Designing New Psychosocial Treatments for Schizophrenia

Robert Paul Liberman and Patrick W. Corrigan

Schizophrenia is a disease characterized by cognitive, psychophysiological, and interpersonal deficits that result in a marked vulnerability to stress (Dawson and Nuechterlein 1964; Nuechterlein 1977; Strauss et al. 1987). Episodes of illness occur in vulnerable individuals who experience stressful life events (G. W. Brown and Rutter 1966; Lukoff et al. 1984) or stressful interactions with family members (G. W. Brown et al. 1972; Imber Mintz et al. 1987; Leff and Vaughn 1985). Similarly, overstimulating therapeutic environments have been shown to exacerbate psychosis (Drake and Sederer 1986; Liberman 1982; Linn et al. 1980; Van Putten 1976). A full understanding of disease-specific deficits resulting from stress and vulnerability is necessary for developing psychosocial treatment programs that augment pharmacotherapies in significantly ameliorating the symptoms and disabilities of schizophrenia.

While measurement of putative vulnerability markers of schizophrenia have become increasingly sensitive and precise, the clinical validity of these measures is not readily apparent. How do research findings describing cognitive and psychophysiological dysfunctions in schizophrenia relate to the psychopathology and disturbances in interpersonal adjustment seen in the disorder? The pathophysiology of schizophrenia may be illuminated by viewing a functional information-processing system as necessary for the accurate and realistic reception and processing of social information. Subclinical cognitive deficits may hamper the development of social perception, appropriate social judgment, and sociability during childhood, adolescence, and young adulthood. Similarly, abnormalities in the regulation of the autonomic nervous system may lead to chronic hyperarousal, which can diminish the threshold beyond which stressors overwhelm the individual. These cognitive and autonomic dysfunctions may interact to impair the vulnerable individual's ability to process social information (Gjerde, 1983). As a result, when common, everyday interpersonal events and frustrations exceed the schizophrenia's coping capability, the individual may become overaroused and experience social situations as more confusing and stressful. Cumulative minor stressors or major life events can wreak the psychobiological vulnerability threshold of a person with schizophrenia, provoking the relapse of psychotic symptoms.

Diminished protection against the noxious effects of social stressors is also apparent in vulnerable patients who manifest the negative syndrome, and who

Robert Paul Liberman and Patrick W. Corrigan are with the Camarillo/UCLA Clinical Research Center for Schizophrenia and Psychiatric Rehabilitation, West Los Angeles VA Medical Center, Wilshire and Saticoy Boulevards, Los Angeles, CA 90073.

PSYCHIATRY. Vol. 56, August 1993
withdraw from social interactions and demonstrate anergia, and aloxia (Andrusew 1982; Crow 1980). Post-pemorbid adjustment may be a precursor to the negative syndrome. Unable to cope well within interpersonal situations, the negative syndrome schizophrenic withdraws from others.

Since schizophrenic vulnerability comprises a psychological and hyperactivity to socioenvironmental stressors, exacerbation of schizophrenic symptoms often results from a lack of protective factors that might buffer the impact of environmental stressors on a vulnerable person (Dobson and Neufeld 1989). Protective factors include a range of interpersonal and coping skills as well as a social support network comprising family, friends, and neighbors. Psychosocial treatments may confer protection against relapse by assisting schizophrenic patients to acquire and use social and independent living skills that can be incorporated into their behavioral repertoires (Lieberman, Liddle et al. 1984). Case management, psychosocial, or social skills training represents strategies that offer social support that also can protect a vulnerable individual from ambivalent stressors in the community. Thus, a stress-vulnerability coping-competence model for understanding schizophrenia may serve as a road map to guide clinicians in their search for new and effective treatments (Lieberman et al. 1986). One avenue of treatment development that has yielded effective interventions for schizophrenia is social skills training.

A Psychosocial Rehabilitation Model

Before launching a program of social skills training, it is necessary to design an intervention that (1) conforms to the stress-vulnerability coping-competence model of schizophrenia; (2) harnesses human learning principles; and (3) targets the specific components of socially skilled behaviors. Liberman, Wallace, and their colleagues at the UCLA Clinical Research Center for Schizophrenia and Psychiatric Rehabilitation have created a technology for training social skills that incorporates these three design criteria (Liberman et al. 1989). Beginning in the early 1970s, this interdisciplinary team crafted a method of training social skills in a broad array of mentally ill persons attending a community mental health center that utilized individual goal setting, instructions and prompts, role playing, modeling, performance feedback, contingent reinforcement, coaching, and in vivo assignments (Liberman et al. 1976). These training elements derived from operant and social-learning principles that were employed in a structured, consistent, and systematic manner to overcome patients' learning disabilities (Bandura 1969; Goldstein 1961; Skinner 1963).

In a further step at targeting goals and skills that were particularly relevant to schizophrenics at risk for relapse, Liberman and his colleagues at the Bethlem-Maudsley Hospital in London included family members who were high on "expressed emotion" in educational and training sessions aimed at improving family communication and problem-solving skills (Falloon et al. 1981; Liberman, Liddle et al. 1984). Under the stress and burdens of living with a relative who exhibits unpredictable symptoms, disturbing behaviors, and disability of chronic schizophrenia, family members attempt to cope by becoming excessively nurturant or emotionally involved, on the one hand, or alternatively, by failing to recognize that a benadine mental illness exists and thus criticizing the person with schizophrenia for performance deficits (Mintz et al. 1987). These counterproductive efforts at coping with stress, termed high "expressed emotion," are in turn stressors for the mentally ill relative, thereby increasing the risk of relapse. To reduce stress-induced relapse, Liberman and his colleagues equipped three schizophrenic

PSYCHIATRY, Vol. 36, August 1993 239
patients with social skills in daily 4-hour training sessions for 2 months that enabled them to more assertively individuate from their families (Liberman, Jilie et al., 1984). In addition, the patients and their families met together twice weekly for 2 months and learned communication and problem-solving skills (Falloon et al., 1981). Collectively, the patients' and relatives' coping efforts became more effective, high "expressed emotion" was reduced, and in subsequent controlled studies, 1- and 2-year relapse rates were markedly reduced (Falloon et al. 1985; Liberman et al., 1986).

The skills-training technology further evolved in a 1979-1981 study by Wallace and Liberman (1985) wherein patients living with relatives who were high on "expressed emotion" participated in daily sessions for 3 months that aimed to improve the social perception and social problem-solving skills of schizophrenics. Prior to this development, the information-processing deficits of schizophrenia had not been taken into account in social skills training, which mainly had emphasized teaching patients improved verbal and nonverbal responses. The treatment research team at the UCLA Clinical Research Center hypothesized that the duration of skills and their generalization to the natural environment would be strengthened if patients were taught to identify and recognize interpersonal problems, and to generate alternatives for dealing with these problems, as well as to use appropriate verbal and nonverbal responses when coping with these problems. As shown in Table 1, this stage of developing technology for skills training led to a three-phase conceptualization of socially relevant skills divided into "receiving," "processing," and "scheduling" skills (Wallace, 1982; Wallace et al., 1980, 1985). Attending to appropriate social cues and accurately encoding the stimuli for their social meaning comprised receiving skills. Reception of social information is a complicated process: it requires careful listening to the content of messages, interpreting emotions, getting clarification, and determining the relevance of one's own behavior to the message (Bellack and Hersen, 1978; Wallace et al., 1980). Processing skills described the individual's interpretation of the received information and generation of response alternatives that may fit the situation and facilitate coping. Scheduling skills described the range of behaviors necessary to successfully carry out the selected coping responses. Scheduling skills encompass topographic behaviors such as speech content, paralinguistic elements (e.g., voice pitch), and nonverbal behavior (e.g., eye contact, facial expression, interpersonal distance).

Dividing an individual's repertoire of instrumental and affective behaviors into receiving, processing, and sending skills provided clear target goals for social skills training. Moreover, this component approach to skills training was built on research findings that showed relationships of deficits in sustained attention and problem solving with interpersonal skills in schizophrenia (Liberman et al., 1984).

MODULAR TRAINING STRATEGIES

While the introduction of an information-processing approach to training social skills represented a definite advance with demonstrated effects on durability and generalization of the skills that were learned by schizophrenics (Wallace and Liberman, 1985), three major obstacles still existed to the widespread dissemination and utilization of skills-training methods in the treatment and rehabilitation of the seriously mentally ill. One of the obstacles was the need to teach a wide variety of skills to individuals who were deficient in a host of areas of community functioning, especially those skills necessary to control and stabilize psychiatric symptoms that often interfere with schizophrenics' learning. With the addition of a performance site for the Clinical Research Center in 1981 at the Brentwood VA Hospital that permitted longitudinal rehabilitation of veterans with schizophrenia, it became feasible to consolidate the

240

PSYCHIATRY, Vol. 56, August 1995
Table 1

Examples of Receiving, Processing, and Sending Skills

<table>
<thead>
<tr>
<th>Receiving Skills</th>
<th>Processing Skills</th>
<th>Sending Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>I see the man walking toward me with a knife in his hand.</td>
<td>My alternatives to being robbed include: yelling for help, flagging a police car, running.</td>
<td>I yelled for help and waved my arms to stop the police car.</td>
</tr>
<tr>
<td>I hear the police car siren in the distance.</td>
<td>The girl staring at me in the corner may want me to ask her to dance.</td>
<td>I asked the girl to dance by approaching her, making eye contact and saying in a pleasant voice, &quot;I'd like to have the next dance with you.&quot;</td>
</tr>
<tr>
<td>I see a girl sitting alone in the dance hall.</td>
<td>My alternatives at the dance are: ask the girl to dance, ask someone else to dance, go to the refreshment table in stead.</td>
<td></td>
</tr>
<tr>
<td>I hear the music in the dance hall.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The UCLA Clinical Research Center are listed in Table 2. Each skill area of each module is taught using the same, highly prescribed sequence of seven structured learning activities, as shown in Table 3.

Two other advantages of the modular approach to skills training have enabled the innovators to overcome obstacles to dissemination of this technology related to practical constraints; namely, local grammatical constraints in adopting an innovation and difficulty in training the trainers. The modular design of the UCLA skills-training program permits any institution or community-based program to literally "plug in" one or more of the modules into existing programs, without having to demolish other elements of the program that are serving patients well. No wholesale renovation of a clinical enterprise is necessary since the modules are relatively "free standing" and compatible with a wide range of clinical and theoretical orientations. Previously validated psychosocial and behavioral treatments and rehabilitation programs—such as the Fairweather Lodge, the Fountain House Psychosocial Club, and the Token Economy-Social Learning Program—suffered limited dispersion because they required major restructuring of existing programs (Backer et al. 1986).

PSYCHIATRY, Vol. 36, August 1993

241
Table 2  
THE SKILL AREAS AND GOALS OF THE FIVE UCLA MODULES FOR TRAINING SOCIAL AND INDEPENDENT LIVING SKILLS

<table>
<thead>
<tr>
<th>Skill Areas for Medication Management*</th>
<th>Goals</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Obtaining information about anti-psychotic medication.</td>
<td>To gain an understanding of how these drugs work, why maintenance drug therapy is used, and what benefits result from taking medication.</td>
</tr>
<tr>
<td>2. Knowing correct self-administration and evaluation of medication.</td>
<td>To learn appropriate procedures in taking medication, and how to evaluate responses to medication daily.</td>
</tr>
<tr>
<td>3. Identifying side effects of medication.</td>
<td>To learn the side effects that sometimes result from taking medication and what can be done to alleviate these problems.</td>
</tr>
<tr>
<td>4. Negotiating medication issues with health-care providers.</td>
<td>To practice ways of getting assistance when problems occur with medication; for example, how to call the hospital or doctor and how to report symptoms and progress.</td>
</tr>
<tr>
<td>5. Using long-acting injectable medication.</td>
<td>To desensitize fears of injections and learn benefits of biweekly or monthly injectable medication.</td>
</tr>
</tbody>
</table>

Skills Areas for Symptom Management*  
1. Identify warning signs of relapse.  
To learn how to identify personal warning signs and monitor them with assistance from others.  
2. Managing warning signs*  
To learn to use specific techniques for managing warning signs and develop an emergency plan.  
3. Coping with persistent symptoms.  
To learn how to recognize persistent symptoms and use techniques for coping with them.  
4. Avoiding alcohol and street drugs.  
To learn about the adverse effects of alcohol and illicit drugs, and how to avoid them.  

Skills Areas for Recreation for Leisure*  
1. Identifying benefits of recreational activities.  
To identify the benefits of various recreational activities and choose activities based on the benefits sought.  
2. Getting information about recreational activities.  
To locate and gather facts about different kinds of recreational activities and follow up on how to use the activities.  
3. Finding out what's needed for a recreational activity.  
To identify the resources needed before starting an activity.  
4. Evaluating and maintaining a recreational activity.  
To judge whether an activity is enjoyable and worth continuing on a long-term basis; to make a long-term plan for engaging in the activity.  

Skills Areas for Basic Conversational Skills*  
1. Active listening skills.  
To learn effective verbal and nonverbal listening techniques.  
2. Initiating conversations.  
To learn the most likely places to meet people and how to determine whether another is willing to engage in conversation.  
To learn the techniques that sustain conversations.  
4. Terminating conversations.  
To learn how to end conversations gracefully.  
5. Putting it all together.  
To integrate all skill areas into natural and spontaneous conversations.  

ROBERT PAUL LIBERMAN AND PATRICK W. CORRIGAN  

242  

PSYCHIATRY, Vol. 56, August 1981
Another obstacle that had to be overcome for widespread distribution and use of skills training was the time-consuming requirements for "training the trainers." In over a decade of training psychiatric residents and psychology interns, Liberman and his colleagues were able to graduate only a few dozen competent skills trainers. Competence and confidence in using the more generic approaches to social skills training took approximately 3-5 months of weekly sessions under the tutelage of a mentor and role model. With the skills training except.

Table 3

Learning Activities Used by Trainers to Facilitate the Acquisition of Skills by Patients

| 1. Introduction to skill area |
| 2. Videotape and questions/answers |
| 3. Role-play |
| 4. Resource management |
| 5. Outcome problems |
| 6. In vivo exercises |
| 7. Homework assignment |

Introducing the topic and component skills required for managing your medication safely and effectively.
Viewing the videotape scene and demonstrating assimilation of knowledge of skills, with questions and answer review.
Acting out the skill in behavioral rehearsal.
Discussing the resources needed to perform the skills.
Solving problems associated with using the skill.
Performing exercises in real-life situations with health-care providers, in settings outside the training class.
Completing assignments away from the group.

PSYCHIATRY. Vol. 56, August 1983

243
tulated in a modular form, including a prescriptive manual for trainers or therapists and a professionally produced videocassette to demonstrate the skills to patients, trainees from all the mental health disciplines could learn faithful delivery of the skills to patients with only 8-12 hours of exposure and practice.

Since more and more of the direct care of chronic mentally ill patients is assumed by paraprofessionals who do not have the graduate education necessary to implement complex methods (Gruchano and Katz 1982), the prescriptive form of the module is "user friendly." The modules are written in a step-by-step manner such that only minimal effort is required to plan and conduct the training sessions for each day. Moreover, the specific prescriptions outlined in each module's Trainer's Manual make it possible for one trainer to carry out a module on Monday and have a second trainer pick up where the class left off the next day. Moreover, patients can begin the module as inpatients and continue with their learning as outpatients. Module skills-training packages are easily monitored and evaluated; a necessary requirement for quality assurance, treatment outcome research, and program evaluation.

The UCLA modules specify seven learning activities that trainers use to include patients' skill acquisition (Wallace et al., 1985). First, an introductory learning activity briefly reviews the behaviors that will be taught in the skill area and builds motivation for patients to participate actively in the learning activities that follow. This introductory step serves as an advanced organizer, preparing the patient for videocontent presentation of the skill area and a subsequent question-and-answer period. The videos are professionally made, with actors taking the part of patients modeling the skills targeted for training, with clear annotation by narrator and test subtitles to compensate for patients' cognitive deficits. The question-and-answer segment facilitates both the assessment and the subtle shaping of receiving skills. Once the patients have observed the model, they have an opportunity to practice the skill in role-plays. This learning activity assesses both processing skills (What, different alternatives are possible to address this role-play?) and sending skills (How successfully did the individual incorporate paralinguistic and nonverbal components in the role-play?). Processing and sending skills are increased to a criterion performance level via trainer prompts and feedback. Performance feedback and learning can be enhanced by making video-recordings of the behavior rehearsals and playing back the video to allow the individual, and the group as a whole, to offer comments about the performance. Group members are instructed to give positive comments ("What did you like about the way John handled that task?") and avoid the aversive impact of criticism.

In addition to being able to perform the requisite skills, individuals must learn to garner necessary "resources" to accomplish the targeted instrumental or affectational goal. Resource management, the next learning activity, assists patients to understand what is a resource, identify the range of resources necessary to attain a specific goal, and figure out how to obtain resources. For example, resources necessary to arrange a doctor's appointment include a phone directory, a telephone, a calendar, and a pad of paper. Individuals who do not have their own phone can overcome this short-coming with a quarter and use of a public phone.

Despite mastery of the targeted skills and the presence of sufficient resources, several unforeseen obstacles may arise as barriers to future performance of learned skills. The outcome problem learning activity introduces the patient to stepwise problem solving necessary to overcome unexpected barriers. For example, What should the patient do who calls the doctor's office for an appointment and gets repeated busy signals, listens to an automated message from a machine, or is told that the doctor's receptionist is away from her desk? In this learning activity, aspects of the barrier are identified (receiving skills) and alternative methods that
NEW PSYCHOSOCIAL TREATMENTS

may remove the barrier are brainstormed (proceeding skillful. For example, the pa-
tient can call back, ask to make an ap-
pointment with someone other than the
receptionist, or call another doctor for an
appointment. From these alternatives,
the patient is instructed to pick a solution
with the proviso that one choice is not
necessarily superior to another. If it inter
fails, choosing a second option is a reason-
able alternative. The solution is then car-
rried out in role-play fashion for further
training of verbal and nonverbal sending
skills.

A variety of strategies to promote gen-
eralization of skills acquired in therapeu-
tic environments have been designed for
the modular form of social skills training (Corrigan et al. 1992; Liberman et al. 1982;
Morrison & Bellack 1984). These include the problem-solving techniques embedded in
the "Resource Management" and "Out-
come Problem" learning activities of each
module. Two final learning activities are
also directed at improving the transfer of
skills to novel, untrained situations. In

in vivo training requires the patient to carry
out the newly acquired skills in real-life,
individual meaningful situations with the
trainer present to aid the person,
should a barrier become insurmountable (Liberman, Lilie et al. 1984). After the pa-
tient is able to implement the skills with-
out ancillary assistance, homework is as-
signed to independently carry out the
practiced skill in other real-life settings.
Patients who are able to carry out the
homework "pass" the learning criteria for
the particular skill area of each module.

SKILLS TRAINING AND THE
SCHIZOPHRENIA'S COGNITIVE DEFICITS

Formal thought disorder and distracti-
hility can interfere with the patient's par-
ticipation in skills-training modules. Sev-
eral strategies that can help to overcome
these difficulties and thereby improve the
patient's learning capacity, are listed in
Table 4. In general, instructional tech-
niques used in the field of special educa-
tion for the learning disabled may be ap-
propriate analogies for psychosocial rehabili-
tation strategies with incoherent and dis-
tractible patients. For example, an atten-
tion-focusing approach has been used to
improve social skills training with cogni-
tively disordered patients (Liberman et al.
1986; Massel et al. 1991). This approach
is characterized by multiple, relatively
short, attention-training training sessions
embedded within more traditional social
skills training modules. During these ses-
sions, if the patient provides either no an-
swer or an incorrect response to an
"opener" made by a confederate, then the
trainer models the correct response and
then prompts the patient to try again to
respond. Correct responses are praised
and reinforced with suitable material and
social rewards. Thought-disordered pa-
tients who may be initially ineligible to
participate in the classroom format of the
modules may achieve "mainstreaming"
after intensive training in attention fo-
cusing.

Diminishing environmental background
noise can improve skill learning as well.
Patients are easily distracted by events
occurring around them. Thus training
rooms should be relatively quiet and set
apart from clinical areas where traffic, inter-
tuptions, or other distractions are fre-
quent. We have found that module ses-
sions ideally should be scheduled on a
twice weekly basis or more frequently to
maximize learning effects and diminish
the adverse impact of the short-term
memory problems exhibited by schizo-
phrenics (Liberman and Green 1990).
When working with outpatients whose
transportation problems obstruct fre-
quent attendance at a clinic or mental
health center, training might be fruitfully
"exported" to the patient's residential set-
ings since the modules are portable and
require only a VCR and video monitor. Al-
teratively, transportation by van service
can often achieve the desired regularity of
attendance that will help to compensate for
the cognitive deficits that can impair
learning.

Evidence is accumulating that deficits in
memory, sustained attention, and selec-
tive attention may be "rate-limiting" fac-

PSYCHIATRY, Vol. 56, August 1993
Table 4

**Remedial Strategies for Some Cognitive Deficits of Schizophrenia**

<table>
<thead>
<tr>
<th>Cognitive Deficit</th>
<th>Remedial Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Hypersusceptibility to overstimulating</td>
<td>Diminish external distractions; ambient noise, likely intermittent.</td>
</tr>
<tr>
<td>2. Difficulty sustaining attention over time.</td>
<td>Keep training tasks brief and focused. Use frequent prompts to maintain attention. Use a cognitive program and self-management to improve prearranged attention goals.</td>
</tr>
<tr>
<td>3. Distracted by irrelevant cues.</td>
<td>Keep training site uncluttered of stimuli not germane to modular skill areas. Post charts that explain skill areas. Proceed slowly through training steps. Conduct task analysis and break tasks down into simpler substeps.</td>
</tr>
<tr>
<td>4. Misinterpret learning points.</td>
<td>Avoid accidental passing of extraneous variables by providing immediate feedback and reinforce after overlearning has occurred. Gradually fade feedback and reinforce.</td>
</tr>
<tr>
<td>5. Difficulty with speeded tasks.</td>
<td>Adopt thought-stopping techniques. Self-monitor disordered thought and hallucinations and avoid stressors that may exacerbate them.</td>
</tr>
<tr>
<td>7. Influenced by immediate stimuli in the environment.</td>
<td></td>
</tr>
<tr>
<td>8. Distracted by hallucinations and poor associations.</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Elements of this table were adapted from Liberman et al. (1990).

**tors in the success and efficiency of skills-training programs, such as the UCLA Social and Independent Living Skills modules (Bowen 1988; Corrigan and Storchbach 1992). Thus, future research should be directed to answering the question “Can social skills training, utilizing the modular approach developed at the UCLA Clinical Research Center, be demonstrated to have a salutary effect on the cognitive deficits of patients with schizophrenia?” Whether it is more efficient to overcome cognitive deficits before having a schizophrenic person enter a skills-training program as in the previously described attention-focusing method or whether skills training itself can improve cognitive functioning must await the next generation of studies in psychosocial treatment development.**

One issue that has been raised questions the utility of a problem-solving emphasis in the UCLA modules (Hallock et al. 1990) since normal individuals do not consciously utilize the step-by-step sequence inherent in the problem-solving training. However, abundant evidence exists showing that schizophrenics lack problem-solving ability (Denham et al. 1990) and that episodes of relapse appear to produce a regression in schizophrenic problem-solving abilities (Sullivan et al. 1990). Just as a stroke victim undergoing physical therapy must learn to use a cane or walker in order to resume ambulation skills, persons with schizophrenia may also need the “cognitive prosthesis” of the deliberate and systematic application of the problem-solving steps to negotiate the sometimes stressful pathways of everyday life in the community. An “artificial” support, like using the problem-solving steps, may make the difference between community adjustment, or institutionalization for persons with cognitive impairments. Evidence from the UCLA Clinical Research Center suggests that schizophranics can indeed improve their problem-solving ability when exposed to training through the medium of the Individual Personal Problem-Solving Module (Eckman 1992).

**Module Content Areas**

Five modules have thus far been produced and these are summarized in Table 2. Each module package includes a video.
tape, trainer's manual, user's guide, and patient's workbook. Although usable in individual therapy, modules are customarily taught in a classroom setting with 1-2 trainers and 5-10 patients. The trainer's role is very different from the nondirective stance common in traditional psychotherapy. Specific feedback and active prompting are essential intervention strategies that require trainers to get out of their chairs and become actively involved in the learning process, similar to an athletic coach or teacher in a special education classroom. To accomplish this task, trainers need a sufficiently large room, video-cassette recorder and camera, chalkboard, pencils, and paper to conduct the class. Modules are divided into four or five skill areas and can be completed in about 30 hourly sessions. Typically, individuals who have not mastered the skills after progressing through a module repeat skill areas in which they were deficient. An assessment instrument, the Independent Living Skills Survey (Wallace 1986), is used as a comparison to the modules since it permits clinicians to determine, in advance, which modules and skill areas patients are deficient in.

EVALUATION OF MODULES

Investigations have shown that the UCLA Modules are effective in improving the acquisition of targeted skills (Wriehl et al. 1991). For example, the Medication Management Module has been tested in 28 field sites across the United States (Eckman et al. 1990). Results revealed that patients completing the module significantly increased their compliance with medication regimens, their knowledge of medication effects, and their ability to negotiate with health professionals on medication issues. More recently, Wallace and his colleagues (1992) found that training on four modules substantially increased patients' knowledge and performance on these skills. One-year follow-ups revealed retention of the skills.

Moreover, results from this controlled field test of the modules showed that even nonprofessionals—such as operators of board and care homes who had only a high school education—could effectively deliver the training as long as they followed the stepwise procedures in the training manual. In one residential care facility where the operator skipped over some of the module learning activities, patients failed to acquire the skills. In another study of the Medication and Symptom Management modules, patients showed significantly greater acquisition, durability, and generalization of the skills than their counterparts who were randomly assigned to the same amount of supportive group therapy. In addition, even moderately high levels of positive and negative symptoms did not appear to significantly impair the learning effects of these patients (Eckman et al. 1992).

SUMMARY

The UCLA modules provide an efficient, easy-to-apply package for facilitating the acquisition of social and coping skills. Patients who complete social skills training increase specific interpersonal skills (M. A. Brown and Munford 1983; Fecteau and Duffy 1986; Field and Test 1975; Goldsmith and McFall 1975) as well as problem-solving skills that provide a more flexible response set for coping with future social situations (Hansen et al. 1985; Wallace and Liberman 1985).

Improved behavioral repertoires resulting from social skills training have led to higher levels of social functioning (Liberman, Fallow et al. 1984; Wallace and Liberman 1985) and decreased likelihood of relapse (Hogerty et al. 1988). However, research findings regarding the long-term durability and generalization of skills-training effects suggest that intermittent booster sessions may be necessary and that a better understanding of schizophrenia's neuropyschological deficits may yield improvements in training technology. Nevertheless, social skills training provides a valuable and empirically documented intervention that is now ready to be incorporated into the treatment armamentarium for schizophrenia.
REFERENCES


CORBIN, P. W., and STORCK, P. Cognitive remediation in schizophrenia. Unpublished manuscript available from the first author at University of Chicago, Department of Psychiatry, 1992.


LIBERMAN, R. P., FALLOON, J. R. H. and WALLACE, 241

PSYCHIATRY, Vol. 56, August 1993