

## **Generalization of Social Skills Training In Schizophrenia**

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Published in

**Rehabilitation of Patients with Schizophrenia**

Joanna Meder MD (Editor)

Krakow: Biblioteka Polish Psychiatry, 2000, pp 7-14

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## **Abstract**

Social skills' training has been established as an efficacious treatment for individuals with schizophrenia and other severe mental disorders. If skills that are acquired in clinic-based settings are to have a significant impact on social functioning, they must generalize to a variety of naturalistic settings. For generalization to be successful, environmental support such as opportunities, encouragement, and reinforcement must be available. Comparison of the efficacy and generalization of social skills training with occupational therapy and supportive therapy revealed the superiority of social skills training. Evidence exists for generalization of the skills into the everyday life of individuals with schizophrenia when environmental support is promoted. New directions for promoting generalization of social skills training include an in vivo amplified program, employed by specially trained case managers.

## **Introduction**

Social Skills training has been established as an efficacious psychosocial intervention for persons with schizophrenia or other severe mental disorders (Dilk & Bond, 1996; Benton Schroeder, 1990). Social skills training is a behaviorally oriented treatment that uses a structured educational method designed to compensate for cognitive deficits and symptoms that are present in persons with schizophrenia. Techniques used to promote learning and motivation include modeling, behavioral rehearsal, positive reinforcement, repetition, prompting, shaping, fading, and over learning. The modules of the UCLA Social and Independent Living Skills (SILS) Program are examples of highly structured behavioral skills training interventions (Lieberman et al., 1993; Psychiatric Rehabilitation Consultants, 1999). The SILS modules (Table 1) have been translated into Polish, Swedish, Chinese, Japanese, Bulgarian, Finnish, Spanish, French, German, Arabic, Danish, Dutch, and Italian.

-----Insert Table 1 About Here-----

### **Generalization of Skills Training**

If skills that are learned in the clinic, hospital, or classroom setting are improving social adjustment, they must be used in community settings. This is called generalization. For example, if a patient learns how to politely discuss symptoms and side effects with a doctor in a classroom setting, he/she must be able to perform that skill during an actual medical appointment if it is to be of real benefit. This type of generalization does not occur naturally in patients with schizophrenia; instead, it must be promoted through systematic procedures.

A number of factors influence the generalization of acquired skills in persons with schizophrenia. First, environmental support is essential for the successful generalization of skills to the community setting. This includes creating opportunities and encouragement for individual to use the skills, offering positive reinforcement for using skills in the community, and conducting a lengthy and repetitive period of training. Opportunities and encouragement to use the skills are necessary if the individual is to make a transition from using a skill in the setting where it was originally trained, to using the skill in naturalistic settings. This can be accomplished by assigning in vivo homework assignments, and helping the patient identify opportunities to use specific skills. Positive reinforcement also is necessary to ensure that the patient continues to use the skills in real life situations. Positive reinforcement can be delivered through self-reinforcement, or by social and tangible reinforcement offered by peers and trainers. Similar to any other learned behavior, the utilization of specific skills, and their impact on social functioning diminish over time when environmental support for continued use of the skills is not in place.

### **Conventional Psychosocial Treatments**

While social skills' training is a recently established treatment, the conventional modalities of psychosocial treatments for schizophrenia are supportive group therapy and occupational therapy. It is important to compare the benefits, maintenance, and generalization of social skills training with these more conventional and widely used treatments.

In reality-adaptive supported therapies, patients are encouraged to set personal goals and group dynamics are used to help patients identify and overcome obstacles to

achieve their goals. Patients work together to identify coping skills for a variety of life stressors and problems. Empathy, warmth, reflection and general encouragement are emphasized. Educational information regarding mental illness is presented in groups and discussion and open-ended questions are encouraged. This approach is generally non-behavioral and no emphasis is put on modeling, practice, or homework. Supportive group psychotherapy has been viewed as an effective treatment for schizophrenia (May, 1984; Liberman, 1994).

In most psychiatric hospitals and day treatment programs, occupational therapy is the prevailing psychosocial treatment (Liberman et al., 1998). The focus of occupational therapy is to build self-esteem and productivity through the use of expressive arts and crafts, and recreational activities that mediate supportive therapy and verbal insight. Patients are encouraged to individualize their interests and abilities through arts and crafts, discuss feelings, and articulate personal goals. While occupational therapy is highly prevalent, there are few studies of its efficacy.

### **Comparison of Social Skills Training and Supportive Group Psychotherapy**

A two-year outcome study was conducted to evaluate the effects of social skills training and group psychotherapy on social adjustment and psychotic relapse (Marder et al., 1996). Eighty male outpatients who met the DSM-III-R criteria for schizophrenia were randomly assigned to receive either supportive group therapy or social skills training. Supportive group therapy and skills training were delivered at equal rates of intensity, in 90-minute sessions twice per week for 6 months, then weekly for 18 months. All patients received 5mg of injectable fluphenazine decanoate biweekly. Additionally, a subgroup of patients who experienced a prodromal state of incipient relapse (n = 36) was

randomly assigned to receive either an active, supplementary drug treatment condition, or a placebo. The supplementary drug or placebo patients received up to 10 mg of oral fluphenazine or two placebo tablets twice daily for as long as the prodromal symptoms continued.

Severity of symptoms were measured using the Brief Psychiatric Rating Scale (BPRS) on a monthly basis, and psychosocial outcome was measured at baseline, and every 6-months using the Social Adjustment Scale II (SAS II) (Schooler, Hogarty, & Weissman, 1979). The data were analyzed using a general mixed model analysis of variance (ANOVA) for repeated measures.

Results showed a significant main effect favoring social skills in psychosocial outcomes over the 2-year period of the study. Two of the 6 cluster scores on the SAS II (personal well-being and total adjustment) were significantly better in the skills training group ( $p = 0.01$ , and  $p = 0.02$  respectively). There was also a significant interaction between psychosocial treatment condition and drug treatment condition in the SAS II scores for external family ( $p = 0.02$ ), social and leisure activities ( $p = 0.01$ ), and total adjustment ( $p = 0.03$ ) favoring the combination of skills training and active drug treatment. These results suggested that there was a benefit from combining social skills training with low-dose medication therapy. On the one hand, social skills training enhanced coping skills, prevented relapse, and lowered the need for doses of anti-psychotic medications. Reciprocally, medication therapy when supplemented with active drug treatment during periods of incipient exacerbation, reduced symptoms and side effects, reduced relapses, and facilitated the learning of new skills.

This study demonstrated that social skills training is effective in increasing the patients' social and community adjustment for up to 24 months. Skills that were learned in the training setting generalized to the "real world".

### **Comparison of Social Skills Training and Occupational Therapy**

A second study was conducted to compare the effects of social skills training versus psychosocial occupational on the community functioning of outpatients with persistent schizophrenia (Lieberman et al, 1998). The investigators were interested in answering three questions; (1) Can paraprofessionals effectively conduct social skills training in ordinary clinical settings? (2) Do the skills learned in the training setting generalize to natural settings? and (3) Are the effects of skills training discernable when an active comparison group, such as occupational therapy, is used?

Eighty male outpatients with chronic schizophrenia despite maintenance pharmacotherapy were randomly assigned to either the social skills training treatment group or occupational therapy. Treatment sessions for both conditions were held 12 hours per week for 6 months. At the end of the 6-month intensive training period, case managers followed up patients in the community for 18 months. During follow-up, case managers were responsible for establishing a therapeutic alliance, providing crisis intervention, encouraging the patients' continued use of the treatment activities that the patient has received during the intensive phase, and consulting with social services and community agencies.

Patients' everyday functioning in the community was measured by the Independent Living Skills Survey or ILSS (Wallace, 1986). The ILSS measures the utilization of specific skills in 10 domains for community adaptation over the past 6-

months, and has been validated and shown to be reliable (Wallace et al., 1999).

Examples from the ILSS are depicted in Table 2.

-----Insert Table 2 About Here-----

The ILSS was administered pre-treatment, after the 6-month intensive treatment phase, and in 6-month intervals thereafter for 18 months. Various other measures designed to assess psychosocial functioning and psychopathology were also administered. Data were analyzed using a mixed model, analysis of covariance (ANCOVA) for repeated measures. Total scores on the ILSS averaged over the 2-year follow-up period were significantly higher in the social skills treatment group ( $M = 7.22$ ,  $S.E. = 1.46$ ) than in the occupational therapy treatment group ( $M = 2.70$ ,  $S.E. = 1.50$ ) ( $F = 4.68$ ,  $df = 1,207$ ,  $p = 0.03$ ). The differences in ILSS scores between the two groups were greatest after the 6-month intensive treatment phase, and diminished over the following 18 months.

Results suggested that skills training can be effectively conducted by paraprofessionals. Skills learned in the training setting were generalized to real life settings, as seen by the improvement in everyday living skills. The improvement and generalization of skills was greater in the skills training group than in the occupational therapy group. The study also showed the gradual erosion of social skills in the community when environmental supports were not in place. This emphasizes the importance of creating opportunities, encouragement, and reinforcement for the utilization of skills in the community.



## Future Directions

If social skills' training is to improve social functioning, methods for promoting generalization must be developed and put into place. One such method is In Vivo Amplified Skills Training or IVAST (Blair et al, 1999). IVAST is a novel, systematic approach to promoting the generalization of social skills training in the community and to improve overall role functioning. This technique bridges the gap between clinic based skills training sessions by using specially trained assertive case managers to create environmental support, and help overcome obstacles to generalization of skills to the natural environment.

Assertive case managers conduct IVAST sessions in the community with individuals or small groups of patients. Each IVAST session is structured and based on 6 key tasks (Table 3). The six tasks of the IVAST sessions are operationalized in the IVAST trainer's manual in a structured format that parallels the seven learning activities in the SILS modules (Blair, 1994).

-----Insert Table 3 About Here-----

IVAST builds upon the PACT model of case management, but is more structured and time limited, using behavioral techniques to teach patients to function autonomously. The trained case manager works with individuals or small groups in the community to create personalized prompts and reinforcers for the utilization of specific skills. A caseload of 10-20 gives the trainer time to work individually with patients to set and achieve personal goals. The IVAST trainer collaborates with the clinic-based module trainer and the clinical team, as well as consults with the patients' natural support systems, family, community support agencies, and mental health agencies. This

community-based approach creates environmental modifications that promote opportunities, encouragement, and reinforcement, and reduce obstacles to generalization.

Although IVAST uses several principles that have been previously identified as important for the generalization of skills to the natural environment (Edelstein, 1989; Stokes & Osnes, 1989), there are some obstacles to the success of the IVAST procedure. These include varying levels of personal motivation, family involvement, community support, financial resources, premorbid functioning, and medication adherence (Blair et al., in press). Future efforts to promote generalization of specific skills must take into account these obstacles.

### **Conclusions**

Clinic and hospital-based social skills training has had demonstrable efficacy in achieving significant improvements in acquisition, generalization, and maintenance of specific skills in persons with schizophrenia. However, community based support for the use of these skills appears essential for the training to have a favorable impact on general dimensions of social adjustment. Further efforts should be made to develop methods for the promotion of generalization of skills to the natural environment. These can focus on the individual patient in the context of the environment. Clinicians must create opportunities, encouragement, and reinforcement that patients can receive for using their skills in the natural environment. In vivo training should incorporate modeling, repetition, problem solving skills, and role-playing in various settings. Methods employed to help overcome cognitive and learning deficits, such as neurocognitive training and cognitive remediation, can also help if such training is linked to the natural environment.

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Table 1. The Social And Independent Living Skills  
Modules (SILS) Available Through Psychiatric  
Rehabilitation Consultants.

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Medication Management Module

Symptom Management Module

Recreation for Leisure Module

Basic Conversation Skills Module

Workplace Fundamentals Module

Community Re-Entry Module

Substance Abuse Management Module

Friendship and Intimacy Module

Involving Families in Mental Health Services

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Table 2. Example items from each of the six categories on the Independent Living Skills Survey (ILSS).

Category	Example Item
Eating	Shows good nutritional habits (i.e., has fairly well-balanced diet—doesn't live on candy and soda) (without prompting)
Grooming	Bathes or showers using soap at least twice a week (without prompting)
Domestic Activities	Prepares simple foods requiring no mixing or cooking (e.g., sandwiches, cold cereal)
Health	Can reliably self-administer medication (times and dosage)
Money Management	Pays bills (including rent, food, clothing, transportation, recreation, and personal effects) (without prompting)
Transportation	Uses buses (without prompting)
Leisure	Works regularly on a hobby (without prompting)
Job-seeking or job-related skills	Contacts friends/ peers/ social worker/ employment agencies for job leads (without prompting)

Note. Each item is rated on a five-point scale ranging from “never” to “always” for the frequency of the behavior, and also on a five-point scale ranging from “never a problem” to “always a problem” for the degree of the behavior being a problem.

Table 3. Operationalized Tasks of a Structured IVAST Session.

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1. Utilize of behavioral techniques such as shaping, prompting, rehearsal, fading coaching and reinforcement with the patient to promote acquisition and maintenance of skills.
  2. Encourage the patient to maintain the primary responsibility for achieving his/her goal, while the trainer serves as a consultant to help the patient achieve success and autonomy
  3. Help the patient identify opportunities for developing support in the community.
  4. Teach the patient to approach every challenging situations the community using formal problem-solving orientation.
  5. Select module skills which are relevant to the client's life and inculcate these skills in the natural environment
  6. Assign IVAST homework to the patient to further reinforce use of skills in community settings
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Note. IVAST tasks listed above are cited from Blair et al., (1999). Tasks are operationalized in Blair (1994)