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<tr>
<td>Bell, Bryson, Greig, Corcoran, &amp; Wexler (2001)</td>
<td>To evaluate the effects of neurocognitive enhancement therapy (NET) in combination with work therapy (WT) on performance on neuropsychological tests</td>
<td>Level I RCT</td>
<td>NET: Feedback form, Cognitive Functional Assessment, cognitive exercises for ≥ 5 hr/wk for 26 wk and a weekly social processing group Cognitive exercises involved repeated practice on computer-based exercises for attention, memory, and executive function. Outcome Measures: Neuropsychological testing: Portions of Wechsler Adult Intelligence Scale II and Wechsler Memory Scale–Revised, Hopkins Verbal Learning Test, Continuous Performance test, Wisconsin Card Sorting Test, Bell Lysaker Emotion Recognition Task (BLERT), Gorham’s Proverbs Test, Hinting task, Trail-Making Test B. Work performance: Work Behavior Inventory, Work Personality Profile, Cognitive Functional Assessment Scale, Positive Negative Syndrome Scale.</td>
<td>The results indicate significant improvements in neuropsychological functioning for the NET + WT group. Affect recognition and working memory improved more for the NET + WT clients. For this group, the percentage of normal scores on the BLERT increased from 35% to 60% but declined for WT-only clients. Similarly, normal scores on the Digit Span Backward increased from 45% to 77% for the NET + WT group but declined for the WT-only group. NET + WT led to greater improvement in executive functioning. Normal conceptual-level responses increased from 39% to 48% for the NET + WT group compared with 29% to 42% for the WT-only group. Clients with non-perseverative error within the normal range improved from 45% to 52% for NET + WT clients and decreased slightly for WT-only clients. Tasks sensitive to conceptual and language disorganization and verbal–nonverbal secondary memory tasks did not show differential improvement for NET + WT.</td>
<td>This study did not control for the amount of productive activity in which clients could engage. Imaging studies were not performed that would have helped determine how NET + WT may have affected brain function or structure.</td>
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<td>Bond, Drake, &amp; Becker (2008)</td>
<td>To evaluate the effectiveness of the IPS of supported employment, limiting the review to those studies that have high fidelity to the program</td>
<td>Level I Systematic review</td>
<td>This updated systematic review examined longitudinal competitive employment, one of which used a high-fidelity IPS supported-employment model. Control group or groups must have received either services as usual or some form of vocational rehabilitation other than IPS.</td>
<td>The results of this review of 11 studies are consistent with earlier reviews but somewhat stronger because of high fidelity to the IPS model. The competitive employment rate was 61% for IPS compared with 23% for controls. Two-thirds of those in competitive employment</td>
<td>Lack of standardization in follow-up periods; relatively short follow-up period</td>
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Supplemental Table 1. Selected Articles on Mental Health (cont.)

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<td>Brown, Rempfer, &amp; Hamera (2002)</td>
<td>To identify strategies that support the acquisition of skills for independent living by examining a program designed to establish habit patterns related to grocery shopping skills</td>
<td>Level III Pretest–posttest Participants N = 38 Mean age = 40.2 yr Diagnoses of schizophrenia or schizoaffective disorder</td>
<td>Intervention 9 sessions included multiple strategies from a variety of learning theories used to teach grocery shopping skills. These strategies included repeated practice with feedback, motivational incentives, scripting of the process, situated cognition approaches, and cuing.</td>
<td>Outcome Measures Employment rates, days to first job, annualized weeks worked, and job tenure in longest job held during the follow-up period worked ≥20 hr/wk, and their first job was obtained almost 10 wk earlier than were controls'. For those in competitive employment, duration of job was approximately 0.5 yr.</td>
<td>Study Limitations No control group for comparison; limited information available on the demographics Specific details of the intervention were not provided, limiting replication of the study.</td>
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<td>Collins, Bybee, &amp; Mowbray (1998)</td>
<td>To evaluate the effectiveness of 3 supported-education program models</td>
<td>Level I RCT Participants N = 397: 135 in classroom condition, 134 in group condition, and 128 in individual condition Participants were recruited through Detroit mental health services with inclusion criteria of (1) a psychiatric disorder for ≥1 yr; (2) high school diploma or GED nearly completed; (3) interest in secondary education; and (4) willing to use mental health services if needed.</td>
<td>Intervention Participants received 2-hr orientation and were randomly assigned to 1 of 3 conditions: classroom, group, or individual. Classroom: In 14-wk semesters, 2.5-hr sessions/2× wk with academic supported curriculum with 3 objectives: managing campus, career exploration, and stress management Group: Aim was to support learning environment to explore career or education choices. 2 facilitators helped with use of educational resources. Individual: Control group. No structure or scheduled intervention. Participants assigned to staff to assist for own needs.</td>
<td>At graduation from the program, group members had the highest level of participation, followed by classroom and individual members. For the intermediate outcomes of motivation, satisfaction, enjoyment, and learning, those who had the highest levels of participation had the best outcomes on these measures. For the immediate outcomes of empowerment and self-efficacy, those in the classroom condition scored significantly higher than those in the group condition and then the individual condition. Although no differences were found in later involvement in jobs or school by condition, the number enrolled in educational or vocational programs was twice that at baseline.</td>
<td>High dropout rate Results were only taken from those whose completed graduation; therefore, results on outcomes may have differed if those who dropped out were interviewed. Information regarding reasons for dropping out may also be investigated.</td>
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Crowther, Marshall, Bond, & Huxley (2001)

To evaluate the effectiveness of prevocational training and SE in helping people with severe mental illness find and obtain competitive employment

Level I
Systematic review
Study included RCTs that compared prevocational training with SE or standard community care.

11 trials met inclusion criteria: 5 were prevocational vs. standard (1,204 participants); SE vs. standard care, 1 trial (256 participants); SE vs. prevocational, 5 trials (491 participants).

Outcome Measures
Number of participants in competitive employment
Other employment outcomes (form of employment, mean monthly hours worked, and mean earnings) were reviewed secondarily.

(1) Prevocational vs. standard: 2 studies showed no superior outcome in number in competitive employment. 3 trials showed no superior outcome in any form of employment.

(2) SE vs. standard: SE was combined with Assertive Community Treatment (ACT); significant difference supported SE at 24 mo in competitive employment, and any employment at 12 mo.

(3) SE vs. prevocational: significant support of SE in competitive employment at 4, 6, 9, 12, 15, and 18 mo in all 5 trials. 1 trial showed no significance in any form of employment. 3 trials showed significantly more hours in SE and more monthly earnings.

Cannot generalize to other countries that have different welfare structures
The addition of ACT to a SE group compared with standard care may confound the findings of studies included in the review.

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 participants
Diagnosis of nonparanoid schizophrenia or schizoaffective disorder
Duration of illness ≥5 yr
Mean age = 45.5 yr
40.9% (n =18) women; 59.1% (n =26) men
All lived in group homes or supported apartments that had kitchens available.

Intervention
Group 1: Cooking skills training in the home
Group 2: Cooking skills training in the clinic
Participants received treatment individually 4 times in the designated context with a 1-wk lapse between each session.

Outcome Measure
The Kitchen Task Assessment–Modified (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 2 groups in the different contexts.

Qualitative differences in the 2 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. A ceiling effect may have occurred for the KTA–M.

(Continued)
### Supplemental Table 1. Selected Articles on Mental Health (cont.)

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<td>Frank et al. (2008)</td>
<td>To evaluate the effectiveness of interpersonal and social rhythm therapy (IPRST) on occupational functioning for adults with bipolar disorder</td>
<td>Intervention: Participants were randomized to ICM or IPSRT groups 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.</td>
<td>Participants initially assigned to IPRST showed more rapid improvement in occupational functioning than those in ICM; at 2 yr there was no difference between groups. The effect was more pronounced for women.</td>
<td>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.</td>
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<tr>
<td>Gutman, Kerner, Zombek, Dulek, &amp; Ramsey (2009)</td>
<td>To assess the effectiveness of a supported education program (The Bridge Program) for adults with psychiatric disabilities</td>
<td>Intervention: The Bridge Program, which consists of 12 2-hr classroom–lab modules, including time management, stress management, study skills, reading, writing, computer, social skills, and exploration of educational–vocational skills, followed by 1 hr of mentoring. The program is held 2×/wk for 6 wk. Additional mentoring is offered to participants who complete the program. Faculty and graduate students at Columbia University’s Occupational Therapy program implemented the program.</td>
<td>16 of 21 participants completed the Bridge Program and at 6-month follow-up, 10 of 16 had enrolled in job training or educational program, had obtained employment, or were applying for a program. Only 1 of 17 control group participants was involved in coursework.</td>
<td>Small sample size</td>
<td>Lack of validity and reliability for the pretests and posttests for program modules.</td>
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<td>Gutman, Schindler, Furphy, Klein, Lisak, &amp; Durham (2007)</td>
<td>To assess the effectiveness of the Bridge Program, a supported education program for adults with psychiatric disabilities</td>
<td>Level III</td>
<td>Pretest/posttest</td>
<td>N = 18 participants with a diagnosis of mental illness receiving medication and stabilized for 1 yr; ages 24–50</td>
<td>The Bridge Program, a supported education program developed by the Occupational Therapy Program at Richard Stockton College. The program consisted of weekly sessions for 12 wk. Each session consisted of 2 hr of basic academic skills training (including time management, stress management, study skills, reading, writing, computer, social skills, and exploration of educational/vocational) followed by 1 hr of mentoring with an occupational therapy student.</td>
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<tr>
<td>Hutchinson, Anthony, Massaro, &amp; Rogers (2007)</td>
<td>To evaluate the success of a supported education/supported employment program for persons with psychiatric disabilities</td>
<td>Level III</td>
<td>Pretest-posttest study</td>
<td>N = 61</td>
<td>Training for the Future (TFTF) is a combined supported education and supported employment program at Boston University’s Center for Psychiatric Rehabilitation. The goals of the program are to teach computer skills and recovery coping strategies along with supported employment. A 10-mo classroom phase (4 days/wk, 9:30–3:15) consisted of morning</td>
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<td>McGurk, Mueser, Feldman, Wolfe, &amp; Pascaris (2007)</td>
<td>To evaluate the effectiveness of a cognitive training program for schizophrenia, the Thinking Skills for Work Program, that was integrated into SE services</td>
<td>Level I RCT</td>
<td>Participants worked up to 20 hr/wk over 17 wk and attended weekly 50-min group meetings that focused on work experience and offered job-related problem solving and support.</td>
<td>After a 2- to 3-yr follow-up period, those in the SE + Thinking Skills for Work program were more likely to work, held more jobs, worked more weeks, worked more hours, and earned more wages than participants in the SE-alone condition.</td>
<td>Sites varied with respect to fidelity to the SE model, Small group size, Lack of follow-up on cognitive measures.</td>
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<td>Mueser et al. (2005)</td>
<td>To evaluate the effectiveness of supplementary social skills training on improving work outcomes for clients enrolled in SE programs</td>
<td>Level I RCT</td>
<td><strong>Intervention</strong></td>
<td>The workplace fundamentals group showed significantly more improvement in the workplace knowledge than the control group.</td>
<td>The clients in this study had higher levels of education and longer job tenure histories than clients typically enrolled in SE services so the results may differ with clients who may be more in need of supplementary skills training.</td>
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<td><em>Group 1: SE (control group) includes rapid job search, individualized job matches, individualized and time-unlimited follow-along supports. 2 hr of support/wk avg.</em></td>
<td>There was a trend for more clients in the workplace fundamentals group to be working during the 18-mo follow-up, but it was not statistically significant. The groups did not differ in number of hours worked or wages earned.</td>
<td>Small sample resulted in low power to detect effects of the workplace fundamentals program on employment outcomes. Information on job satisfaction was not obtained; job satisfaction is a goal of the workplace fundamentals program.</td>
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<td><em>Group 2: SE + workplace fundamentals program—a manualized intervention designed to teach clients skills for succeeding in the workplace. Skill areas addressed include making work changes, learning about workplace stressors, problem solving, managing mental and physical health, improving job performance.</em></td>
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Phelan, Lee, Howe, & Walter (2006) To describe an Australian pilot group program for parents with a mental illness

**Level III**

**Pretest–posttest**

**Participants**

N = 19 parents completed (out of 29 participating in the program)

**Intervention**

Parenting and Mental Illness Group Program consisted of a 6-wk group program followed by 4 individual follow-up sessions. Interviews were conducted at intake.

**Outcome Measures**

Vocational outcomes: Hours worked, wages earned, and SE services used, tracked weekly; Workplace Fundamentals Knowledge Test

Approximately 3–4 mo to complete program

Monthly booster sessions were offered.

At posttest, 40% fewer parents were in the “intensity” clinical range, and 57% fewer were in “problem” on Eyberg. On the Parenting Scale, 26% fewer were in the clinical range for laxness, 45% fewer for overreactivity, and 33% fewer for verbosity.

Schindler (2005) To examine whether adults diagnosed with schizophrenia demonstrated improved task, interpersonal skills, and social roles when involved in an individualized intervention based on the Role Development Program (RDP), compared with an intervention based on a multidisciplinary activity program (MAP)

**Level II**

**Nonrandomized controlled trial**

**Participants**

N = 84 participants, 42 per group; 100% male with diagnosis of schizophrenia

**Intervention**

**Group 1 (comparison):** MAP is a nonindividualized, therapeutic intervention designed to encourage the productive use of time and socialization in a group setting. It does not address social roles or skills embedded in social roles.

**Group 2 (experimental):** RDP is an enhancement of the MAP that 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 were not reported.

**Duration:** Varied from 4, 8, to 12 wk

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 participants in 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 2 of the assessment instruments.

Symptoms and quality-of-life ratings were not obtained.
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<td>Tsang, Chan, Wong, &amp; Liberman (2009)</td>
<td>To evaluate the effectiveness of an ISE that combines IPS with SST for people with persistent and severe mental illness in Hong Kong</td>
<td>Level I RCT</td>
<td><strong>Intervention</strong>&lt;br&gt;<strong>Group 1</strong>: ISE combines IPS with SST, a program to improve social communication, social problem solving, and social functioning. The IPS program includes referral, relationship building, vocational assessment, individual employment plan, obtaining employment, and follow-along support. SST is initiated during vocational assessment. ISE and IPS groups were conducted by occupational therapists.&lt;br&gt;<strong>Group 2</strong>: ISE alone&lt;br&gt;<strong>Group 3</strong>: TVR included comprehensive vocational assessment and prevocational training.&lt;br&gt;<strong>Outcome Measures</strong>: Employment rate, job characteristics, job tenure, salary</td>
<td>After 15 mo of participation in services, the ISE participants had significantly higher employment rates and longer job tenure than those in IPS and TVR. Those in IPS had better employment outcomes than those in TVR.</td>
<td>Fidelity to SST was not evaluated. Improvement on social skills was not evaluated. Follow-up period may not have been long enough to detect nonvocational and long-term vocational outcomes.</td>
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<tr>
<td>Twamley, Jeste, &amp; Lehman (2003)</td>
<td>To examine, using a meta-analysis of RCTs, the effectiveness of work rehabilitation interventions for people with schizophrenia and other primary psychotic disorders</td>
<td>Level I Meta-analysis</td>
<td><strong>Intervention</strong>&lt;br&gt;Work rehabilitation approaches from 3 categories: (1) SE or IPS Model, (2) job-related social skills training, (3) incentive therapy, a Veterans Affairs–based program that offers part-time, set-aside job placements at the Veterans Affairs hospital, compensated at rates below minimum wage. Interventions were provided in an outpatient setting. Control conditions included treatment as usual, psychosocial vocational rehabilitation programs, and interventions that differed from the experimental condition by a single variable (i.e., paid vs. unpaid).</td>
<td>9 of 11 studies reported positive results for IPS–SE programs. Mean effect size comparing IPS–SE to conventional vocational rehabilitation = .78; however, nearly half (49%) did not obtain competitive work. The single Incentive Therapy study and the single work-related social skills training article found improved participation in working at end point. Across all RCTs, the weighted mean effect size for employment in the experimental vs. comparison conditions was .66.</td>
<td>The number of RCTs of vocational rehabilitation restricted to people with schizophrenia is limited. The number of RCTs of work rehabilitation approaches other than IPS–SE is very limited.</td>
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To evaluate the effectiveness of cognitive adaptation training on levels of adaptive functioning in outpatients with schizophrenia.

**Level I**
**RCT**

**Participants**
Adults with schizophrenia or schizoaffective disorder after discharge from an inpatient psychiatric facility.

- $N = 45$, 15 per group
- Age range = 18–55 yr
- Mean age = 37.12 yr

**Interventions**
Cognitive adaptation training is a manual-driven series of compensatory strategies based on neuropsychological, behavioral, and occupational therapy principles. An environmental assessment identified triggers for maladaptive behaviors, presence of safety hazards, availability of needed equipment and supplies, and organization of belongings. The person’s environment is adapted on the basis of behavior and executive functioning. The groups were seen weekly for a 9-mo period.

- Standard medication follow-up group
- Control group: Group controlling for therapist contact times or changes in the patient’s environment plus standard follow-up

**Outcome Measures**
Brief Psychiatric Rating Scale, Negative Symptom Assessment, Global Assessment of Functioning Scale, the Multnomah Community Ability Scale and Relapse

Patients who received cognitive adaptation training did better than those in the control and follow-up-only conditions with respect to level of symptoms and level of adaptive functioning. Relapse rates also improved for this group. Patients in the control condition, which included a therapist’s weekly home visit and manipulation of the environment in nonspecific ways, fared worse than the follow-up-only group.

**Small sample size**
It is not known whether the results would apply to more stable outpatients.

---

To examine the usage rates of environmental supports provided through cognitive adaptation training vs. a generic environmental supports group.

**Level I**
**RCT**

**Participants**

- $N = 68$, but 3-mo data available only for 60
- $n = 29$, Group 1
- $n = 31$, Group 2

**Intervention**

- **Group 1**: Cognitive adaptation training: a manual-driven series of environment supports—such as signs, checklists, supplies—that are individually tailored, set up in the home environment, and reinforced weekly.
- **Group 2**: Generic environmental supports: a manual-driven series of generic supports (i.e., calendars,

Participants in Group 1 reported significantly higher use rates of environmental supports than Group 2.

**Utilization researchers were not blinded to which treatment group the participant belonged.**

**May not generalize to other groups with severe mental illnesses.**
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<td>Outpatients with schizophrenia or schizoaffective disorder, 100% receiving second-generation anti-psychotic medication other than clozapine</td>
<td>pill containers, alarm clocks) are given to clients in the clinic. Clients are expected to set up supports on their own using an audio recording of the trainers’ and clients’ “how-to” discussion.</td>
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<td><strong>Group 3:</strong> Assessment only</td>
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<td><strong>Frequency/duration:</strong> Group 1, 30 min/wk; Group 2, 1 visit for initial training (time not reported), follow-up phone calls 1/mo</td>
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<td><strong>Outcome Measures</strong> Each month, a utilization researcher telephoned each client and asked about frequency of use of the item and how the item was used.</td>
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**Note.** GED = General Equivalency Diploma; IPS = individual placement and support; ISE = integrated supported employment; ISS = Interpersonal Skills Scale; RCT = randomized controlled trial; SE = supported employment; SST = social skills training; TSS = Task Skills Scale.

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