarus 1966; Matson and Stephens 1978).

Other criteria have been based on a priori decisions by the trainers that a particular set of situations adequately samples a potential area of difficulty. For example, Hersen, Bellack, Eisler, and their colleagues have developed the Behavioral Assertiveness Tests (BAT) and the Behavioral Assertiveness Tests-Revised (BAT-R) for both training and assessment sessions. These tests list 16 "positive" and 16 "negative" assertion scenes, and have been used in almost all of their studies. Longin and Rooney (1975) used 12 scenes, each involving an unreasonable request. Edelstein and Eisler (1976) used eight scenes that they thought were relevant to hospital discharge and community adjustment. Goldstein et al. (1973) used 50 situations which required a choice between independent and dependent behaviors.

However, as Goldsmith and McFall (1975, p. 51) note, the "content of a skills training program is at least as critical to its ultimate success as the training method it employs." In effect, teaching patients to use skilled behaviors in role-play situations that are unlikely to encounter in real life may dampen the training's effectiveness. Goldsmith and McFall (1975) report the results of an intensive effort to develop a list of problematic situations common to psychiatric patients. Following methods outlined by Goldfried and D'Zurilla (1969), they developed 55 problematic situations; a consensually validated, effective outcome for each; and a list of principles that defined effective responses.

**Evaluation of Training—Dependent Measures**

The emphasis in the evaluation mirrors the emphasis in training upon the topographical features of social skills—behaviors such as eye contact, posture, use of hand gestures, voice volume, and response latency. Table 2 lists the evaluation measures used by several studies of the effects of social skills training with chronic psychiatric patients.

**Internal States.** The few studies that have evaluated the effects of training on patients' internal states have assessed self-reported anxiety or discomfort in social situations using standardized instruments such as the Wolpe-Lazarus Assertiveness Test and the Rathus Assertiveness Test. A few investigators have constructed their own measures of self-reported anxiety or competence (Argyle, Trower, and Bryant 1974; Falloon et al. 1977; Goldsmith and McFall 1975; Weinman et al. 1972). Goldsmith and McFall (1975) developed a particularly thorough set of internal state measures that included their Interpersonal Situation Inventory (ISI); three scales that asked patients to rate their difficulty in meeting and talking to people, their future ability to perform in interpersonal situations, and their feelings of self-worth; and ratings of skill and comfort in actual interpersonal situations. The ISI consisted of 55 interpersonal situations to which patients responded by indicating their comfort and competence or by indicating that the situation was inapplicable.

Several other studies have included rather broad measures of patients' internal states, such as self-concept or interpersonal style. For example, Percell, Berwick, and Beigel (1974) administered the Self-Acceptance Scale of the California Psychological Inventory, the Taylor Manifest Anxiety Scale, and the Breger Self-Acceptance Test. Gutride, Goldstein, and Hunter (1973) administered the Fundamental Interpersonal Relationship Orientation Test, Version B (FIRO-B) and the Psychiatric Outpatient Mood Scale (POMS). Weinman et al. (1972) used the Fear Survey Schedule II. Lomont et al. (1969) administered the MMPI and the Leary Interpersonal Checklist. The difficulty with such broad measures is that they may tap variables that are only tangentially related to social skills training, and results of either improvement or no
### Table 2. Dependent measures used in studies of social skills training

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<tr>
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<tbody>
<tr>
<td>King et al. (1977)</td>
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<td>Successful completion of homework assignments in each of 3 areas</td>
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<td>Monti et al. (1979)</td>
<td>Rathus Assertiveness Scale</td>
<td>Role-Played Scenes: ratings on a 5-point scale of anxiety and skill</td>
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<td></td>
<td>Edwards Social Desirability Scale</td>
<td>&quot;Waiting Room&quot;: same-sex confederate rates as above; opposite-sex confederate rates as above plus occurrence-nonoccurrence of patient initiating conversation plus proximity of sitting to confederate</td>
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<tr>
<td>Lomont et al. (1969)</td>
<td>MMPI</td>
<td>Role-Played Interactions: ratings of adequacy on the basis of &quot;principles&quot; of an effective response (not further defined)</td>
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<tr>
<td>Goldsmith &amp; McFall (1975)</td>
<td>Interpersonal Situation Inventory (ISI)</td>
<td>Confederate Test: confederate rates completion of 7 tasks plus patient's skill, comfort, pleasantness</td>
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<td>Ratings on a 9-point scale of difficulty meeting and talking to people, future ability, self-worth</td>
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<td>Ratings on 5-point scales of skill and comfort in confederate test</td>
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<tr>
<td>Frederiksen et al. (1976)</td>
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<td>Role-Played Scenes:&quot;number of seconds of eye contact; presence-absence of irrelevant comments, hostile comments, inappropriate requests, appropriate requests On-Ward Interactions: all of the above except eye contact plus rating of social skills on a 5-point scale</td>
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<tr>
<td>Field &amp; Test (1975)</td>
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<td>Role-Played Scenes: ratings of responses as compliant or assertive; ratio of seconds of latency divided by length of disruptive pauses</td>
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<td>Shepherd (1977)</td>
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<td>&quot;Nonreactive&quot; Situations: 11 behaviors rated on a 5-point scale including posture, eye contact, length of speech, synchronization (remainder not specified)</td>
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Table 2. Dependent measures used in studies of social skills training—continued

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<tr>
<td>Matson &amp; Stephens (1978)</td>
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<td>Role-Played Scene: ratings on a 5-point scale of overall assertiveness, content, physical appearance, facial mannerisms, posture, affect; recordings of presence or absence of eye contact, inappropriate requests, inappropriate laughter, irrelevant comments, interruptions</td>
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<td>Nursing staff: ratings on 10-point scales of person's appearance, cooperation, requests for attention, appropriate verbal statements Misc.: number of fights and arguments</td>
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<tr>
<td>Serber &amp; Nelson (1971)</td>
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<td>Assertive &quot;gestures&quot;: patient reported the number of assertive &quot;gestures&quot;</td>
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<td>Longin &amp; Rooney (1975)</td>
<td>—</td>
<td>Role-Played Scenes: ratings on a 5-point scale, refusing unreasonable requests</td>
<td>—</td>
<td>Mood-Affect-Communication-Cooperation Test</td>
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<tr>
<td>Gutride et al. (1973)</td>
<td>Psychiatric Outpatient Mood Scale</td>
<td>Confederate Test: ratings every 30 seconds of the presence or absence of eye contact, forward leaning, physical contact, smiling, initiates conversation, talks 10 seconds or more; responds to conversation Meal Times: as above plus ratings of seated alone, seated with others; also ratings in a &quot;semantic differential format&quot; of general social skills, interaction with others, and social impact</td>
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<tr>
<td>Finch &amp; Wallace (1977)</td>
<td>Wolpe-Lazarus Assertiveness Test</td>
<td>Spontaneous and Role-Played Scenes: 5-point rating scales for eye contact, loudness, fluency, affect; number of seconds of latency</td>
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<tr>
<td>Foy et al. (1975)</td>
<td>—</td>
<td>Role-Played Scenes: frequency of hostile comments; presence or absence of irrelevant comments, compliance, requests for behavior change</td>
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<tr>
<td>Lazarus (1966)</td>
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<td>Objective evidence that functioning has improved in previously problematic areas</td>
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<td>Doly (1975)</td>
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<td>Ward Behavior: observe and record patient’s location on ward, proximity to others (&gt; 4 feet = alone), interaction with others, and concurrent inappropriate behaviors During Group Sessions: percent patient was silent plus responsiveness to group-directed and individually directed questions</td>
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<tr>
<td>Jaffe &amp; Carlson (1976)</td>
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<td>During Session: number of times patient responded when spoken to, number of words spoken during 10th session Contrived Situations: observe and record during 32 10-second intervals other-oriented and reciprocated other-oriented behaviors During Meals and in Lounge: as in Contrived Situations above, except observations made for 40 10-second intervals MSBS</td>
<td>—</td>
<td>Psychotic Inpatient Profile Misc.: ward privileges, number of tokens earned, money earned at off-unit job</td>
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<tr>
<td>Weinman et al. (1972)</td>
<td>Anxiety in 18 interpersonal situations Fear Survey Schedule II</td>
<td>“Waiting Room”: during 4-minute conversation with male and female confederate, recordings of whether patient asked about the experiment, carried on a “social” conversation, and exhibited symptomatology Failure Tasks: recordings of whether patient agreed to participate after being told what a poor job he was doing Disagreement: recordings of whether patient “stood up” for original attitude</td>
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<td>Shortchanged: recordings of whether patient asked for money and then returned to experimenter for confirmation of underpayment</td>
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<tr>
<td>Percell et al. (1974)</td>
<td>Lawrence Interpersonal Behavioral Test Self-Acceptance scale of California Psychological Inventory Breger Self-Acceptance Behavioral Rating Scale: ratings of assertiveness, aggressiveness, empathy, spontaneity, and anxiety (no further specifications given)</td>
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<td>Percell et al. (1974)—continued</td>
<td>Taylor Manifest Anxiety Scale</td>
<td>Role-Played Scenes: ratings on a 4-point scale of independence-dependence</td>
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<td>Goldstein et al. (1973)</td>
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<td>Falloon et al. (1977)</td>
<td>Ratings of anxiety, avoidance, incapacity in 10 target situations&lt;br&gt;Ratings of anxiety and avoidance in 39 situations&lt;br&gt;Self-concept on 9 bipolar scales&lt;br&gt;Ratings of tension/anxiety and unhappiness</td>
<td>Conversation (4 minutes with confederate): confederate rates on 9-point scales conversational skill and social image</td>
<td>Work, social adjustment, general adjustment assessed by the Structured and Scaled Interview to Assess Maladjustment</td>
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<tr>
<td>Hersen &amp; Bellack (1976a)</td>
<td>—</td>
<td>Role-Played Scenes: number of seconds of eye contact and speech duration; recordings of frequency of speech descriptions and number of words spoken; presence or absence of requests for behavioral change, compliance content; ratings on a 5-point scale of appropriate affect and overall assertiveness</td>
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<td>Hersen et al. (1975)</td>
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<td>Role-Played Scenes: number of seconds of eye contact, response latency; frequency count of speech description and number of speech initiations; ratings on a 5-point scale of overall assertiveness; presence or absence of appropriate requests for new behaviors</td>
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<tr>
<td>Eisler et al. (1973)</td>
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<td>Role-Played Scenes: number of seconds of duration of reply, eye contact, latency of response; presence or absence of requests for behavioral change and compliance content; ratings on a 5-point scale of affect, loudness, overall assertiveness</td>
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<tr>
<td>Eisler et al. (1974)</td>
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<td>Role-Played Scenes: number of seconds of eye contact, speech duration; ratings on a 5-point scale of voice loudness; presence or absence of requests for new behavior</td>
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<td>Eisler et al. (1978)</td>
<td>Wolpe-Lazarus Assertiveness Test</td>
<td>Role-Played Scenes: number of seconds of eye contact, duration of reply, latency of response; frequency count of smiles; presence or absence of compliance, request for new behaviors, praise, appreciation, spontaneous reinforcing behavior; ratings on a 5-point scale of loudness of speech, appropriate affect, and overall skill</td>
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<td></td>
<td>Social Anxiety and Discomfort Scale</td>
<td>Extended Interactions (2-minute interactions): as above</td>
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<td>Williams et al. (1977)</td>
<td></td>
<td>Role-Played Scenes: number of seconds of eye contact, speech duration; frequency count of the number of words spoken; ratings on a 5-point scale of appropriate intonation and overall assertiveness; presence-absence of smiles, gestures</td>
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<tr>
<td>Edelstein &amp; Eisler (1977)</td>
<td></td>
<td>Role-Played Scenes: number of seconds of eye contact; frequency count of hand and head gestures; ratings on a 5-point scale of affect, overall assertiveness</td>
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<tr>
<td>Hersen et al. (1974)</td>
<td>Wolpe-Lazarus Assertiveness Test (used for screening only)</td>
<td>Role-Played Scenes: number of seconds of eye contact, response duration, response latency; presence-absence of compliance, requests for behavioral change; ratings on a 5-point scale of voice loudness, overall assertiveness, appropriate affect.</td>
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<tr>
<td></td>
<td></td>
<td>Shortchange: ratings on a 5-point scale of overall assertiveness; recordings of number of seconds of latency</td>
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<tr>
<td>Bellack (1976)</td>
<td></td>
<td>Role-Played Scenes: number of seconds of eye contact, speech duration, response latency; frequency count of words spoken; presence-absence of requests, smiles, physical gestures; ratings on a 5-point scale of appropriate intonation and overall assertiveness</td>
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<tr>
<td>Hersen et al. (1973)</td>
<td></td>
<td>Role-Played Scenes: number of seconds of eye contact, duration of reply; presence-absence of compliance content, requests for behavioral change; ratings on a 5-point scale of loudness of speech, affect, overall assertiveness</td>
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<tr>
<td>Argyle et al. (1974, 1976)</td>
<td>Social Situations Questionnaire; ratings of anxiety in 30 situations plus frequency of participation in 22 activities</td>
<td>Social Interaction Test: 8-10 minute, 3-way conversation with male and female confederate; ratings of 29 behaviors with 15 rated on a 5-point scale and 14 rated on bipolar 10-point scales (too much--too little); ratings on bipolar 7-point scales of 13 aspects of general impression</td>
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</tbody>
</table>
### Table 2. Dependent measures used in studies of social skills training—continued

<table>
<thead>
<tr>
<th>Article</th>
<th>Internal states</th>
<th>Topography</th>
<th>Outcome—goal</th>
<th>Outcome—other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liberman et al. (1978)</td>
<td>Adult Self-Expression Scale, MMPI, Ratings of comfort and competency on 5-point scales after confederate test, ISI, Social Anxiety Questionnaire, State Trait Anxiety Scale, Social Discomfort Scale, Skin resistance, Heart rate</td>
<td>Role-Played Scenes: seconds of eye contact, duration of reply, latency of reply; frequency count of words spoken, speech disfluencies; presence-absence of appropriate/inappropriate hand gestures, leaning forward, compliance content, requests for behavioral change, praise, appreciation; spontaneous positive behaviors; ratings on a 5-point scale of overall assertiveness, appropriate affect</td>
<td>Completion of 3 areas of homework assignments</td>
<td>Nurses Observation Scale for Inpatient Evaluation, Personal Adjustment and Role Skills Scales</td>
</tr>
</tbody>
</table>

Improvement may be extremely difficult to interpret. Unfortunately there has been no systematic assessment of patients' internal states in terms of "social perception" (Bellack and Hersen 1978) or the "understanding of other peoples' use of elements of expression" (Trower, Bryant, and Argyle 1978). In clinical settings dealing with socially inadequate patients, Trower, Bryant, and Argyle (1978) emphasize the importance of assessing patients' perceptions of their own motives, their interpretations of interpersonal situations, and their reception of feedback from others. However, Trower, Bryant, and Argyle (1978) do not present any standardized instruments for assessing these cognitive variables nor do they include them in their systematic studies of the effects of social skills training.

**Topography.** The topographical elements of social skills have been assessed in either role-played or "naturally" enacted interpersonal situations. Measurements have been based either on discrete units (number of seconds, frequency counts of occurrence/nonoccurrence) or on ratings made by trained observers. The prototypical assessment instrument is the BAT-R (Eisler et al. 1975). Patients are asked to role-play 32 standardized interpersonal situations, 16 involving hostile (negative) assertion and 16 involving commenatory (positive) assertion, with one half of each type role-played with a female confederate and one half with a male confederate. Each situation is introduced by a narrator, a prompt is then made by the confederate, and the patient responds. The patient's performances are video taped and later reviewed for measurement of 15 variables per situation. Three of these variables are measured by duration (number of seconds): eye contact, response duration, and response latency. Eight variables are measured by their occurrence or nonoccurrence: smiles, physical gestures, compliance, request for new behavior, praise, appreciation, spontaneous positive behavior, and hostile content. Three variables are measured by 5-point Likert scales: loudness of speech, voice intonation, and overall assertiveness. One variable, speech disturbances, is measured by a frequency count of occurrences. Either the BAT-R or variations of it have been used in all studies reported by Hersen, Bellack, Eisler, and their colleagues, and in several studies reported by other authors (Field and Test 1975; Finch and Wallace 1977; Shepherd 1977).

Still other authors have devised their own methods for assessing topographical elements that, on balance, are fairly similar to the BAT-R. For
example, Gutride, Goldstein, and Hunter (1973) recorded the presence or absence of eye contact, forward leaning posture, physical contact, smiling, initiating conversation, responding to conversation, and talking for 10 seconds or more. They also rated general social skills, interaction skills, and social impact on others using a semantic differential format. Matson and Stephens (1978) recorded, during 10 role-played situations, the occurrence or nonoccurrence of eye contact, inappropriate requests, inappropriate laughter, irrelevant comments, and interruptions. They also used 5-point Likert scales to measure appropriate content, overall assertiveness, physical appearance, facial mannerisms, posture, and appropriate affect. Monti et al. (1979) used 5-point Likert scales to rate patients' anxiety and overall skill. Goldstein et al. (1973) rated patients' behaviors in terms of independence, while Longin and Rooney (1975) assessed patients' acceptance of unreasonable requests. Both of these are quite similar to the compliance variable of the BAT-R. Goldsmith and McFall (1975) rated patients' performance for comfort, ability, and pleasantness. They also rated patients' responses to 25 standardized situations that were presented via audio recordings. The scoring procedures were based on the principles of an effective response.

Several studies have evaluated topography using measurements that are rather different from those of the BAT-R. For example, Doty (1975) rated inpatients' behavior on their ward in terms of location, proximity to others, interaction with others, and presence of inappropriate behaviors. He also measured, during a group session, the percentage of time each patient was silent plus the responsiveness of each patient to group directed and individually directed questions. Jaffe and Carlson (1976) evaluated patients' behaviors during training sessions in terms of the number of times each spoke when prompted to do so (irrespective of content) plus the number of words spoken by each patient during the 10 sessions. They also counted "other oriented" and "reciprocated other oriented" behaviors during contrived situations (playing a game and having coffee), and they administered the Minimal Social Behavior Scale (MSBS), a structured interview in which patients are unexpectedly confronted with several contrived social situations. Weinman et al. (1972) measured patients' information seeking and social conversation during a 4-minute interaction with other male and female patients. The authors also noted if patients agreed to continue with the task after the experimenter had verbally reprimanded them for poor performance; the decision to continue was labeled by the authors as "social assertiveness."

**Outcome—Goals.** Very few studies have evaluated social skills training in terms of the "effectiveness of behavior in social situations" (Hersen and Bellack 1977, p. 512) or the "ability to influence the environment sufficiently to obtain basic personal goals" (Trower, Bryant, and Argyle 1978, p. 5). A study conducted by Lazarus (1966) approximated this ideal; he judged patients' improvements in areas that were previously problematic based on presumably "objective evidence" that he gathered as he was conducting the training. Goldsmith and McFall (1975) and Liberman et al. (1978) asked patients to complete four tasks ("goals") during an exchange with a male stranger (such as asking the stranger to lunch). The male stranger also confronted the patients with three critical incidents such as forgetting the patients' names. The dependent measure was the number of successfully completed tasks. Weinman et al. (1972) and Hersen, Eisler, and Miller (1974) promised patients that they would earn a specified amount of money for their participation in the evaluation procedures. Patients were then deliberately shortchanged, and the dependent measure was the number of patients who asked for the correct amount of money (achieved the goal of being paid the promised amount).

Although homework assignments have been used as part of the training procedures, only Liberman, King, and their colleagues have used the rate of completion of these extrasyllabus "goals" as a measure of the effectiveness of training. King et al. (1977) report that patients' self-recordings of the completion of their own assignments were as accurate and unobtrusive as recordings by others. They and Liberman et al. (1978) present case studies evaluated entirely on the basis of the successful completion of homework assignments.

**Outcome—Others.** A few studies have evaluated the effects of social skills training by measuring others' responses to the patients (excluding ratings of social skills by trained observers). Jaffe and Carlson (1976) had two members of a ward nursing staff complete the Psychotic Inpatient Profile (PIP); Gutride, Goldstein, and Hunter (1973) asked the ward psychiatrist to complete the PIP and then used the results of the Seclusiveness and Disorientation Scales as covariates in their analysis of the results. Longin and Rooney (1975)
Evaluation of Training—Results

The effect of social skills training has been evaluated using two types of experimental methodology: single subject designs (Hersen and Barlow 1976) and group comparisons. Single subject designs, unlike uncontrolled case studies, demonstrate the effectiveness of the intervention by associating variation in the dependent measures of social skills with systematic variations in the intervention. If the dependent measure changes as the intervention is applied, withdrawn, and then reapplied (withdrawal designs), or as the intervention is sequentially applied to either different behaviors, different situations, or different subjects (multiple baseline designs), then it can be concluded that the intervention is associated with changes in the dependent measures. Group studies, on the other hand, associate differences between the groups' outcomes with differences in the intervention. If the groups were initially equal, then it can be concluded that differences between group outcomes are associated with differences in the intervention.

Single Subject Designs. Hersen, Bellack, Eisler, and their colleagues have conducted several studies using single subject designs that clearly demonstrate the effectiveness of training for changing the topographical elements of social skills in chronic psychiatric patients (Bellack, Hersen, and Turner 1976; Edelstein and Eisler 1976; Eisler, Hersen, and Miller 1974; Foy, Eisler, and Pinkston 1975; Frederiksen et al. 1976; Hersen and Bellack 1976a; Hersen et al. 1975; Williams et al. 1977). The experiment conducted by Frederiksen et al. (1976) is a particularly good example. The authors trained two verbally abusive patients to increase their rates of looking and making appropriate requests for behavioral changes and to decrease their rates of irrelevant comments, hostile comments, and inappropriate requests. Training consisted of instructions, modeling, behavioral rehearsal, and feedback. A total of 14 role-played interpersonal situations were used for each patient; seven were used during training, and seven were used to assess the generalization of training to "novel" situations. Generalization to a confederate other than the trainer as well as to situations spontaneously enacted on the patients' ward was also assessed. After three sessions in which the 14 situations were simply role-played and the patients' responses assessed, training was applied to the first patient while the other patient continued in the assessment-only condition. After three more sessions, the second patient also received training.

The results presented in figure 1 indicated that the behaviors changed only as the training was applied, suggesting that training was the effective element in the change. The results also indicated that training generalized to different confederates and to both the seven novel situations and the interactions on the ward. However, the results for the generalization of appropriate requests to the seven novel situations indicated that only one half as many appropriate requests for behavioral change were made in the seven novel situations as were made in the seven trained situations, even if the confederate was the trainer himself.

These results have been replicated in similar single subject studies conducted by Hersen, Bellack, Eisler, and their colleagues. In addition, several studies have indicated that the treatment gains were maintained for as long as 6 months posttreatment (Bellack, Hersen, and Turner 1976; Foy, Eisler, and Pinkston 1975; Hersen and Bellack 1976a; Hersen et al. 1975). Interestingly, the results of the Bellack, Hersen, and Turner (1976) study also indicate that appropriate requests for behavioral change did not generalize as well to "novel" situations as did the simpler topographical behaviors such as eye contact.

Several other single subject studies have confirmed these results. Matson and Stephens (1978) found that training not only improved the social skills of four aggressive patients but also increased ratings by nursing staff of the patients' cooperativeness, appropriateness of requests for attention, and appropriateness of verbal statements. In addition, these gains were maintained over a 12-week followup period, and the frequency of fighting and arguing was reduced for both training and followup phases. However, the authors note that after the 12-week followup, "appropriate behavior rapidly deteriorated to prebaseline levels" (p. 74). The implication seems to be that the monitoring during followup may have exerted control over the behaviors. Liberman et al. (1978) reported similar results in training eye contact, use of gestures, appropriate posture, and voice variables in three schizophrenics.
They found initial improvements that diminished by approximately one half at 2-month followup.

Liberman, King, and their colleagues have convincingly demonstrated the effectiveness of training based on the completion of homework assignments. King et al. (1977) presented a case study in which training was sequentially applied to each of three problem areas (restaurants, department stores, gas stations). Completion of homework assignments for each of the areas did not improve until the training was specifically applied to that area. Liberman et al. (1978) used the same design (multiple baseline across areas of homework assignments) to evaluate the effects of 30 hours per week of training with three schizophrenics. There were three areas of homework assignments: specified interactions with members of the nursing staff, with parents, and with social and vocational contacts in the community. Training was conducted for 10 weeks. During the first 2 weeks, performance on all assigned tasks was simply assessed. Training was then applied to interactions with nursing staff during weeks 3 to 6; shifted to interactions with parents as well as with nursing staff during weeks 7 to 8; and finally focused on interactions with community agents, family, and nursing staff during weeks 9 to 10. The results are presented in figure 2 and indicate that completion of homework assignments did not change until training was applied to that specific area suggesting that training was the effective element in the increase in the rate of completed assignments.

Group Comparisons. The studies that have evaluated the effects of social skills training by means of group comparisons are difficult to sum-

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Figure 1. Behavioral change with training

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Figure 2. Training in personal effectiveness in three schizophrenic patients (from Liberman et al. 1978)

In almost all studies that have evaluated the effects of training on the topographical features of social skills using either the BAT-R or a similar measurement technique, improvement was noted (Field and Test 1975; Finch and Wallace 1977; Goldsmith and McFall 1975; Monti et al. 1979) that persisted for as long as 24 months posttreatment (Field and Test 1975; Longin and Rooney 1975; Monti et al. 1979). These improvements have been noted for trained as
well as for untrained situations (Finch and Wallace 1977; Hersen, Eisler, and Miller 1974; Longin and Rooney 1975; Monti et al. 1979). Similar to the results of studies using single subject designs, Hersen, Eisler, and Miller (1974) did not find that requests for new behavior generalized to the novel situations nor did they find generalization for improvement in compliance content. Two studies have found no effects; Argyle, Trower, and Bryant (1974, 1976) compared social skills training to psychotherapy and to systematic desensitization and found no improvement for any of the three treatments on any of the topographical features. Both of these studies were conducted with outpatients, in contrast to the successful studies, which were conducted with inpatients. Marzillier, Lambert, and Kellett (1976) found with outpatients that social skills training, desensitization, and milieu therapy resulted in equally significant improvements in topographical features.

When the changes in topography have been evaluated using measurements not similar to the BAT-R, the results have been somewhat contradictory. For example, Lazarus (1966) reported a 92 percent improvement rate for assertion training; however, he was both the therapist and the evaluator, and his results could have easily reflected his biases rather than the actual outcomes of therapy. In marked contrast, Serber and Nelson (1971) reported that neither assertion training nor systematic desensitization were of value in improving their inpatients' social skills. Doty's (1975) results indicated that both percentage of silence and responsiveness to questions changed in a favorable direction when monetary incentives were used irrespective of the presence or absence of social skills training. Jaffe and Carlson (1976) found that training improved responsiveness during the actual training sessions. Weinman et al. (1972) found that the effects of socioenvironmental therapy were superior to desensitization or relaxation for older patients; for the younger patients, however, there was no effect for any of the three therapies.

Thus, the demonstration of the effectiveness of training for changing topographical features of social skills rests on evidence gathered during assessment situations (BAT-R, primarily) whose format closely resembled the format of the training sessions. However, when the effects of training were evaluated in situations dissimilar in format from the training sessions, the results were not particularly promising. Only one study unequivocally indicated improvement in a relatively new situation. Goldsmith and McFall (1975) found that in a 5-minute conversation with a male stranger, trained patients were rated significantly higher in skill and comfort than either assessment-only or "pseudo-therapy" patients; in addition, the trained patients successfully completed more tasks than the other patients.

In contrast, Longin and Rooney (1975) found no evidence of improvement for trained patients in on-ward behavior. Gutride, Goldstein, and Hunter (1973) and Doty (1975) found only limited improvement in on-ward behavior. Jaffe and Carlson (1976) found that patients did not improve during the contrived situations (playing a game and having a coffee break) that were the focus of training, nor was there generalization to on-ward behaviors or to the MSBS. Monti et al. (1979) found no differences among their three groups (social skills training, bibliotherapy, assessment-only) in a contrived "waiting room" conversation conducted at a 10-month followup assessment. They do note that nursing staff members commented favorably on improvement in the patients receiving social skills training, and this improved performance may have been evident in the conversation had it been conducted immediately posttreatment. Finally, Hersen, Eisler, and Miller (1974) report that training did not improve ratings of patients' overall assertiveness or latency in a posttreatment situation in which patients were shortchanged by $2 compared to a promised $3.

Methodological Shortcomings

Unfortunately, all of these studies are plagued with certain methodological flaws. First, the patients' diagnoses and degree of psychopathology are rarely specified. A few studies (e.g., Finch and Wallace 1977; Goldsmith and McFall 1975) have selected patients and matched them on the basis of chronicity, initial level of social skills, age, and socioeconomic level. In all but one study, however, the diagnosis given by the attending physician has been assumed to be correct, and no other measure of psychopathology has been reported. Several studies do give complete descriptions of their patients (Goldstein et al. 1973; Jaffe and Carlson 1976; Lomont et al. 1969), but they still lack diagnostic rigor. Only Liberman et al. (1978) used a stringent diagnostic instrument—Present State Examination (Wing, Cooper, and Sartorius 1974), which has proven to be a valid, conservative, and reliable means of determining the symptoms of schizophrenia. All other studies seem to include patients with a wide
variety of diagnoses including many who are not schizophrenic but who are labeled “chronic psychiatric patients.” This heterogeneity of diagnostic practices reduces comparability of results across studies and makes it extremely difficult to resolve contradictory findings and identify those patient characteristics that may predict responsiveness to treatment.

Second, medication has not been controlled, and it is impossible to determine to what extent medication differences have confounded the results. Third, there are marked variations in the conduct of the training from study to study. The duration of sessions ranged from 10 minutes to 1½ hours; the number of reported sessions ranged from 1 to 110; the scenes were selected either by the patients or on an a priori basis. Several studies have used training methods that focused solely on the topographical elements of social skills, while other studies have included discussions of the principles of various response alternatives and their consequences. Some studies use praise, feedback, and instructions only, while others include modeling, coaching, and tangible reinforcement. Thus, the term “social skills training” does not refer to a unitary set of procedures; this marked variation not only reduces comparability of results across studies but may also help to explain the contradictory findings.

**Expanded Definition of Social Skills**

There are several explanations for the less than satisfactory generalization of social skills training to “real life” situations. The total duration of training is often less than 10 or 20 hours; this is rather brief and may offer too little practice to firmly establish the skills in the patients’ behavioral repertoires. Generalization may have to be more systematically programmed than the current practice of training sessions plus homework assignments. Perhaps an intermediate step between sessions and assignments is necessary in which the training stimuli are more subtly and slowly shifted to match the real life situations, with practice occurring each step along the way.

There is, of course, little doubt from the accumulated evidence that the topographical features of social skills can be modified by the training procedures. However, generalization may be less than adequate because the focus on topographical features ignores other elements that are critical in the process of producing social skills behaviors. In support of this explanation, simple behaviors such as eye contact, forward leaning posture, and voice quality generalize well to novel situations, while more complex behaviors such as making appropriate requests for behavioral change do not generalize well to new situations. In other words, the conceptual definitions that underlie most training methods may be too narrow to include variables that, along with topography, are relevant to social skills.

Indeed, broader conceptual definitions have been proposed by others. For example, Guilford (1967) has defined social skills in terms of several elements of “behavioral cognition.” Based on the results of a factor analysis of several tests of social intelligence and verbal comprehension, Hoepfner and O’Sullivan (1968) identified six orthogonal factors of behavioral cognition that were independent of verbal comprehension. These factors include abilities such as the correct recognition of gestures and posture as expressions of thoughts and feelings; resolving contradictory information received from two modes of expression; comprehending a sequence of social events; and predicting the consequences of a social situation. General intelligence does seem to be a moderator variable in the sense that individuals who have high intelligence test scores generally have high behavioral cognition scores, while individuals with low intelligence test scores may have either high or low behavioral cognition scores.

Spivack, Platt, and Shure (1976) have defined social skills in terms of “interpersonal cognitive problem solving skills.” They have identified six skills: problem recognition, means-ends thinking, alternative thinking, causal thinking, perspective taking, and consequential thinking. In a series of studies (Platt and Siegel 1976; Platt, Siegel, and Spivack 1975; Platt and Spivack 1972, 1974), they have found that psychiatric patients generate fewer means to achieve a goal than do normals, and these means are generally less relevant than those generated by normals. Within a group of 190 psychiatric patients, poorer problem solving skills were associated with high scores on the Sc and Pa scales of the MMPI, lower scores on the Goldberg Index, and poorer premorbid competence as measured by the Ziegler-Phillips Scale. However, patients did not differ from normals in the ability to recognize correct solutions to interpersonal problems.

Siegel and Spivack (1973) have developed a four-stage program to improve the interpersonal cognitive problem solving skills of chronic psychiatric patients. Twelve exercises are used to teach patients to recognize problems, define problems through information seeking, generate alternative solutions, and decide
which alternative is the best solution to the problem. Role playing is generally not used, and the format is primarily didactic. The program has yet to be systematically evaluated.

Trower, Bryant, and Argyle (1978) have developed a relatively complete model of socially skilled behavior. First, they hypothesize that social behavior is initiated and maintained by an overall goal with a set of subgoals united by a plan of action. To implement this plan of action, the actor must first perceive the relevant characteristics of the interpersonal situations, translate these perceptions into possible courses of action, decide which course of action is best, and then implement the chosen action through a series of discrete motor responses. Feedback from the environment begins this process again. Based on this model, Trower, Bryant, and Argyle (1978) have constructed 51 exercises to teach patients observation skills, listening skills, and speaking skills. As indicated previously, they evaluate the effectiveness of training in terms of toponography rather than “perception” and “translation” skills.

Wallace (1978) and Wallace et al. (1978) independently have developed a similarly comprehensive model of socially skilled behavior. They theorize that a socially skilled response is the end result of a chain of behaviors that began with accurate “reception” of relevant interpersonal stimuli, moved to flexible “processing” of these stimuli to generate and evaluate possible response options from which the correct one was chosen, and ended with appropriate “sending” of the chosen option (table 3). Based on a survey of the literature on interpersonal problem solving skills, they have identified a set of potentially important variables for “receiving” (table 4), “processing” (table 5), and “sending” (table 6) functions.

They have developed an integrated assessment and treatment package that is based on a role-playing format but is somewhat different from other social skills treatment programs. Rather than train patients in a sequence of discrete skills, they assess all variables after role playing and then apply various training techniques if the assessments indicate that there is a deficiency in any variable. They have also divided the role-played interpersonal interactions into two distinct types: “instrumental” situations that involve obtaining some specific outcome from the environment such as an income-maintenance check, and “friendship/dating” situations that involve the initiation and maintenance of social contacts and friendships. The training procedures are different for each type of situation.

The specific training procedures are implemented as follows. Each situation is introduced using a standardized script. For the instrumental situations, patients are provided a standardized prompt which begins an interaction that may then continue for one or two exchanges. For the friendship situations, the interaction may continue from 10 seconds to
5 minutes depending upon the phase of training. After each situation is role-played, the patient is asked a series of questions designed to assess his knowledge of the receiving and processing variables. The questions, presented in tables 7, 8, 9, and 10, are somewhat different for instrumental and friendship situations. The questions are considered to be assessment devices, and incorrect answers result in the application of training techniques designed to elicit the correct answer. Although the training techniques are different for each question, they have been standardized so that they can be applied in a consistent manner.

Sending skills are evaluated during the role-play; if there is a deficiency, training consists of instructions, modeling, prompts, and coaching as necessary. Slightly different sending variables are evaluated for the instrumental and friendship situation (tables 11 and 12).

The number of incorrect answers is recorded, along with the number of trials required to achieve a correct answer should training be necessary. The information, of course, is directly relevant to training; if the patient continues to give incorrect answers, the training has been ineffective, and a new technique has to be implemented.

The effectiveness of the training package is currently being evaluated using a battery of dependent measures covering a wide range of functioning. Twenty-eight patients, diagnosed as schizophrenic using the Present State Examination, have been randomly assigned to participate in 10 weeks of either social skills training or an equally intensive “control” therapy. The therapies are conducted from 3 to 6 hours daily, 5 days per week; therapists rotate between the two therapies on a daily basis. After patients have completed the 10-week program, they are followed for 24 months with administration of the dependent measures at 1, 3, 6, 9, 12, 18, and 24 months postdischarge.

**Summary**

Social skills training is clearly effective in changing topographical features and self-reports of anxiety. Unfortunately, these changes do not often result in substantial differences in patients’ quality of life. The technology is promising, but it must be expanded to include as “social skills” clinically meaningful behaviors.

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