<table>
<thead>
<tr>
<th>Author/Year</th>
<th>Study Objectives</th>
<th>Level/Design/Participants</th>
<th>Intervention and Outcome Measures</th>
<th>Results</th>
<th>Study Limitations</th>
</tr>
</thead>
</table>
| Anzai et al. (2002) | To examine effectiveness of the Community Reentry Model when adapted for Japanese psychiatric patients in teaching the knowledge and skills required to live and participate in the community | Level I RCT                | Intervention  
Group 1: Community Reentry Module, a highly structured curriculum that consists of sessions on medication, relapse, finding housing and psychiatric care in the community, reducing stress, and coping  
Group 2 (control): Conventional occupational rehabilitation program; consists of arts and crafts, reality-orientation groups, and work assignments in the hospital  
Outcome Measures  
Hospital discharge rates  
Rehabilitation Evaluation Hall and Baker (REHAB) Scale  
21-item instrument from Community Reentry Module | Group 1 had significant increase in knowledge and skills on a 21-item instrument at 1-yr follow-up. Group 2 showed no significant gains.  
10 of 14 Group 1 members were discharged from the hospital; only 3 Group 2 members were discharged.  
At 1-yr follow-up the Community Reentry group lost some skills but were still significantly higher than baseline  
On the REHAB scale, Group 1 had improved scores; Group 2 had no change. | Small group sizes  
Conducted in Japan  
Focus of measurement was medication management that was specifically taught to one group but not the other |
| Bartels et al. (2004) | To assess the effectiveness of a combined ST and HM intervention for older adults with severe mental illness | Level II Nonrandomized controlled trial | Intervention  
ST: Hour-long group skills training 2x/wk adapted from manualized skills training programs delivered by a nurse case manager  
HM: Assessment and monitoring of routine and chronic health care needs and promotion of preventive health care  
Delivered by same nurse case manager  
Outcome Measures  
Independent Living Skills Survey  
Social Behavior Schedule  
Brief Psychiatric Rating Scale  
Scale for the Assessment of Negative Symptoms  
Geriatric Depression Scale  
Mini-Mental State Exam  
Preventive health care | After 1 yr, the HM + ST group had better functional outcomes with medium to large effect sizes with respect to independent living skills, social skills, and health management compared with those receiving HM alone.  
After 2 yr, both groups had improved preventive health care. | Lack of randomization  
Pilot study had a small sample size. |
<table>
<thead>
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<tbody>
<tr>
<td>Bickes, DeLoache, Dicer, &amp; Miller (2001)</td>
<td>Examine the effectiveness of occupation-based verbal therapy vs. occupation-based experiential therapy on the money management skills of consumers of community mental health services</td>
<td>Level II Nonrandomized controlled trial Participants N = 14 consumers from a community mental health day support program Diagnoses included schizophrenia, personality disorders, and mood disorders</td>
<td>Intervention COPM was administered to determine which occupation clients were most interested in. Clients identified money management. Group 1: Occupation-based experiential group Group 2: Occupation-based experiential group Occupational therapy groups conducted 3×/wk for 2 wk by two certified occupational therapy assistant students.</td>
<td>No significant difference was found between the verbal group and the experiential group on the COTE or the MEDLS. Overall performance of both groups improved significantly on the COTE but did not improve significantly on the MEDLS.</td>
<td>Short time frame of intervention may have been inadequate to allow for experiential learning to occur. Small sample size Lack of control group Experiential groups occurred in simulated environment instead of community.</td>
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<tr>
<td>Brown, Goetz, Van Sciver, Sullivan, &amp; Hamera (2006a)</td>
<td>To examine the efficacy of a psychiatric rehabilitation weight loss program</td>
<td>Level II Nonrandomized controlled trial Participants N = 36 participants from a support program for people with psychiatric disabilities with a BMI ≥ 25 n = 21 experimental group n = 15 control group</td>
<td>Interventions Experimental group: 12-wk manualized intervention combining evidence-based weight loss and psychiatric rehabilitation strategies Control group: Participants recruited after start on experimental group—no intervention provided</td>
<td>At follow-up, the intervention group improved significantly on body weight, BMI, waist circumference, and the physical activity subscale of the Health Promoting Lifestyle Profile II. The intervention group lost 6 lb, and the control group gained 1 lb. There were no differences between groups at follow-up for blood pressure, total and nutrition subscale of the Health Promoting Lifestyle II.</td>
<td>Small sample size, lack of randomization</td>
</tr>
<tr>
<td>Cook et al. (2010)</td>
<td>To evaluate the outcomes of statewide initiatives to teach self-management of mental illness to people in mental health recovery</td>
<td>Level III Pretest–posttest design Participants N = 341 participants in a peer-led self-management program in Vermont and Minnesota</td>
<td>Intervention Wellness Recovery Action Planning (WRAP), in which participants identify internal and external resources for facilitating recovery and use these tools to create an individualized plan</td>
<td>Significant changes were observed in both WRAP programs on post-test in hopefulness for recovery, warning signs of decompensation, use of wellness tools, awareness of symptom triggers, having a crisis plan and a plan for dealing with symptoms, having a social support system, and the ability to take responsibility for wellness.</td>
<td>Two programs used slightly different outcome measures. No follow-up after the completion of the program Survey measure has not been tested. Lack of control group</td>
</tr>
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</table>
Dilk & Bond (1996) To analyze the effectiveness of skills training for people with severe mental illness

**Level I**

**Meta-analysis**

Articles published between 1970 and 1992, doctoral dissertations, and master’s theses

Studies with at least 5 participants, Levels I, II, and III

**Intervention**

Training programs taught these skills: general interpersonal, assertiveness, prevocational, ADLs, microinterpersonal, dating, affective management, cognitive.

Training approaches were either behavioral or cognitive–behavioral. Settings included both inpatient and outpatient.

**Outcome Measures**

Skill acquisition, symptom reduction, personal adjustment (GAFS), hospitalization, vocational readiness

Sixty-eight studies were included in the review. Skills training was found to be moderately to strongly effective in teaching inpatients interpersonal and assertiveness skills and reducing psychiatric symptoms. Effect sizes varied by outcome measures, with context-specific measures resulting in larger outcomes than skill usage and role functioning.

Research studies rarely evaluated use of trained skills.

Limited number of studies examining skills training in settings other than psychiatric hospitals

Many of the outcome measures were similar to the studied interventions, so the authors warn against the generalizability of the results.

Gender and ethnicity were not evenly represented.

Duncombe (2004) To answer the question, is there a difference between learning the functional living skill of cooking for people with serious and persistent schizophrenia when it is taught in a clinic or in their home

**Level I**

**RCT**

**Participants**

*N* = 44

Diagnosis of nonparanoid schizophrenia or schizoaffective disorder living in group homes or supported apartments that had kitchens available

Participants were assigned in 22 pairs matched on cognitive level and randomly assigned to one of two groups.

**Intervention**

Group 1: Cooking skills training in the home

Group 2: Cooking skills training in the clinic

Participants received treatment individually 4× in the designated context with a 1-wk lapse between each session.

**Outcome Measure**

KTA–M

Both groups posted significant improvement between their pretest and posttest scores on the KTA–M. The results did not show a significant difference in the level of learning between the two groups in the different contexts.

Qualitative differences in the two settings may have affected the results. The clinic was quiet with minimal distractions. The kitchens in the group homes were cluttered and distracting. Multiple intervention sites resulted in inconsistencies in the research. The KTA–M may have had a ceiling effect.

Frank et al. (2005) To compare interpersonal and social rhythm therapy (IPSRT) and intensive clinical management (ICM) in the treatment of bipolar I disorder.

**Level I**

**RCT**

*N* = 175 participants with a lifetime history of bipolar Type I disorder or schizoaffective disorder, manic type; *n* = 43 ICM/ICM

Acute/maintenance phase: *n* = 45 ICM/IPSRT

*n* = 48 IPSRT/ICM

*n* = 39 IPSRT/IPSRT

**Interventions**

Participants randomized to groups based on ICM or IPSRT in the acute phase followed by ICM or IPSRT in the maintenance phase.

IPSRT stresses the importance of maintaining daily routines and identifying potential rhythm disruptors.

ICM is a manual-driven approach to the medical management of no difference between groups in time to stabilization was found.

Participants in IPSRT in the acute phase survived longer without a new episode regardless of treatment approach in the maintenance phase. In addition, those in IPSRT had higher regularity of social rhythms at the end of acute treatment.

Variables that were later found to be associated with outcome, such as marital status and medical burden, were not distributed equally among the maintenance study conditions.

(Continued)
## Supplemental Table 1. Selected Articles on Recovery in Community Integration and Normative Life Roles (cont.)

<table>
<thead>
<tr>
<th>Author/Year</th>
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<tr>
<td>Glynn et al. (2002)</td>
<td>To compare the effectiveness of clinic-based skills training with skills training augmented with formal practice within the community to demonstrate generalizabilities</td>
<td>Level I RCT</td>
<td>bipolar disorder that includes education about the disorder, medications, and sleep hygiene and nonspecific support.</td>
<td>Participation in clinic-based plus in vivo amplified skills training was associated with significantly greater improvements in instrumental role functioning and overall adjustment as assessed with the Social Adjustment Scale–II. Both conditions showed improvements on the Quality of Life Scale instrumental role, intrapsychic motivation, common objects, and overall composite scores.</td>
<td>28% loss of participants over 60 wk without clear explanation of intent-to-treat analyses</td>
</tr>
<tr>
<td>Granholm et al. (2005)</td>
<td>The comparison of usual treatment vs. usual treatment plus cognitive–behavioral social skills training on social functioning, psychotic and depressive symptoms, cognitive insight, and skill mastery</td>
<td>Level I RCT</td>
<td></td>
<td>At end of 6 mo, participants in the cognitive–behavioral social group performed social functioning activities more frequently than the other group; however, they showed no significant improvement when performing everyday functional activities after treatment.</td>
<td>Authors reported a moderately small sample size; exclusion of patients with comorbid conditions may limit generalizability.</td>
</tr>
</tbody>
</table>
The American Journal of Occupational Therapy

Grawe, Falloon, Widen, & Skogvoll (2006)  
To evaluate the benefits derived from continued integrated biobehavioral and psychosocial intervention for recent-onset schizophrenia  

Level I  
RCT  

Participants  

N = 50 people with schizophrenia.  
IT: n = 30  
Standard treatment:  

n = 20  

Intervention  

Standard treatment: Patients received regular clinic-based care management with antipsychotic drugs, supportive housing and day care, crisis inpatient treatment, rehabilitation that promoted independent living and work activity, brief psychoeducation, and supportive psychotherapy.  
IT: Patients treated by multidisciplinary team independent of the standard treatment program. In addition to standard treatment, IT cases received structured family psychoeducation, cognitive-behavioral family communication and problem-solving skills training, intensive crisis management provided at home, and individual cognitive-behavioral strategies for residual symptoms and disability.  

The results indicate that those in the ST group had more skills acquisition and generalization than those in the control group. There was no statistically significant difference between groups for quality of life, carer burden, adherence to medication, and attitude toward medication. Rehospitalization and family measures had no statistical significance between groups; however, more people were rehospitalized in the control group at 9- and 15-mo reports.  

To evaluate the effectiveness of a skills training program designed to teach disease management to Latinos with schizophrenia treated in a community mental health center  

Level I  
RCT  

Participants  

92 Latino outpatients 18–60 yrs old and family members  
ST group: n = 45; 39 completed  
Customary outpatient care: n = 47; 45 completed  

3 mo skills training or customary care then followed for a total of 9 mo. Program was culturally adapted through input of patient’s key relatives.  

Outcome Measures:  

- PANSS  
- LA County Department of Mental Health  
- Management Information System  
- Independent Living Skills Survey  
- Quality of Life Interview  
- Rating of Medication Influences Scale  

The results indicate that those in the ST group had more skills acquisition and generalization than those in the control group. There was no statistically significant difference between groups for quality of life, carer burden, adherence to medication, and attitude toward medication. Rehospitalization and family measures had no statistical significance between groups; however, more people were rehospitalized in the control group at 9- and 15-mo reports.  

Moderately small sample size  
Relatively limited follow-up
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<thead>
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| Kurtz, Seltzer, Shagan, Thime, & Wexler (2007) | To evaluate the effects of a treatment with computer-assisted cognitive remediation that included explicit training in attention verbal and nonverbal working and episodic memory and language processing exercises | Level I RCT; single blind                                                                 | Intervention 12 mo standardized course of cognitive remediation consisting of a sequence of computerized cognitive exercises designed to improve attention, verbal and nonverbal memory and language processing through repeated drill and practice.  
Control: Similar exposure to computer and clinician, with nonspecific cognitive challenge  
Outcome Measures  
- Working memory: Digit Span, Arithmetic and Letter-Number sequencing subtests from the WAIS-III  
- Verbal episodic memory: Logical memory  
- Speed of information processing: Digit Symbol and Symbol Search subtests from the WAIS-III, Trail Making test, Grooved Pegboard and Letter Fluency  
- Visual episodic memory: Rey Complex Figure Test, Reasoning, Penn Conditional Exclusion Test, Booklet Category Test | Cognitive remediation yields significant improvement in working memory.  
Other domains show similar progress across both groups.  
No significant differences were evident between cognitive remediation or computer skills training groups for demographic, clinical, or treatment variables. Analyses of variance for each of the 5 neurocognitive domains revealed main effects of time for working memory, verbal episodic memory, spatial episodic memory, processing speed and reasoning and executive function, suggesting that participants in both groups improved. | Small sample size  
Relationships among some variables remain unclear.  
Study did not include an independent measure of cognitive challenge based on performance of functional activity. |
| Liberman et al. (1998)   | To compare community functioning of outpatients with severe and | intervention and role playing based on skills modules  
For family participants:  
- Patients Future Scale  
- Miller Hope Scale  
- Five Minute Speech Sample  
- Camberwell Family Interview  
- Family Burden Interview Schedule | | | |
persistent form of schizophrenia following treatment with occupational therapy or skills training

Level I
RCT, blinded

Participants
84 community men living with persistent forms of schizophrenia
Mean age = 37.1

Intervention
6 mo intensive clinic-based treatment in 1 of 2 groups

Skills training: Modules taught by an occupational therapist and paraprofessionals included: basic conversation, recreation for leisure, medication management, and symptom management

Psychosocial occupational therapy: Expressive, artistic, and recreational activities

Outcome Measures
- Independent Living Skills Survey
- Social Activities Scale
- Profile of Adaptation to Life

Marder et al. (1996)
To determine the effectiveness of behaviorally social skills training versus supportive group therapy in supporting the development of social adjustment in participants with schizophrenia

Level I
RCT

Participants
N = 80 community-dwelling patients with schizophrenia. All had at least 2 acute episodes of schizophrenia or symptoms lasting for at least 2 yrs.
Skills training: n = 43
Supportive group therapy: n = 37

Intervention
Group 1: Behaviorally oriented social skills training group
Group 2: Supportive group therapy
Both groups participated 2×wk for 6 mo and weekly for 18 mo.

Outcome Measures
- Social Adjustment Scale II
- Psychotic exacerbation

Participants in the social skills training group performed significantly better on the total scores of the Social Adjustment Scale II and on the personal well-being subscale. The advantage of social skills group was greatest when combined with active drug supplementation. Groups showed no difference between them for psychotic exacerbation.

McGurk, Twamley, Sitzer, McHugo, & Mueser (2007)
To evaluate the effects of cognitive remediation for improving cognitive performance, symptoms, and psychosocial functioning in schizophrenia

Level I
Meta-analysis

Participants
26 RCTs with 1,151 patients with schizophrenia, schizophreniform disorder, or schizoaffective disorder

Intervention
Studies included were of psycho-social interventions designed to improve cognitive performance.

Outcome Measures
Meta-analysis included studies with at least 1 neuropsychological measure that examined generalization of effects rather than assessment on trained tasks only.

The results indicated significant improvements for all outcomes. Cognitive performance and psychosocial functioning showed medium effect sizes and symptoms showed a small effect size. The effects of cognitive remediation on psychosocial functioning were stronger for those studies that paired cognitive remediation with psychiatric rehabilitation, rather than for those that examined cognitive remediation alone.

Moriana, Alarcon, & Herruzo (2006)
Determine the outcomes and effectiveness of a social and independent living skills intervention developed by Liberman, Wallace, Blackwell, Kopelowicz, Vaccaro, &

Level II
Non-RCT

Intervention
In-home social and independent living skills program including the following components: medication and symptom management,

PANSS scores showed a significant Phase × Treatment interaction effect for the intervention.

Limited outcome measures
Lack of randomization

Limited number of studies addressing long-term follow-up

Continued
| Author/Year        | Study Objectives                                                                                                                                                                                                 | Level/Design/Participants                                                                 | Intervention and Outcome Measures                                                                 | Results                                                                                                                                                                                                                     | Study Limitations                                                                                                                                                                                                 |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mintz (1998)      | Provided in an in-home setting in Spain                                                                                                                                                                          Participants:  
N = 64 patients with schizophrenia recruited from a mental health facility in Spain  
All patients were receiving outpatient psychiatric treatment and neuroleptics.  
n = 32 in each group                                                                                           | Recreation for leisure, basic conversational skill, and community reentry                  | Control: Participants attended day treatment program  
Outcome Measure: PANSS                                                                                                                                                                                                 | Very expensive to carry out because of the intensity of the contacts |
| Schindler (1999)  | To examine the effectiveness of an activity group, structured discussion, and control group for social interaction skills of persons with psychiatric disabilities | Level II                                                                                   | Intervention:  
Activity group: Guided purposeful tasks to provide a focus for skill development  
Structured verbal discussion: Set topic or agenda (e.g., use of leisure time)  
Control group: Provided with table games  
All took place 5 times/wk for 2 wk                                                                                       | Outcome Measures  
- Global Assessment Scale  
- Social Functioning Index  
The activity group showed a significant improvement in social interaction skills compared with the structured verbal discussion and control groups. | Small sample size  
Other activities may have been taking place during study period. |
| Schindler (2005)  | To examine whether adults diagnosed with schizophrenia demonstrated improved task, interpersonal skills, and social roles when involved in a individualized intervention based on the Role Development Program (RDP), in comparison to an intervention based on a multidepartmental activity program (MAP) | Level II                                                                                   | Intervention:  
Group 1 (comparison): MAP—a nonindividualized, therapeutic intervention designed to encourage the productive use of time and socialization in a group setting. Does not address social roles or skills imbedded in social roles  
Group 2 (experimental): RDP—an enhancement of the MAP—uses individualized theory-based interventions to help each participant develop task and interpersonal skills within meaningful social roles.  
Frequency: Both groups received 15 min/wk of individual attention. Other meeting times are not reported. | Participants in the RDP demonstrated greater improvement in social roles, task skills, and interpersonal skills than did participants in the MAP. | Results may not generalize to other treatment settings.  
Staff involved in the RDP may not be typical of staff in other treatment settings.  
Full validity studies had not been conducted on two of the assessment instruments. |
<table>
<thead>
<tr>
<th>Study (Year)</th>
<th>Objective</th>
<th>Study Design</th>
<th>Sample Size and Characteristics</th>
<th>Intervention</th>
<th>Outcome Measures</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starino et al. (2010)</td>
<td>To examine the effect of participating in an illness self-management recovery program on the ability of participants with severe mental illness to achieve key recovery-related outcomes</td>
<td>Level III</td>
<td>Pretest–posttest design; $N = 30$ adults with severe mental illness at 3 mental health centers in the Midwest</td>
<td>Participation in a WRAP group, peer-led sessions that focus on wellness tools, creating a list of daily maintenance activities, identifying illness triggers and early warning signs, and developing a crisis plan</td>
<td>Role Functioning Scale, Task Skills Scale, Interpersonal Skills Scale</td>
<td>Small sample size, lack of control group, limited follow-up period</td>
</tr>
<tr>
<td>Tungpunkom &amp; Nicol (2008)</td>
<td>To review the effectiveness of life skills programs with standard care or other comparable programs therapies for people with chronic mental health problems</td>
<td>Level I</td>
<td>Systematic review of 4 randomized trials; Participants: Total of 318 participants between ages 18 and 60 with mental illness (Dementia, substance abuse, alcoholism, organic brain syndrome, and serious suicidal risk were excluded).</td>
<td>The elements of life skills programs include training in managing money, organizing and running a home, domestic skills, and personal self-care and related interpersonal skills.</td>
<td>State Hope Scale, Modified Colorado Symptom Index, Recovery Markers Questionnaire</td>
<td>Limited number of RCTs in this area. Studies included were short-term interventions.</td>
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</tbody>
</table>

**Note.** ADLs = activities of daily living; BMI = body mass index; COPM = Canadian Occupation Performance Measure; COTE = Comprehensive Occupational Therapy Evaluation; DSM–IV–TR = Diagnostic and Statistical Manual of Mental Disorders (4th ed., text rev.); GAF = Global Assessment of Functioning; HM = health management; IT = integrated treatment; KTA–M = Kitchen Task Assessment–Modified; MEDLS = Milwaukee Evaluation of Daily Living Skills; PANSS = Positive and Negative Symptom Scale; RCT = randomized controlled trial; ST = skills training; WAIS III = Wechsler Adult Intelligence Scale III.

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