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Generalization of Social Skills Training for Persons With Severe Mental Illness

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Even though social and coping skills training strategies have been shown to diminish symptoms, improve functioning, and enhance the quality of life for individuals with severe mental illness, research suggests that many of the positive effects do not generalize to other settings and responses. Some have argued that the lack of generalization represents a fundamental flaw in skills training. Others have countered that generalization is not a naturally occurring result of skills training. Rather, transfer training skills need to be strategically incorporated into the training program to facilitate generalization. Five sets of transfer training skills are reviewed here: fading reinforcers, self-management strategies, judicious use of homework, recruiting significant others to participate in the generalization program, and cognitive rehabilitation. The impact of these strategies is highlighted in this paper.

Adults with severe mental illness who participate in social skills training programs reap numerous benefits (Liberman, DeRisi, & Mueser, 1989). They are hospitalized less, demonstrate fewer psychotic symptoms, and report a better quality of life as a result of their newly learned skills. Unfortunately, skills learned in these training programs frequently do not generalize outside of the treatment center where skills training occurred (Corrigan, Schade, & Liberman, 1992). For example, participants who show marked improvements in social skills at the day treatment program seem relatively unchanged at home. Critics believe this is a fundamental flaw in social skills training programs; the positive

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effects of these programs do not generalize to other settings. Proponents counter that this critique actually represents a misunderstanding of the process of generalization. Rather than being a naturally occurring event, generalization is a goal that needs to be actively targeted in the treatment program. Clinical investigators have developed several transfer training strategies that foster generalization of social skills. Readers are introduced to these strategies in this paper.

Social Skills Training

Persons with severe and persistent mental illness may lack social skills for many reasons. Skills that were learned during childhood and adolescence may not be readily available to the adult with severe mental illness. Positive symptoms like hallucinations, delusions, and formal thought disorder may impair the person's ability to correctly perceive and act on their social environment (Penn, Corrigan, Bentall, Racenstein, & Newman, 1997). Persons with negative symptoms like anhedonia, avolition, and asociality are disinterested in interpersonal contact and the skills to maintain this contact (Andreasen, Roy, & Flaum, 1995).

Other factors, experienced by persons in general, and not just individuals with severe mental illness, may also interfere with the generalization of social skills (Morrison, 1990). These include nonclinical emotional states like anxiety, sadness, and anger. These also include organic and body factors like physical attractiveness, motor skill, and physical fitness. These nonspecific factors must also be considered when developing strategies that foster the generalization of social skills. Many persons with severe mental illness have simply never learned the wide variety of social and coping skills that are needed to meet most interpersonal and instrumental goals (Corrigan et al., 1992). As a result, they have alienated family members and friends (Meeks & Murrell, 1994). Without social skills and support, persons with severe mental illness are vulnerable to life stressors and may suffer repeated relapses.

Social skills training helps adults who lack fundamental skills learn these skills so that they can build or regain their support network and better deal with life's demands. Social skills training is a rehabilitation strategy based on social learning theory that comprises four steps (Liberman et al., 1989; Morrison & Bellack, 1984).

1. The skills are briefly introduced to participants so they have a conceptual understanding of what is about to be learned.
2. Actors model the skill so that participants can vicariously learn them. Several professional videotapes are available for this purpose.[1]

[1] Readers who want to learn more about videotapes like these should contact Robert Liberman, Camarillo–UCLA, Psychiatric Rehabilitation Consultants, P.O. Box 6022, Camarillo, CA 93011-6022.

3. Participants are encouraged to behaviorally rehearse the newly learned skill during role plays. For example, participants learning basic conversation skills may be instructed to role play a conversation about local sports teams with an acquaintance on a bus. The best topics for conversation are those which both participants find interesting.
4. Social and material reinforcers are distributed for successful participation in the role play. Social reinforcers may include praise and public recognition for a job well done. Material reinforcers may include tokens or points that can be cashed in at the commissary for hygiene or food products.

Social skills training, when combined with appropriate doses of antipsychotic medication, have been shown to yield several benefits. As noted earlier, participants in skills training programs are less likely to be rehospitalized compared to persons with severe mental illness who have not completed these programs (Hogarty et al., 1986; Hogarty et al., 1991). Significant reductions have been noticed in psychiatric symptoms (Dobson, 1993; Wallace & Liberman, 1985), and significant increases were observed in social and coping skills (Eckman et al., 1992; Fecteau & Duffy, 1986; Liberman, Mueser, & Wallace, 1986). These improvements seem to have led to a marked improvement in quality of life (Liberman, Falloon, & Wallace, 1984; Marder et al., 1996; Marzillier & Winter, 1978; Vaccaro, Pitts, & Wallace, 1992). The overall effects of social skills training have been substantiated by two meta-analyses (Benton & Schroeder, 1990; Corrigan, 1991).

Generalization of social skills. Generalization is actually a multifaceted term that includes maintenance, situational generalization, and response generalization (Edelstein, 1989). Maintenance occurs when skills that are learned at a training program are remembered and performed accurately months or years later. Situational generalization, also referred to as stimulus generalization, means that skills learned in the training program are performed in settings outside the training milieu. For example, participants who use problem solving skills learned in the day hospital also use them at home to address disagreements with their parents. Response generalization is evident when subtle variants of trained skills emerge (e.g., socially phobic individuals who are taught to start conversations by saying, "Hi, how are you?" spontaneously say, "Nice day, isn't it?").

The maintenance of interpersonal skills probably interacts with situation and response generalization. A skill that is well-rehearsed in the training milieu is more likely to generalize to other situations and skills. Similarly, a skill that is used in other situations is likely to be maintained over time. Although maintenance interacts with situation and response generalization, we do not mean to imply that maintenance is a necessary condition for this kind of generalization. A person can learn an assertive skill during a skills training program and use it on the bus later that day.

Evidence for skill maintenance. Several studies have examined the various forms of generalization. Unfortunately, research in this area has waned; many of the studies cited here are more than 10 years old. Evidence regarding the durability of social skills has largely been positive when training has been sufficiently intensive and long term. Several studies have shown that acquired skills are still performed at adequate levels at 1- to 3-month follow-ups (Brown, 1982; Frisch, Elliott, & Atsnides, 1982; Jaffe & Carlson, 1976; Wallace, Boone, & Donahoe, 1985). Other investigations have shown that skills can be maintained for more than 1 year (Holmes, Hansen, & St. Lawrence, 1984; Kindness & Newton, 1984; Liberman et al., 1984; Longin & Rooney, 1975; Marder et al., 1996; Monti, Curran, Corriveau, DeLancey, & Hagerman, 1980).

Evidence for situational and response generalization. Findings from research on situational and response generalization were less sanguine. Some studies suggested that skills learned in one setting transferred to another (Falloon, Lindley, & McDonald, 1977; Goldsmith & McFall, 1975; Hersen, Eisler, & Miller, 1974; Liberman, Mueser, & Wallace, 1986; Matousek, Edwards, Jackson, Rudd, & Samuelson, 1991; McFall & Lillesand, 1971). For example, Wong and his colleagues (Wong, Martinez-Diaz, Massel, & Edelstein, 1993) were able to transfer basic conversational skills from a training group to more informal areas of the inpatient unit. This study incorporated active strategies to foster generalization to other settings. Most other studies, however, have failed to find situational generalization (Cole, Klarreich, & Fryatt, 1982; Frederiksen, Jenkins, & Foy, 1976; Hersen et al., 1974). The lack of significant results yields a bleaker picture of the impact of skills training on settings outside the training milieu.

Typically, studies on response generalization have examined whether specific skills learned during training sessions lead to a broader repertoire of skills. In particular, research on response generalization examined whether functioning within relatively independent behavioral domains, such as work or recreation, has improved. Early findings have been largely negative, however, failing to show transfer of trained skills to other domains of functioning (Bellack, Hersen, & Turner, 1976; Brown & Munford, 1983; Hersen et al., 1974; McFall & Lillesand, 1971; McFall & Twentyman, 1971).

Rationale for transfer training. This research suggests that the effects of skills training are typically maintained over time but do not seem to readily generalize to other situations or responses. Some have argued that failure to generalize skills to other responses and settings represents a fundamental flaw in social skills training (Kendall, 1989; Stokes & Osnes, 1989). Skinner (1953) implied in *Science and Human Behavior* that well-learned behaviors should automatically transfer to other situations and skills. In other words, situational and response generalization should be a natural result of acquiring new skills. A therapeutic intervention like social skills training must be flawed if generalization does not spontaneously occur. Others have responded to this view by arguing that gen-

eralization of social skills may not be a naturally occurring event (Stokes & Baer, 1977; Stokes & Osnes). In fact, more recent work suggests that the lack of skills transfer may be especially marked in severely mentally ill adults with significant cognitive deficits, deficits in attention, memory, decision making, and speech that characterize many severe mental illnesses (Corrigan & Storzbach, 1993). These deficits undermine their ability to perceive similarities between training environments and other situations, thereby impeding situational generalization. Moreover, cognitive deficits interfere with the creative process that leads to the generation of behaviors that are similar to trained skills (Trower, 1982).

This conclusion does not mean that adaptive behaviors learned in skills training groups will not generalize outside the training setting or to a broader repertoire of skills. Rather, it means that the generalization of social skills must be directly targeted by transfer training strategies. Skills trainers, therefore, must address two goals when helping individuals learn new skills: one that facilitates the original acquisition of skills and another that facilitates generalization.

Transfer Training Strategies

Skills trainers might use several group strategies (grouped into five categories in Table 1) that facilitate the generalization of interpersonal behaviors. Strategies in each category are described more fully in the remainder of this paper. Some of these strategies are useful for specifically helping program participants to maintain skills over time (e.g., reinforcement programs and self-management strategies). Others seem to facilitate situational generalization (homework, involving others, and cognitive rehabilitation) and response generalization (cognitive rehabilitation). Note, however, that the benefits of transfer training strategies are not limited to any one kind of generalization.

TABLE 1
STRATEGIES THAT FACILITATE THE TRANSFER OF SOCIAL SKILLS TO OTHER SITUATIONS AND BEHAVIORS

Homework	Self-Management Strategies
Plan out	Self-monitoring
Imaginal rehearsal	Self-evaluation
In vivo practice	Self-reinforcement
Involving Other People	Overcoming Cognitive Barriers
Families	Imaginal rehearsal
Peers and co-workers	Semantic encoding
Club houses	Problem solving and resource management
Maintaining the Effects of Reinforcement	
Variable schedules of reinforcement	
Using natural reinforcers	

Homework

One of the best ways to generalize social behaviors to situations outside the training milieu is to assign homework (Falloon et al., 1977; McFall, 1982). Trainers contract with individuals to practice social skills at important settings outside the treatment milieu: at home, at their part-time job, at church, or when visiting friends. Homework directs the skills training participant to rehearse the new skills in a setting with different social demands. For example, coworkers at the part-time job may have different interests (e.g., sports and politics) from friends at the skills training program (e.g., television shows). As a result, the participant needs to adapt the conversation skill to this setting.

Two sets of barriers might interfere with the individual's completion of homework exercises. First, the person does not have the support of peers and staff at the skills training program when trying the new skill at home. "Support" is an important mediator of generalization that includes nonspecific encouragement to attempt the new skill, gentle feedback about how the skill might be better attempted in the future, and explicit reinforcement for successful attempts. Support persons are trying to shape behavior. Early attempts are likely to be clumsy; however, this attempt is probably a closer approximation to the ultimate goal. Second, cognitive deficits or interpersonal anxiety commensurate with severe mental illness may interfere with generalizing the behavior. For example, it is difficult to remember the components of an "introduction" skill when individuals are slightly confused as a result of social anxiety.

Fortunately, the therapist may draw on several techniques to help program participants complete their homework. Participants need to plan their homework in detail before attempting it. For example, Betty, who is planning to practice a 3-minute conversation skill, needs to determine the following: what she is going to say, when she is going to have the conversation, where, and with whom. Each of these questions suggests costs and benefits. For example, "Perhaps having a friendly phone conversation with your mother at 3 a.m. is unwise because she has to get up for work at 6 a.m." Helping Betty weigh the advantages and disadvantages of various decisions that comprise a homework assignment assures that she avoid punishing consequences to the homework (e.g., Betty's mother scolds her for calling so late).

Imaginal rehearsal also helps participants prepare for their homework. In this exercise, trainers instruct participants to imagine the homework exercise that they have planned out in detail. "Betty, close your eyes and imagine that you are having your break at work with your friend Clarence. You are sitting behind the table and Clarence just walked up with his cup of coffee. You have prepared to talk to him about sports, and after he sits down you begin the conversation." Trainers help program participants imaginally rehearse homework assignments by providing clear word pictures of the homework scene (e.g., describe in detail what Betty would see and hear in the cafeteria with Clarence).

Homework is often facilitated by the trainer accompanying participants into their community to practice new skills. During in-vivo practice, trainers offer support to participants if they become anxious about the homework task. Trainers can also prompt program participants about appropriate responses should they forget the skills. Family members and friends may also be recruited to help participants with their homework by accompanying them to practice settings.

Involving Other People With Whom Program Participants Regularly Interact

Family members, friends, coworkers, residential staff, and others with whom the program participant regularly interacts are essential resources for generalizing skills. These persons need to be actively included in the skills training plan. In particular, research has shown that families who learn basic information about the illness, and who master communication and problem-solving skills, are better able to help the participant meet the demands of independent living (Anderson, Reiss, & Hogarty, 1986; Falloon, Boyd, & McGill, 1984). Parents and siblings, who themselves have mastered these social skills, are then able to shape appropriate skills in sons and daughters with severe mental illness. For example, Harriet has been learning the assertive skill "Saying no!" at the training program. Her parents were then instructed to model the skill at home with others, "No, Frankie, you may not use the car," and with Harriet "No, Harriet, you may not smoke in the living room." The family was told to encourage Harriet's use of this assertiveness skill: "That's right, Harriet. Tell Jim you do not want to lend him five dollars." Family members have also been used to help participants complete homework assignments from skills training programs.

Future research needs to determine whether the strategies used to assist family members might also be used to help key persons in other systems work with the program participant. Perhaps coworkers or peers at a residential program might be enlisted to provide support and direction to participants who are trying to use social skills in strange settings. One setting that may be especially useful for encouraging the practice of interpersonal skills is the psychosocial clubhouse (Beard, Propst, & Malamud, 1982). These member-run programs are especially organized to provide opportunities and support for participants to try out new skills.

Maintaining the Effects of Reinforcement Programs

Bandura (1971) distinguished between acquiring new skills through vicarious observation and performing these skills when appropriately reinforced. Social skills training programs help participants acquire new skills. Reinforcement strategies motivate participants to subsequently use these skills (Corrigan, Davies-Farmer, Lightstone, & Stolley, 1990). A token economy may be added to a skills training program for this purpose (Ayllon & Azrin, 1968; Corrigan, 1995), where participants are paid points for performing targeted behaviors.

For example, participants learning medication management skills are paid 10 points when they correctly read the prescription label before taking their medications each day. These points can then be exchanged for various commodities and privileges.

Unfortunately, many participants may not maintain new skills after the incentive program is discontinued: "Why should I continue my hygiene skills when I'm no longer paid for it?" Several strategies can diminish the impact of suddenly cutting short incentive programs. Typically, participants are reinforced using a frequent and regular schedule when they first begin an incentive program. For example, participants receive points every hour they use a problem-solving skill at the halfway house. The frequency of payment is diminished as they master the new skill: from every hour, to once a day, and then to once a week. Weekly payments resemble a regular paycheck and are easier to maintain in some programs.

Incentive programs have been criticized because participants are unable to maintain their social behaviors after the incentives cease (Corrigan, 1995). Some programs have tried to diminish these problems by changing the schedule of reinforcement from a fixed to a variable schedule. In a fixed schedule, participants are paid, for example, every 3 hours they perform basic conversation skills. In a variable schedule, participants are paid, on average, every 3 hours; in actuality, they may be paid after 4 hours, then 1 hour, then 2 hours, then 5 hours. Because of this seemingly random pattern, participants are less aware of the frequency with which reinforcements come and, therefore, less likely to give up a behavior when reinforcements fade away.

Clinical researchers have argued that the best reinforcements for any skill are those that naturally arise from doing that skill (Kazdin, 1982; Stokes & Osnes, 1989; Tharp & Wetzel, 1969). Points and commodities that support a token economy tend to be somewhat artificial and, therefore, soon lose their power to maintain interpersonal skills over time. Participants who perceive social and coping skills as helping them accomplish personal and meaningful goals are more likely to return to these skills later in life. Natural reinforcement and consequences are accessed best by incorporating persons and situations involved with the client into reinforcement programs. For example, Fred found that money management skills helped him live independently in his apartment and, therefore, used the skills frequently. Therapists may need to highlight the association between performance of the skill and environmental consequence: "Penelope, did you notice that people were more friendly at the social club when you used your new conversation skills?"

Although incentive programs seem to improve the participants' performance of social skills, these programs decrease the likelihood that new skills will generalize to other settings (Glynn & Mueser, 1986; Kazdin, 1982). For example, program participants are unlikely to use medication management skills at their halfway house because this residential program lacks the incen-

tives used at the skills training program. One way to generalize the combined effects of skills training and incentive therapies is to have other systems also set up potent reinforcement programs. For example, Falloon and his colleagues (Falloon et al., 1984) taught family members to set up reinforcement programs so that participants were motivated to improve their skill level at home. Similarly, residential and vocational programs might develop a token economy or therapeutic contracting system to motivate individuals to use new skills. Staff members might then select from various social and tangible reinforcers to motivate participants.

Self-Management Strategies

Another way to maximize the effects of incentive plans is to have participants manage their own reinforcement programs (Corrigan et al., 1992; Kanfer & Gaelick-Buys, 1991; Rehm, 1984). Reinforcers that are under self-control are not likely to diminish with the whims of program staff. Self management typically includes three components: self monitoring, evaluation, and reinforcement. Self-monitoring involves observing one's own behaviors, the situations in which these behaviors occur, and the consequences that follow. Observable skills, such as basic conversation, as well as internal events like the beliefs that coincide with conversation ("Other people think I'm odd and don't want to talk to me!"), are the targets of self-monitoring and subject to change.

Self-evaluation represents a participant's estimate of his or her skill performance, observed during self-monitoring, compared to some internal or external criteria. "Harry smiled at me after I talked with him, so my conversation skills must have worked well." It is important that performance criteria be realistically attainable. For example, "requiring everyone to be my close friend" is an unlikely goal for basic conversation and should be revised. In addition, performance of a social behavior should be attributed to internal causes ("I talked well") versus external causes ("I was lucky. Harry was a nice guy") (Rehm, 1984).

Self-reinforcement refers to the administration of overt reinforcements for performing a specific skill that meets an internal criterion: "I get an extra hour of TV tonight because I started conversations with three coworkers today." Covert reinforcers are also effective (Rehm, 1977). For example, a participant might tell himself, "I did a good job with my meds" when he self-administers his medication correctly. Participants might also imagine themselves living independently because of successful medication management skills. Self-reinforcement supplements external reinforcers and serves to maintain appropriate functioning when external reinforcers are delayed or unavailable.

One of the assumptions of self-management strategies is participants have sufficient cognitive skills to manage the various strategies. For example, participants using self-evaluation skills have to be able to regularly attend to their behaviors and maintain a detached perspective so that they can appropriately critique them. Research suggests, however, that many persons with schizophrenia

have poor insight into their disorder such that self-management strategies are difficult to successfully complete (Amador, Strauss, Yale, & Gorman, 1991; Harrow, Lanin-Kettering, & Miller, 1989). Poor insight may be significantly exacerbated by cognitive deficits. Therefore, cognitive deficits need to be addressed so that the effects of transfer training strategies are enhanced.

Overcoming Cognitive Barriers to Generalization

Persons with severe mental illness are often hampered by cognitive deficits, including problems with attention, memory, decision making, and expression (Corrigan & Yudofsky, 1996). Social and coping skills may not generalize to other settings because participants have difficulty recognizing similarities and discriminating differences between the training settings and other important situations. It is difficult to use a conversation skill at church on Sunday if the participant cannot identify the appropriate social cues and rules that suggest when and how this skill should be used (Corrigan & Green, 1993). Therefore, cognitive rehabilitation strategies that try to help participants resolve various information processing deficits may secondarily assist them in generalizing new skills to other settings (Hogarty & Flesher, 1992; Liberman & Green, 1992).

Researchers have attempted to remediate participants' deficits in attention, memory, and conceptual flexibility. Various reinforcement and punishment contingencies have been shown to significantly improve participants' attention to test stimuli (Karras, 1968; Meiselman, 1973; Rosenbaum, Mackavey, & Grisell, 1957; Wagner, 1968). Semantic encoding, in which subjects are instructed to remember word lists in terms of important dimensions (e.g., rate each word for pleasantness), has significantly improved the subsequent recall of these words. Monetary reinforcers and rule learning has improved participants' ability to flexibly manipulate concepts (Bellack, Mueser, Morrison, & Tierney, 1990; Green, Ganzell, Satz, & Vaclav, 1990). For example, subjects in a card sorting task were able to more accurately sort these cards when paid for correct sorts and when provided one of the rules that guide the sort (e.g., sort by color). Unfortunately, most of these studies on cognitive rehabilitation have been conducted in laboratory settings such that the ecological validity of their findings are questionable (Corrigan & Storzbach, 1993; Ellis, 1986). What does paying attention to numbers flashing on a computer screen have to do with an individual's ability to remember the bus route he takes to work?

Recently, researchers have enhanced the ecological validity of cognitive rehabilitation by trying to diminish the impact of cognitive deficits on learning psychosocial skills. An attention-focusing procedure has been shown to augment the acquisition and generalization of basic conversation skills (Liberman, Mueser, Wallace, Jacobs, et al., 1986; Massel, Corrigan, Liberman, & Milan, 1991; Wong & Woolsey, 1989). This protocol involved repetition of attentional prompts over the course of learning a new skill. An assistant began a trial by making a predetermined statement to the participant; e.g., "I went to a movie

last night." If no response or an inappropriate reply was made, the trainer prompted, "Ask her a question about her shopping trip." If the participant continued to respond incorrectly, the trainer tried a more directive level of prompts: "One good question is, 'What did you see?'"

Brenner and his colleagues (Brenner, Boker, Hodel, & Wyss, 1989; Brenner, Hodel, Roder, & Corrigan, 1992; Spaulding, 1994) have devised a more ambitious program to ameliorate the cognitive deficits of persons with severe mental illness. It is a hierarchical program that begins with rehabilitation exercises to remediate relatively "micro" deficits in information processing. Participants learn to discriminate stimulus categories by completing card-sorting tasks. The program moves participants from relatively laboratory-based tasks to social perception. In one exercise, participants must be able to discriminate important social stimuli from irrelevant distractions as depicted in slides of persons interacting. Participants who master these primary information processing tasks are ready to move to relatively molar social cognitive skills. At the highest end of the program, participants learn interpersonal problem-solving skills: how to identify problems that impede their interpersonal goals, brainstorm solutions to these problems, evaluate the costs and benefits of each solution, and develop an implementation plan for the selected solution.

Cognitive rehabilitation programs like these help participants with severe mental illness better comprehend their social environment. As a result, they are more likely to perceive similarities between the various settings in which they live so that they can transfer adaptive skills learned at the training program to these other settings. Individuals participating in these programs are also likely to better understand the rules and goals that govern interpersonal situations; this information enables them to generate novel twists on interpersonal behaviors, twists that better meet the demands of the situation.

Case Example

A case example will illustrate the effects of these transfer training strategies. Sarah had been attending the Opportunities Rehabilitation Program (ORP) for 6 months to learn skills that would help her better cope with schizophrenia. In this example, homework was used to help Sarah perform conversation and assertion skills in settings outside of the training milieu. The impact of homework was expanded further by involving her parents in transfer training and by setting up a self-management plan to try out the skills on her own.

Sarah was a 33-year-old single, white female who had been struggling with schizophrenia for the past decade. Sarah had lived in a variety of arrangements but now resides with her parents. She moved back home because she was unable to keep her roommates from staying up late, playing loud music, and disturbing her rest. Sarah had a long history of passivity and was easily exploited.

Sarah had done well in the first 6 months of the program, showing significant

increases in basic conversation, assertiveness, and problem-solving skills during role play exercises. She also seemed to be more confident and outspoken at the weekly ORP community meetings. However, her parents reported few changes at home. Although at ease with mother and father, she continued to be meek and shy when guests visited, typically hiding away in her room. She also was reluctant to travel out of the house in fear of unexpectedly meeting acquaintances.

Sarah's counselor, James Milner, developed an intervention plan to transfer improvements in social skills to settings outside the rehabilitation program. He added a homework assignment to every social skills program; Sarah was supposed to select two places from outside ORP (e.g., home, church, Aunt Lillian's house, corner store, the Acorn drop-in center, the late night gym) to practice the newly learned skills each week. Sarah was asked to tell James where she would practice and with whom before attempting her homework. James also had her imagine successfully completing the social skill in each setting.

Sarah successfully completed homework assignments about half the time. With Sarah's permission, James included her mother and father in the homework program. Her mother accompanied Sarah to her assignments for the first few weeks, per James' request. Sarah's mother had to prompt her through the exercise at first; "There's Millie. Now remember, you're to go up and ask her how she's been dealing with the hot weather." Soon, Sarah was able to complete these exercises without Mother's direct prompts, though knowing she was close by provided some assurance. Her father helped Sarah practice her assertiveness skills. They would review role play assertions she might make when living independently. Father also took Sarah to some friends of the family who own shops at the mall. The shopkeepers agreed to role play various interpersonal situations with Sarah.

Sarah showed excellent gains in social functioning with the help of her parents. James wanted to make sure, though, that she could continue these skills without relying on her mother and father. So he asked her parents to decrease their prompts and to urge Sarah to go alone to homework assignments. He also designed a self-management program for Sarah. First, Sarah was instructed to count the number of times she initiated conversations with people as a self-monitoring task. She was to keep track of conversations at home, ORP, and other places. Sarah found that she was initiating conversations about 8 times a day at ORP, 5 times at home, and only once or twice outside these two places.

Sarah then set a goal to increase her conversation outside ORP and home. She decided to do this by adding places where she felt comfortable talking one at a time. She set a goal of four or five conversations at church. When she reached this goal, she included Acorn drop-in center. She found a friend at Acorn—Millie—and so added conversations at her house. Sarah and James agreed that the best reinforcer for these goals were natural ones. She did not need to give

herself some kind of artificial reinforcement, like ice cream or a magazine, to meet her self-imposed goals. Just being able to talk to friendly people was enough.

Six months later, Sarah was talking and showing assertion skills at home, church, Acorn, and Millie's house. She was still shy at other settings; for example, a shop keeper at the mall told Sarah's dad she had been fairly quiet last time she was shopping with her mother. But Sarah was not trying to avoid people so much anymore. Sarah believed she was ready to live independently again and had been discussing sharing an apartment with Millie.

Summary

Research suggests that persons with severe mental illness are readily able to learn basic social and coping skills. These skills seem to be readily maintained over time. Situational and response generalization, however, do not naturally occur after learning new skills. Rather, the skills training team needs to use a variety of clinical strategies that might facilitate the participants' generalization of skills. Judicious use of homework, including significant others in the training plan, fading reinforcers, self-management strategies, and cognitive rehabilitation are all techniques that may facilitate generalization. These strategies need to be strategically incorporated into the skills training program from the beginning.

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