Effectiveness of Psychosocial Occupational Therapy Interventions in Promoting Occupational Performance for Individuals with Serious Mental Illness: A Rapid Systematic Review

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Key Words

- Occupational Therapy
- Serious Mental Illness
- Schizophrenia
- Psychosocial
- Occupational Performance
- Occupational Justice
- Stigma

This rapid systematic review discusses the current evidence of studies related to occupational therapy interventions in improving the occupational performance of those diagnosed with a Serious Mental Illness (SMI). Psychosocial interventions are one of the main ways that participation and performance in occupations can be addressed within the occupational therapy treatment of individuals with SMI. In those who have an SMI, occupational performance and participation can be impacted due to symptomology and by the stigma of living with SMI, ultimately leading to occupational injustice. The current review analyzed 25 studies that implemented a psychosocial intervention in their treatment for those diagnosed with an SMI. The review identified three categories of psychosocial interventions (cognitive-based, skills training, and occupation-based) with six subcategories: metacognition, cognitive remediation, psychoeducation, social skills, life skills, and vocational rehabilitation. Findings reveal a strong level of evidence for the use of psychosocial interventions in supporting occupational performance and ultimately increasing occupational justice for individuals with SMI. The current review supports the use of psychosocial intervention approaches which can guide occupational therapy practitioners working with SMI populations.

Focused Clinical Question

The purpose of this rapid systematic review was to search the literature and critically appraise findings to address the following clinical question: What is the current level of evidence for psychosocial interventions in the treatment of individuals with Serious Mental Illness and their effects on occupational performance?

Introduction

The National Institute of Mental Health defines Serious Mental Illness (SMI) as a “mental, behavioral, or emotional disorder resulting in serious functional impairment, which substantially interferes with or
limits one or more major life activities” (NIMH, 2023). Common diagnoses include Bipolar Disorder, Major Depressive Disorder, and Schizophrenia (Substance Abuse & Mental Health Services Administration, 2022). SMI affects an estimated 5.5% of adults living in the United States (NIMH, 2023). For these individuals, occupational participation and engagement is limited by individual, task-specific, and environmental constraints (Figure 1).

Occupational justice is a concept based on the idea that all individuals have “the right to engage in diverse and meaningful occupations” that meet their individual needs, promote their health and well-being, and allow them to develop their full potential (Durocher et al., 2014, p. 418). Individuals with SMI face barriers to occupational justice both through the manifestations of their psychological disorder and through systemic issues such as societal stigma, self-stigma, and limited access to resources (Solaru & Mendonca, 2021).

![Figure 1: Barriers to occupational performance & occupational justice as experienced by individuals with SMI, based on the Person-Environment-Occupation Model of Occupational Performance (Law et al., 1996; Solaru & Mendonca, 2021).](image)

According to the Occupational Therapy Practice Framework, occupational therapists are skilled in evaluating the transactional relationship between the occupation, context, performance patterns, performance skills, and client factors that result in occupational performance (OTPF-4, 2020). Occupational therapists view clients, occupations, and contexts through a unique lens that allows them to address client factors such as body functions and structures, as well as systemic barriers to occupational justice for individuals with SMI (OTPF-4, 2020).

Psychosocial interventions focus on the interaction between client, occupation, and environment with the goal of producing a change in psychological, social, biological, and/or functional outcomes by capitalizing on psychological or social actions. These interventions can be interpersonal or informational activities, techniques, or strategies that target biopsychosocial factors to improve health functioning and well-being (Committee on Developing Evidence-Based Standards for Psychosocial Interventions for Mental Disorders, 2015). Occupational therapists can utilize psychosocial interventions within treatment planning for individuals with SMI to promote occupational balance and performance. Occupational therapy psychosocial interventions focus on health promotion and wellness, social engagement, community mobility, coping strategies, cognitive function, and participation in life activities (Ramsey, 2004). This review will focus on the following psychosocial interventions: metacognitive therapy, cognitive remediation, psychoeducation, life skills training, social skills training, and vocational rehabilitation.

Metacognition refers to one’s insight into their own thoughts, feelings, and decision-making, as well as being able to recognize that of others around them (Inchausti et al., 2017). The goal of metacognitive interventions is to improve cognitive insight within the SMI population. Cognitive remediation focuses on improving specific cognitive skills such as attention, concentration, executive function, learning & memory, problem solving, processing speed, social cognition, and verbal memory (Lystad et al., 2017).

Psychoeducation is an education-based intervention that informs clients on their condition, the course of treatment they may experience, and provides resources regarding their condition (Tanaka et al., 2015). Psychoeducation can be integrated into various forms of delivery services, such as individual or group sessions.

Skills training is a broad category of intervention that aims to create change through education and implementation of new or different techniques. Specifically, life skills training aims to assist individuals in gaining the skills necessary for fulfilling their roles through techniques such as assessment, teaching, behavioral practice, feedback, and homework focusing on areas such as self-care, money management, and community life (Abaoglu et al., 2020). Social skills training interventions aim to address deficits in social skills that result in impairment in social functioning by employing behavioral and social learning principles such as goal setting,
prompting, modeling, and shaping (Aruldass et al., 2022).

Occupation-based interventions involve the client performing an occupation in a natural or simulated environment (UNH the Department of Occupational Therapy Department, 2011). The field of occupational therapy utilizes occupation-based interventions as the foundation of their practice. Gathering information from clients about occupations they find meaningful guides occupational therapists in choosing interventions that are engaging and motivational for their clients (NH the Department of Occupational Therapy Department, 2011). Within this category, vocational rehabilitation may also be examined; vocational rehabilitation involves training and support relevant to the client’s desired career path and work participation (Dorsey, et al., 2017). Individuals living with SMI can benefit from vocational rehabilitation to learn skills relevant to their job and further promote occupational justice.

Methods

This rapid systematic review was conducted to determine the effects of psychosocial occupational therapy interventions for patients with SMI. Authors collaborated with occupational therapy practitioners and educators with specialized knowledge in occupational therapy research to determine a precise research question relevant to the target population and outcomes. According to AOTA Levels and Strength of Evidence (2023), studies of Levels I, II, and III were included in this rapid systematic review.

The following search terms, filters, and dates were used for searches in PubMed:

((occupational therapy) OR (OT)) AND ((social skills) OR (SST) OR (psychosocial) OR (case management) OR (assertive community treatment) OR (ACT) OR (family intervention) OR (cognitive therapy) OR (psychoeducation) OR (family psychoeducation) OR (training programs) OR (case management)) AND ((mental illness) OR (MI) OR (major depressive disorder)) OR (depression) OR (schizophrenia) OR (schizoaffective) OR (bipolar) OR (BPD) OR (obsessive compulsive) OR (post-traumatic stress) OR (PTSD) OR (dissociative identity)) AND (adults) AND ((social participation) OR (interpersonal skills) OR (occupational engagement) OR (occupational participation) OR (occupational justice))

Filters: < 10 years

Dates: 2013-2023

The following search terms, filters, and dates were used for searches in CINAHL:

(occupational therapy or occupational therapist or ot) AND (psychosocial or psychological or impact or mental health) AND (mental illness or severe mental illness or mental disorder or psychiatric illness or schizophrenia or ptsd or bipolar disorder)

Filters: < 10 years

Dates: 2013-2023

Inclusion criteria:

- Published within last 10 years
- Adults with serious mental illness (18+)
- Levels I, II, III (RCTs, Cohort, Case-Control)
- >7 participants
- Psychosocial interventions (addressing psychological functioning within social contexts)

Exclusion criteria:

- Children (< 18 years) with serious mental illness
- Published > 10 years
- Irrelevant study design
- <7 participants
- Irrelevant intervention
- Irrelevant outcome measure
- Articles presenting in a different language other than English

Covidence was utilized to compile relevant articles to the predetermined search terms. Articles were imported from PubMed and CINAHL. 1,488 total articles were uploaded from PubMed and 514 were uploaded from CINAHL for a total of 2,002 articles imported. 60 duplicates were removed (1 from PubMed and 59 from CINAHL), leaving 1,883 articles for abstract and title screening. Each article had to be approved by two members of the group before inclusion in the review. After thorough analysis of articles, 25 studies were chosen for inclusion in the rapid systematic review.
Figure 2: Prisma diagram generated from Covidence. Two studies were manually added.

Results

A total of 25 articles were included in this rapid systematic review. Articles were included based on inclusion and exclusion criteria set by the researchers. Based on results of the literature search, three categories were formed: cognitive-based approaches specifically addressing metacognition, cognitive remediation, and psychoeducation; skills training addressing life and social skills; and occupation-based approaches, which includes functional activities and vocational rehabilitation.

Cognitive-Based Approaches

Metacognition

Three studies examined the effects of metacognition-focused treatment on improvement in occupational and social functioning, cognition, personal satisfaction, and quality of life for individuals with schizophrenia spectrum disorder. Two studies were Level I randomized control trials (RCTs) and one study was a Level II Non-randomized study following a pre/post intervention and follow-up protocol. The evidence for metacognitive training for those with SMI is strong.

While two of the studies implemented interventions led by occupational therapists, Inchausti et al. (2017) did not specify who was providing treatment. All interventions consisted of group sessions focusing on improving metacognition. Two of the studies implemented weekly meetings to conduct the treatment; Kaizerman-Dinerman et al. (2018) did not disclose frequency of services. Control and treatment groups in each study continued to receive treatment as usual.

Inchausti et al. (2017) examined the effects of a metacognition-oriented social skills training (MOSST) treatment program versus traditional social skills training (SST) on individuals with schizophrenia. The MOSST program enhanced traditional SST by focusing on understanding both personal needs and the experiences of others while engaging in social situations. The data showed statistical significance and large effect sizes in favor of the MOSST treatment program within the Social and Occupational Functioning Assessment Scale (SOFAS) and Personal and Social Performance Scale (PSP) at post-treatment and follow-up. The MOSST group improved in PSP subscales at follow-up regarding “socially useful activities, personal and social relationships, and disturbing and aggressive behaviors” (Inchausti et al., 2017, p. 1240). The MOSST group demonstrated significant improvements in understanding other’s minds, decentration, and self-reflectivity through Metacognitive Assessment Scale (MAS-A) subscale scores at post-intervention and follow-up.

Kaizerman-Dinerman et al. (2018) implemented a metacognitive intervention based on Toglia’s dynamic interactional model, which focuses on promoting daily activities and participation through enhancement of metacognitive components. There were significant time-by-group increases for the intervention group for the measures of Activity Card Sort (ACS) and the Canadian Occupational Performance Measure (COPM-performance, COPM-satisfaction). There was no change within the control group for the three measures. There were significant time-by-group interactions for the treatment group per the Weekly Calendar Planning Assessment with no changes within the control group.

Lam et al. (2015) found that self-reflectiveness improved for individuals receiving metacognitive training (MCT) but decreased for individuals within the...
control group. There was an indication that self-certainty was trending to decrease at the end of the study; however, for both groups post-treatment, the results were not significant for change.

Cognitive Remediation

Five studies examined the impact of cognitive remediation interventions on work-related outcomes, social participation, symptom severity, cognition, community involvement, motivation, and/or quality of life for adults living with SMI. Based on results of the appraised studies, evidence is strong for the effects of cognitive remediation on cognitive skills, but low for functional outcomes.

Three Level I RCTs incorporated computer-based cognitive training into their intervention, either on its own or in combination with vocational training. Training was facilitated by cognitive or employment specialists. Nahum et al. (2021) specifically addressed social cognition through use of a remote, computer-based program. While functional outcomes were not significantly different between intervention and control groups, the experimental group did show significant improvements for social cognition skills such as facial emotional recognition and social functioning within social engagement/withdrawal and interpersonal communication domains. Authors recommend using this intervention in combination with others that target real-life function.

McGurk et al. (2016) incorporated approximately 24 hours of computer-based cognitive training into a vocational rehabilitation program for individuals with SMI, while Lystad et al. (2017) integrated two hours weekly of computer-based training with a focus on real-life scenarios in the vocational setting. Compared to vocational training alone, McGurk et al. (2016) found that the Thinking Skills Work (TSW) program, which combined computerized cognitive exercises and strategy coaching surrounding self-management and coping strategies with vocational rehabilitation, improved overall symptom severity, executive function and problem-solving skills, and increased participation in work-related activities for individuals living with SMI. Similarly, results of the study done by Lystad et al. (2017) show no significant between-group differences for work-related outcomes, although participants receiving cognitive-remediation and vocational treatment showed greater improvements in verbal learning and working memory compared to those receiving cognitive-behavioral therapy and vocational services. Cognitive improvements were not maintained through the 18-month and 24-month follow-ups for both studies, which suggests that booster sessions or follow-up appointments may be warranted for this population.

A Level I single-blind RCT by O’Reilly et al. (2019) also found that cognitive remediation therapy implemented by an OT improved cognitive functioning and personal satisfaction for individuals with schizophrenia spectrum disorder, but that real-world functioning, as measured by the SOFAS, showed no significant improvement. These results were true both following treatment and at 8-month follow-up.

In a Level II non-randomized control trial by Quee et al. (2014), psychiatric nurses implemented cognitive adaptation training (CAT), a form of cognitive therapy that focuses on using external strategies to compensate for decreased cognition, for individuals with schizophrenia spectrum disorder in the Netherlands. Patients receiving the intervention showed significant improvement in work-related activities, but not in other functional outcome measures such as the SOFAS, community ability, or motivation. This study was not adequately powered and shows little generalizability for CAT outside of the United States. A similar intervention, Compensatory Cognitive Training (CCT), was examined through a Level I RCT conducted by Twamley et al. (2019) in which individuals with SMI received strategy-based coaching to address prospective memory, conversational and task vigilance, learning and memory, and executive functioning. Although work-related outcomes showed no significant improvement, CCT was shown to improve working memory, depressive symptoms, and subjective ratings of life satisfaction.

Psychoeducation

There is currently a moderate level of strength for psychoeducation interventions. Three studies, including one Level I RCT, a Level II Non-randomized control trial, and a Level III pretest/posttest, examined the effects of psychoeducation as an intervention in the treatment of individuals who are living with SMI on socio-occupational functioning and participation, cognition, and understanding of their own illness.

Interventions were delivered by an occupational therapist besides one study by Na et al. (2016), which was a community-based programming series through the “Mind Flower” program that incorporated psychoeducation amongst other activities such as inspirational text messaging, free book lending, volunteer experiences, individual counseling,
medication management, lifestyle management, metacognition training, reading clubs, fitness clubs, and crisis intervention programming. While the study concluded that social functioning could increase with use of the program with a clinical significance determined at $p < 0.05$, the study did not utilize a control group. The study also focused more on the symptoms of psychosis impacting an individual’s participation in socio-occupations rather than factors such as social stigma and other societal barriers that can influence an individual’s participation and performance.

The two other studies that were Level I and Level II criteria of evidence also evaluated the effects of the implementation of psychoeducation on SMI diagnoses such as depression, schizophrenia, and schizoaffective disorder. The study by Shimada et al. (2018) implemented individualized occupational therapy services within its treatment sessions that included aspects of motivational interviewing, self-monitoring, individualized visits, handicraft activities, psychoeducation, and discharge planning in comparison to an activity-oriented group. The study assessed cognition and social functioning in participants with schizophrenia or schizoaffective disorder. The study determined that individualized occupational therapy was beneficial in improving the cognitive functioning, intrinsic motivation, medication adherence, and treatment satisfaction in participants with schizophrenia or schizoaffective disorder.

The Level II study conducted by Tanaka et al. (2015) evaluated a group psychoeducation program for individuals experiencing a depressive episode in comparison to treatment as usual. Participants were included upon being admitted to a psychiatric hospital and meeting the ICD-10 criteria for experiencing a depressive episode, although it was unclear whether it was a singular episode or if it was in part of a greater depressive disorder, such as Major Depressive Disorder. Treatment goals consisted of reducing patient anxiety surrounding hospitalization, encouraging education of depression as an illness and of pharmacotherapy, and increasing patient motivation toward treatment and rehabilitation. Implementation of the psychoeducational program was shown to be effective in remediating the thoughts and symptoms surrounding anxiety, depression, self-confidence, impatience, brain/thought fatigue, general physical condition, volition/vitality, and the feeling of general health for individuals experiencing a depressive episode.

While the three articles differ in the way psychoeducation was implemented into their outcomes, the outcomes of adding psychoeducational programming into their interventions led to increased occupational performance in many behaviors that enable participation in occupations.

**Skills Training**

**Life Skills Training**

Three Level I RCTs evaluated the effectiveness of life skills training interventions for individuals with SMI. Life skills training encompasses a wide range of topics including activity balance, meaning and motivation, healthy living, work related activities, social activities, leisure, and relaxation (Eklund et al., 2017). These studies measured the impact of life skills training on overall occupational performance and skill implementation in participants with schizophrenia (Abaoglu et al., 2020) and major depressive disorder or dysthymia (Chen et al., 2015). While two of the interventions were group-based sessions, Abaoglu et al. (2020) implemented an individualized training program structure. All interventions were delivered by an occupational therapist. Results were mixed in terms of improvement in quality of life (QOL). Chen et al. (2015) did not find any significant differences in QOL between the control and intervention groups for individuals with MDD. This lack of differentiation could be due to the contamination bias seen via the control group receiving weekly phone calls—part of the Life Adaptation Skills Training intervention. Abaoglu et al. (2020) discovered that individualized life skills training and education can improve social, cognitive, and interpersonal functioning in individuals with a schizophrenia diagnosis. Eklund et al. (2017) determined that Balancing Everyday Life (BEL) interventions can lead to short term improvements in activity engagement, activity level, and activity balance. All three articles concluded that there are significant positive effects of life skills training interventions on individuals with SMI. QOL improved in many instances as a result of decreased symptom severity and increased occupational participation. Overall, results of the appraised studies demonstrate strong evidence for the effects of life skills training on quality of life and functional outcomes for individuals with SMI.
Social Skills Training

Four studies included in this rapid systematic review implemented social skills training (SST) as interventions for individuals with SMI. All four studies evaluated participants diagnosed with schizophrenia. One was a Level I RCT (Dogu et al., 2021), one was a Level II Cohort Study (Yilmaz et al., 2020), and two were Level III single group Nonrandomized Pre/Post test designs (Taksal et al., 2015; Aruldass et al., 2022). Both Level III studies implemented programming that focused on promoting behavioral and social learning factors such as goal setting, modeling, and shaping to increase social participation, perception, and skills. Results showed significant improvements from baseline to follow up in terms of social functioning (verbal, nonverbal, receptive competence, processing competence, and expressive competence), attention and memory, executive functioning, and socio-occupational role functioning after having received social skills training (Aruldass et al. 2022; Taksal et al., 2015). The Level I and II studies both determined the effectiveness of SST interventions for individuals with SMI (Dogu et al., 2021; Yilmaz et al., 2020). Yilmaz et al. (2020) concluded that the addition of Psychosocial Skills Training to treatment as usual is an effective intervention strategy to reduce positive and negative symptoms and improve social functioning for patients with schizophrenia compared to OT intervention alone. Conversely, Dogu et al (2021) assessed how the addition of OT interventions to SST can improve social outcomes for individuals with schizophrenia and found that clients who received both programming experienced a higher increase in occupational performance and social participation than those who only receive SST. Overall, results of the appraised studies demonstrate moderate evidence for the effects of social skills training on improving social functioning and occupational performance for individuals with SMI.

Occupation-Based Interventions

Occupation-Based

Three studies were included for analysis in the occupation-based intervention category including two Level I RCTs and one Level II Pilot study were included for analysis in the vocational rehabilitation intervention category. Two Level I RCTs and one Level II Cohort Study focused on providing skilled interventions and training before, during, and after participants obtained a job (Twamley et al., 2019; Lee et al, 2018; Zhang et al., 2017). Prior to job placement, participants attended various work-skills training courses targeted at prospective memory, conversational and task vigilance, learning, cognitive flexibility problem-solving, punctuality, attendance, responsibility, self-assertion, engagement, concentration, work completion, workplace etiquette, conflict resolution, job search and interview skills, and work-related social skills training (Twamley et al., 2019; Lee et al, 2018; Zhang et al., 2017). Interventions that continued throughout the duration of the program for the control group while the intervention group only received treatment prior to job placement. Overall, the level of evidence is strong for vocational rehabilitation interventions with skilled instruction provided throughout the job placement process.

Studies by McGurk et al. (2016) and Yam et al. (2016) showed low levels of significance for the intervention when examining competitive work and wages obtained. McGurk et al. (2016) provided participants with job search training skills based on
participants’ interests along with problem-solving and job specific skills such as dress-code and punctuality. Yam et al. (2016) showed that personal growth scores of participants improved from pretest to posttest; however, the number of participants was too low to produce adequate data. McGurk et al. (2016) did not find significant differences between groups based on job attainment and wages earned; however, significant cognitive improvements were seen in the intervention group. These results produce moderate strength for vocational rehabilitation when provided only prior to job attainment.

Conclusions

This rapid systematic review analyzed 25 articles, with results supporting use of the following interventions to support the achievement of “health, well-being, and participation in life through engagement in occupation” for individuals with SMI: metacognitive approaches, cognitive remediation, psychoeducation, life skills training, social skills training, occupation-based interventions, and vocational rehabilitation programs (OTPF-4, 2020, p. 5). Overall, findings indicate a strong level of evidence for the application of occupational therapy psychosocial interventions for individuals with SMI.

While not all cognitive-remediation interventions were administered by an occupational therapist, this intervention uses a bottom-up occupational therapy lens by addressing clients’ process and social interaction skills with the goal of improving overall functioning in daily life activities (OTPF-4, 2020). However, while the appraised studies focusing on this intervention alone yielded a strong level of evidence for improvement of cognitive skills, work-related outcomes and active social participation were often unchanged (Nahum et al., 2021; Lystad et al., 2017; O’Reilly et al., 2019; Twamley et al., 2019). These findings suggest that while cognitive remediation does support positive outcomes for individuals with SMI, it should be used in combination with occupation-based interventions or vocational rehabilitation to address all aspects of the occupational therapy domain. For example, it would be more effective for occupational therapists to apply computerized cognitive training as a supplemental home exercise in combination with skilled intervention focusing on functional implementation of cognitive skills, rather than computer-based cognitive training alone (Nahum et al., 2021; Lystad et al., 2017; McGurk et al., 2016).

Compared to cognitive-remediation, metacognitive and psychoeducational interventions showed a stronger level of evidence for functional outcomes, such as health management and social participation (Na et al., 2016; Shimada et al., 2018; Inchausti et al., 2017). These cognitive-based interventions utilize a top-down occupational therapy approach through education and promotion of self-management of daily life tasks and responsibilities (OTPF-4, 2020). Psychoeducational intervention approaches are utilized commonly within occupational therapy practices for clients to have an increased understanding of their condition and condition-management techniques to increase occupational performance. Similarly, metacognition has interest in improving cognitive deficits within certain populations. Ultimately, the goal of metacognitive training is to improve cognitive insight, which enhances competency and awareness of self and peers. The outcome of moderate level of evidence for psychoeducational interventions and strong level of evidence for metacognition suggest effective outcomes of addressing occupational performance in general functioning and in socio-occupational functioning. Psychoeducational and metacognitive approaches can be utilized together within occupational therapy intervention for clients to gain a better self-awareness of their condition while simultaneously understanding the impact of their condition on everyday living. Implementing condition management strategies helps to promote occupational performance and occupational justice as individuals with such conditions experience a higher degree of social stigma which can affect participation within occupations.

Both life skills and social skills training use an establish/restore approach for individuals with SMI by targeting skills that have been impaired by their illness in order to improve occupational functioning (OTPF-4, 2020). Collective results of studies implementing SST showed that this intervention can be an effective means of increasing social participation and functioning, especially when implemented in combination with traditional OT services, for individuals with SMI. Similarly, results of the appraised studies implementing life skills training demonstrated that there is strong evidence to support a variety of outcomes including symptom management, occupational functioning, activity engagement and balance, quality of life, and leisure participation. While
the evidence supports implementation of skills training, authors postulate that these interventions should be used in combination with other OT approaches in order to refine the treatment to target individual needs, strengths, and deficits.

Occupations-based and vocational rehabilitation produce unique results as the skills practiced and acquired in intervention sessions directly relate and mimic skills participants utilize in their daily lives. A top-down approach to intervention is vital to implement with participants living with SMI to produce greater carry-over of ADL and work-related skills. Practicing skills in natural environments led to the largest improvements in ADL performance, independence, and executive functioning. Continuing support of individuals with SMI should be provided throughout the duration of their job placement. Based on the combined strength of evidence, occupations-based and vocational rehabilitation interventions should be given strong consideration by occupational therapists working with individuals with SMI.

Each category of psychosocial intervention addresses different factors from the occupational therapy domain; authors postulate that the use of multiple psychosocial interventions in combination would best support occupational performance and justice for the target population (Figure 1). Further research is required to determine both the effectiveness of these interventions alone as well as in using multiple psychosocial interventions in combination for individuals with SMI.

Finally, although this review evaluated several research studies, the rapid characteristics of this systematic review limited both the amount and depth of studies included. Further evaluation should be conducted with similar interventions to broaden the scope and increase the overall strength of this review. The authors of the current rapid systematic review also acknowledge their own preconceived notions and biases approaching this delicate topic and recognize the influence of their being from the United States on interpretation of international results. The method used to select articles within the study reduces reproducibility of generating a similar literature review.

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**Limitations**

The appraised studies included in the current rapid systematic review displayed diverse limitations including unblinded assessors, low numbers of participants, lack of control groups, limited results at or lack of follow-up, co-intervention, ego-centric lens limitation, and lack of concrete diagnostic criteria indicating serious mental illness.

The most significant limitation of the appraised studies is co-intervention bias. Because participants of these studies were all diagnosed with some form of SMI, participants in most, if not all, studies received treatment as usual, which includes but is not limited to medical management and pharmacotherapy. Due to this confounding variable, the validity of results and effectiveness of the targeted interventions must be questioned.
References


<table>
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<tr>
<th>Title</th>
<th>Author/Year</th>
<th>Level of Evidence, Study Design, Participants, Inclusion Criteria</th>
<th>Intervention &amp; Control Groups</th>
<th>Outcome Measures</th>
<th>Results</th>
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<tbody>
<tr>
<td>1. The Effect of Life Skills Training on Functioning in Schizophrenia: A Randomized Controlled Trial.</td>
<td>Abaoglu, H., Mutlu, E., Ak, S., Aki, E., &amp; Yagcioglu E.A. (2020).</td>
<td>Level 1, Randomized Control Trial with 38 participants. <strong>Inclusion:</strong> Individuals were included in the study if they were between the ages of 18 and 65, literate, met the diagnostic criteria of schizophrenia (after being evaluated by two psychiatrists), had a score of 3 or lower on items P7 (hostility) and G8 (uncooperativeness) on the Positive and Negative Syndrome Scale, and were willing to participate. <strong>Intervention:</strong> Participants completed an individualized life skills training program that targeted four performance areas: personal management, social skills, vocational skills, and leisure time use. Sessions were broken down into sections: preparatory, informative, teaching, training, closing. 15 participants, 2 days a week, for 8 weeks. <strong>Control:</strong> Individuals in the control group participated in a single session awareness training following the initial assessment. This session was designed to increase their independence in daily living activities as</td>
<td>Katz Index of Independence in Activities of Daily Living Lawton and Brody Instrumental Activities of Daily Living Social Functioning Scale (SFS) Functional Assessment Short Test (FAST)</td>
<td>Life skills training was found to improve social functioning, including social withdrawal, recreation, independence in terms of performance and competence, interpersonal functioning, pro-social activities, and employment/occupation. Life skills education increases the functionality in autonomy, occupational functioning, cognitive functioning, and financial issues.</td>
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| 2. Exploring the use of activity-based group therapy in increasing self-efficacy and subjective well-being in acute mental health. | Bi Xia Ngooi, Su Ren Wong, Dehui Chen, J., & Shi Yin Koh, V. (2022) | Level III exploratory pilot posttest cross-sectional observational study  
**Inclusion:** Participants were included in the study if they were referred for activity-based therapy, able to participate in activities for at least 15 minutes with minimal to moderate assistance, at least 21 years old, had an original diagnosis of a psychiatric disorder, were able to read and speak English, able to complete the required questionnaires, provide informed consent, and did not show symptoms that were harmful or disruptive to their peers. | **Intervention:** Participants attended occupational therapist lead therapy in one of 5 categories including physical activity, art, technology, meal preparation, or music. Forty-nine total participants were included in the study divided into 11 participants in the physical activity group, 16 in the art group, 5 in the technology session, 6 in the meal preparation activity, and 11 in the music group. The intervention took place in a group therapy room in the psychiatric ward of a hospital in Singapore. Occupational therapists and therapy assistants delivered the intervention. | Post-Group questionnaire developed for this particular study.  
Pittsburgh Rehabilitation Participation Scale  
The UK Office of National Statistics  
Mental Health Self-Efficacy Scale  
Researchers proved their hypothesis to be true as results showed that patients rated themselves as having moderate to high self-efficacy to use the activity they participated in as a coping strategy. Overall, participants rated as “good” on the participation scale, higher happiness scores, and lower anxiety scores. Implications for occupational therapists working in mental health should use these results to implement group interventions geared towards increasing coping behaviors because of the identified increase in self-efficacy. |
No control group was utilized for this study.

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<tr>
<th>3. Life Adaptation Skills Training (LAST) for persons with depression: A randomized controlled study.</th>
<th>Level 1, single blind RCT</th>
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<tr>
<td>Inclusion: Participants needed to have a diagnosis of a major depressive disorder or dysthymia, participate in a treatment program at an outpatient clinic, be at least eight weeks post depressive episode (maintenance phase of the disease), be at least 18 years old, and be literate with adequate cognitive capabilities.</td>
<td>Intervention: Four modules of treatments spanning 24 LAST group sessions were delivered to the intervention group. The program contents covered areas such as occupational performance, practice of skills, education, and discussion. The intervention group also received the standardized phone-contact procedure of the control group (see below).</td>
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<td>Control: Standardized phone-contact procedure was delivered to both of the groups. Conversations consisted of inquiry about daily routines, vitality status, quality of sleep, mood, and social activity participation twice a</td>
<td>World Health Organization Quality of Life - BREF - Taiwan version</td>
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<td></td>
<td>Occupational Self-Assessment</td>
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<td>The Mastery Scale</td>
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<td></td>
<td>The occupation-based LAST program, which focuses on lifestyle rearrangement and coping skills enhancement, could significantly improve the level of anxiety and suicidal ideations for people with depression.</td>
</tr>
</tbody>
</table>
4. Integrated Supported Employment for People With Schizophrenia in Mainland China: A Randomized Controlled Trial.


Level 1 Randomized Control

**Inclusion:** Participants were included in the study if they were at least 18 years old, were diagnosed with schizophrenia for 2 or more years, were unemployed at the time of the study, gave consent to researchers, had no warning signs listed in the Mini-Mental State Examination (MMSE), completed the first six years of formal education, and wanted to obtain a job.

**Intervention:** This intervention took place in Wuxi China. Participants in the ISE received individual support and work-related social skills training (WSST). ISE combines IPS with WSST to yield the greatest outcome of continued job employment. The intervention took place in Wuxi China. There were 54 participants in this group. Psychiatric nurses delivered the intervention. Occupational therapists delivered the intervention as well as assess the results throughout. Participants received initial intervention for 3 months prior to job placement with follow-up assessments taking place at 7-, 11-, and 15 months. No specifics were given.

The results proved the researcher’s hypothesis to be correct as they found ISE to yield the greatest results for job placement among individuals living with schizophrenia. The article noted that more occupational therapists need to be trained to use ISE in clinical practice to improve social functioning for individuals living with schizophrenia because they hold a unique outlook in the mental health field that is extremely beneficial to patients.

The Chinese General Self-Efficacy Scale

The Personal Wellbeing Index
to how many times a week participants received training. This intervention lasted 15 months.

**Control:**

**IPE:** This intervention took place in Wuxi China and provided general work-related knowledge prior to participants' employment. No work-related social skills training (WSST) was involved. There were 54 participants in this group. Psychiatric nurses delivered the intervention. Occupational therapists delivered the intervention as well as assess the results throughout. Participants received initial intervention for 3 months prior to job placement with follow-up assessments taking place at 7-, 11-, and 15 months. No specifics were given
to how many times a week participants received training prior to their job placement. The intervention lasted 15 months.

**TVR:** This intervention gathered participants' employment interests and only provided work skills training prior to participants' job placement. The intervention took place in Wuxi, China. There were 54 participants in this group. Psychiatric nurses delivered the intervention. Occupational therapists also delivered the intervention as well as assess the results throughout. Participants received initial intervention for 3 months prior to job placement with follow-up assessments taking place at 7-, 11-, and 15 months. No specifics were given
| 5. Effectiveness of Balancing Everyday Life (BEL) versus standard occupational therapy for activity engagement and functioning among people with mental illness - a cluster RCT study. | Eklund M, Tjörnstrand C, Sandlund M, Argentzell E. (2017) | Level 1 study design; cluster RCT with 226 participants. | **Intervention:** Balancing Everyday Life (BEL) intervention is a group-based program (5-8 participants) which covers a wide array of topics, including but not limited to, activity balance, meaning and motivation, healthy living, work related activities, leisure and relaxation, and social activities. The components of each session include a brief educational section, a main group activity, and a home assignment to complete post session. | Profiles of Occupational Engagement among people with Severe Mental Illness (POES) - Swedish version | The BEL group differed from the CAU group in a statically significant way in terms of increased activity engagement, increased activity level, a more optimal general activity balance, reduced symptom severity, and increased psychosocial functioning. These improvements were seen from the initial data collection at the start of the intervention to the 16-week collection after the interventions. With regard to the 6 month follow up, the BEL group differed from CAU in a statically significant way regarding activity engagement, activity level, and general quality of life. To summarize, greater improvements from the BEL group were seen from baseline to 16 weeks, whereas after 6 months, |
All CAU interventions involved occupational therapy. CAU could take place in a group based program (like BEL), or may only include individual therapy. Intervention content varied for each client/therapist in the CAU group. Some of the seen improvements had dissipated.

<table>
<thead>
<tr>
<th>Study</th>
<th>Design</th>
<th>Inclusion</th>
<th>Intervention</th>
<th>Outcomes</th>
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<tr>
<td>Dogu, S.E., Kayihan, H., Kokurcan, A., &amp; Orsel, S. (2021).</td>
<td>Level 1 study design; rater-blinded RCT with 60 participants.</td>
<td>Clients aged 18-60 years old with schizophrenia who agreed to participate were included in the study.</td>
<td>This intervention group completed the SST interventions (listed below), as well as an OT program which focused on activity planning skills and recreational skills. It was a group based program (6 participants) with each session displaying a brief educational section, a group activity, in vivo exercises, and homework assignments. Themes of the combined intervention program included preparation for community living, Canadian Occupational Performance Measure (COPM), Community Integration Questionnaire (CIQ).</td>
<td>A statistically significant improvement was seen in the COPM total performance score from baseline to post intervention, however, this result dissipated at the 6 month follow up. Increased total performance scores on the COPM were found to be greater in the OT+SST group compared to the SST group. Statically significant improvements were seen in the performance and satisfaction scores of self-care, productivity, and leisure occupations, and a general improvement was seen in all other subscales. <em>No significant change was documented in any COPM subscales from post.</em></td>
</tr>
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</table>
practicing basic conversational skills, identifying desired activity goals/finding strategies to achieve them, problem solving, and developing leisure skills.

**Control:**
The SST is a group-based program (6 participants) consisting of two modules (each with multiple sessions) covering conversation skills and problem-solving skills. Conversation skills were covered in the first module using role play, whereas problem solving was taught using examples. Behavioral techniques were used to help transfer the learned skills to daily life.

intervention to the 6 month follow up. The study results indicated that the clients who received the combined program experienced a higher increase in occupational performance and social participation scores and a significant decrease in the severity of psychiatric symptoms compared to the clients who engaged in SST.
| 7. The Effects of Metacognition-Oriented Social Skills Training on Psychosocial Outcome in Schizophrenia-Spectrum Disorders: A Randomized Controlled Trial. | Inchausti, F., García-Poveda, N. V., Ballesteros-Prados, A., Ortuño-Sierra, J., Sánchez-Reales, S., Prado-Abril, J., Aldaz-Armendáriz, J. A., Mole, J., Dimaggio, G., Ottavi, P., & Fonseca-Pedrero, E. (2017). | Single-randomized controlled trial | **Intervention:** The group that received the MOSST intervention along with TAU (treatment as usual) participated in 16 weekly group sessions. The protocol was taken from a previous study in which this research is based on a pilot study performed by Felix Inchausti regarding MOSST and its effects on SSDs. For those that were selected to participate, the therapy sessions included working on conversation, assertiveness, and conflict management skills. This was included for both groups. | **Social and Occupational Functioning Assessment Scale (SOFAS).** **Personal and Social Performance Scale (PSP) Metacognitive Assessment Scale-Abbreviated (MAS-A)*** | The researchers found that MOSST has potential to be favorable within the SSD population. The data showed statistical significance and large effect sizes in favor of the MOSST versus traditional SST within the SOFAS and PSP assessment totals at post-treatment and follow-up. Within the PSP subscales and at follow-up, the MOSST seemed to improve “socially useful activities, personal and social relationships, and disturbing and aggressive behaviors”. Regarding the MAS-A total scores, the data showed that the MOSST treatment had a more significant impact and a large effect size on the participants than the control intervention at post-intervention and follow-up. Improvements were shown in the “understanding other’s mind, decenteration and self-reflectivity” regarding the MASA-A subscales; however, it should be noted that this was only a medium effect size. MOSST had a significant impact on |
SST as it was with no focus on metacognitive skills. For those that were selected to participate, the therapy sessions included working on conversation, assertiveness, and conflict management skills. This was included for both groups.

decentration at post-treatment.
8. An efficacy study of a metacognitive group intervention for people with schizophrenia.


Level II: Two groups, nonrandomized study (pre/post/follow-up)

Inclusion: meeting the Israeli standard for “psychiatric disability” that compromised 40% of their functioning, obtained a t-score of 65 or greater on the behavior rating inventory of ER, adult version, fluency in Hebrew language, and no prior psychiatric hospitalization over 24 hours in the previous month.

Intervention: Each group received various psychiatric services; however, the treatment group received 2 extra hours of therapy to account for the MCG treatment. The MCG protocol focuses on enhancing cognitive function, specifically to those with schizophrenia. The protocol was divided into 8 sessions. The first session focused on the introduction to others and the ideas that they would be discussing. Sessions 2-4 would focus on the metacognitive training, focusing on participants developing self-awareness, monitoring, regulation, and strategy training. Sessions 6-8 would focus on applying the material learned to personal goals and integrating executive functions. This would also be accompanied

Canadian Occupational Performance Measure (COPM), Behavior Rating Inventory of Executive Functioning (BRIEF-A)

Activity Card Sort (ACS)

Weekly Calendar Planning Activity (WCPA)

Per the main findings, there were significant time-by-group increases for the intervention group for the measures of ACS, COPM-p and COPM-s. There was no change within the control group for the three measures. There were significant time-by-group interactions for the treatment group per the WCPA and not in the control group. “Correlations between the change scores (pre-intervention to follow-up) of the study outcome measures (Table 4) revealed significant relationships, revealing that increases in the ACS, COPM, and WCPA were interrelated”.

by a self-awareness evaluation. Goals were established individual COPM participants were learned on how one can achieve these goals through learned strategies.

**Control:**
Each group received various psychiatric services that they were eligible for. The services were designed to teach and assist in skills applicable to everyday functioning. They did not receive the extra 2 hours of MCG on top of their established services.

9. **Effect of Adjunct Psychosocial Skills Training on Social Functioning of Schizophrenia Patients Who Get Occupational Therapy in a Community**

<table>
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<tr>
<th>Level II: Cohort Study</th>
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<td><strong>Inclusion:</strong> Voluntary participation, ages 18-65, and a DSM-5 diagnosis of Schizophrenia</td>
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**Intervention:**

**Group 1:** Routine case management and occupational therapy (OT) services at the Community Mental Health Center (CMHC), which include “case management, occupational therapy, and the following scales:

- Positive and Negative Syndrome Scale (PANSS)
- Personal and Social Performance Scale (PSP)
- Social Functioning Scale (SFS)

Among PANSS, PSP, and SFS scores, there was no significant change between pre- and post-intervention for the control group. For Groups 1 and 2, there was a significant decrease in PANSS scores and a significant increase in PSP and SFS scores between pre- and post-intervention.
Mental Health Center: A Comparative Study.

| Medical treatments, and psychiatric interviews” (Karaman et. al., 2020). |
| Group 2: Adjunct Psychosocial Skills Training (PSST) group sessions and routine case management and OT services at CMHC. PSST group sessions had 9-11 participants. PSST targets 16 skill areas that are prevalent to social interaction. Examples related to OT include: developing communication skills and problem solving skills, learning to deal with attention and memory problems, understanding symptoms and treatments of schizophrenia, avoiding alcohol and drugs, understanding how to deal with stress, increasing self-confidence, evaluating time and developing daily activities, making | Compared to Group 1, Group 2 had a significantly higher decrease in PANSS scores between pre- and post-intervention. Changes in PSP and SFS scores are not significantly different between Groups 1 and 2. |
| 10. Is a program to improve grocery-shopping skills clinically effective in improving executive function and instrumental activities of daily living of patients with schizophrenia? | Kim Y-sup, Park J-Hyuck, Is a program to improve grocery-shopping skills clinically effective in improving executive function and instrumental activities of daily living of patients with schizophrenia?, Asian Journal of Psychiatry | Level 1, randomized control pretest-posttest design  
**Inclusion:** Participants had to have been diagnosed with schizophrenia by a psychiatrist, have a diagnosis of schizophrenia for 2 years or more, between the ages of 19-55, showed no severe impairments in social, psychological, or personal function due to psychological disorder defined by a score on the Global Assessment of Functioning (GAF), were clinically stable as confirmed by having no change in antipsychotic pharmacological treatment  
**Intervention:** Participants received conventional rehabilitation along with a grocery shopping skills training program. There were 10 people in this group. The intervention took place at local grocery stores in the community. An occupational therapist with at least 5 years of clinical experience. Participants attended sessions twice a week for 50 minutes in addition to conventional rehab services that were given lasting for 3 weeks. | Korean version of the Executive Function Performance Test (EEPT-K)  
Korean Instrumental Activities of Daily Living (K-IADL)  
Korean version of the Montreal Cognitive Assessment (MoCA-K) | The results proved the researcher’s hypothesis to be correct that grocery shopping interventions for individuals with schizophrenia increases their overall executive functioning. Independence with IADLs was also greatly improved in the intervention group. Overall, the article concluded that real world experience is necessary for implementing interventions in order for participants to work on a variety of skills at once. |
in the last month, and could read questionnaires and respond properly. 

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hours. The program lasted a total of 4 weeks.

**Control:**
Participants in this group received only conventional rehab consisting of physical exercise, social-skills training, and social-adaptation training. There were 10 participants in this group. The intervention took place at the mental-health welfare center in Taean, South Korea. Occupational therapists delivered the intervention. Sessions lasted 3 hours. The program lasted a total of 4 weeks.
### 11. Metacognitive training (MCT) for schizophrenia improves cognitive insight: a randomized controlled trial in a Chinese sample with schizophrenia spectrum disorders.


**Level I: Randomized Control Trial (RCT)**

**Inclusion:** DSM-IV schizophrenia spectrum disorder diagnosis and between the ages of 18-60.

**Intervention:**
- The participants were randomly assigned to either the active treatment group or control group (continuing treatment as usual). The active treatment group were led through 8 group intervention sessions that covered 6 cognitive and social biases.

**Control:**
- The control group received usual treatment from a case occupational therapist.

**Meta-cognition Training: Subjective Evaluation**
- The researchers found that post-MCT, self-reflectiveness improved among the treatment group. In the control group, self-reflectiveness was shown to decrease. There was an indication that self-certainty was trending to decrease at the end of the study; however, for both groups post-treatment, the results were not significant for change.


**Level II cohort study design.**

**Inclusion:** Participants were included if they had a psychiatrist determined CPD diagnosis according to *Diagnostic and Statistical Manual of Mental Disorders*, were newly discharged inpatients or current outpatients of one of the hospitals they were chosen from and had completed.

**Intervention:**
- There was only one group which had 323 participants. Participants were provided with job training at the job they chose including bakery, coffee shop, culinary, computer data processing, auto wash and detailing, janitorial, and laundry service work. Participants are.

**Chu’s Occupational Assessment Inventory**
- Over the span of the 6-month intervention, employment rates steadily increased. At 1-months employment rate was 52.9%, 3-months 60.3%, and 65.6% at 6-months. Participants whose lead occupational therapist received additional specific job training related to the participants chosen occupation obtained a job longer than those who did not receive additional.
the entire IHVT program and all the follow-up testing.

provided work-related behavior training, on-the-job skill training, and life balance counseling. The intervention took place in Taiwan. Occupational therapists were the primary lead to deliver the intervention and psychiatrists, psychologists, social workers, and nurses were sometimes available during sessions. Sessions ranged from 1-13 hours per week. Typically, around 6-10 months long, 5 days a week for 4-6 hours per day. Data was gathered 1, 3, and 6 months after initial intervention.

training. Post-job training from an occupational therapist displayed more promising job placement abilities for participants than those who administered the intervention and were not occupational therapists.

<p>| 13. Cognitive remediation and occupational outcome in schizophrenia spectrum disorders: A 2 year follow-up study. | Lystad, J. U., Falkum, E., Haaland, V. Ø., Bull, H., Evensen, S., McGurk, S. R., &amp; Ueland, T. (2017) | Level I: Randomized Control Trial (RCT) | Intervention: Multisite, hybrid program administered by employment specialists over the course of 10 months, with a total of 34.5 hours of treatment. CR included feedback | MATRICS Consensus Cognitive Battery (MCCB) Occupational Status (employment, number of hours worked) | Occupational Outcomes No significant between-group differences were found for number of participants working and number of hours worked throughout the project. Neurocognitive Outcomes |</p>
<table>
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<tr>
<th>Diagnosis of Schizophrenia Spectrum Disorder</th>
<th>from neurocognitive assessment, building personal goals, psychoeducation about cognitive impairment, 2 hrs. weekly of computer-based training with a focus on the transfer between training and real-life work (targeted attention/vigilance, working memory, visual and verbal memory, executive functioning, processing speed), and the use of repetitive drill-and-practice tasks to focus on neurocognitive processing (bottom-up) as well as strategy use (top-down).</th>
<th>M.I.N.I PLUS SCI-PANSS Weschler Abbreviated Scale of Intelligence (IQ)</th>
<th>Both groups showed improvements in multiple neurocognitive domains, although improvements in the CBT group were not significant. There were significant between-group differences for <strong>verbal learning &amp; working memory</strong> at post-treatment. CR was shown to have a significant effect on verbal learning, which is strongly linked to functional outcome. The CR group also showed significant improvements in working memory at post-treatment. However, the CR group showed declines in verbal learning and working memory from post-treatment to follow-up; authors attributed this decline to the discontinuation of reminders from employment specialists and computer-based training, and recommend booster sessions in the future.</th>
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<td><strong>Control:</strong> Multisite, hybrid program administered by employment specialists in individual sessions 2×/week for 10 months (29.5 total hours of treatment). CBT focused on maladaptive thinking</td>
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patterns associated with work-related difficulties through cognitive restructuring, motivational interviewing, graded exposure, and homework; activity scheduling, gradual task assignments, addressing maladaptive schema related to work setting; recognizing, changing, and coping with underlying thinking patterns that may be limiting success at work; and social relationships (how the workplace is organized, working conditions, and rehearsal of social situations)

Assessment of employment-related strengths and weaknesses; Identification of cognitive enhancement strategies that might benefit the participate  
**DSM-IV Serious Mental Illness (SMI) diagnosis; 18 y/o or older; Receiving Social Security Supplemental/Disability Income & extended**  
**Structured Clinical Interview for DSM-IV**  
**Positive and Negative Syndrome Scale (PANSS)**  
**Comprehensive Cognitive Battery**  
TSW group improved significantly more than E-VR group in the cognitive composite scores, Trail Making Part B, the Total Number of Categories on the WCST (executive functions), and PANSS scores for overall symptom severity and the activation |
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<th>Impairment in function due to a mental illness; Reliance on psychiatric treatment, rehabilitation, and supports; Currently enrolled in vocational rehabilitation (VR) program for at least 3 months; Has not benefited from recent vocational rehabilitation; Willing to sign informed consent and help them meet job goals; Computerized cognitive exercise curriculum that includes approx. 24 hours of cognitive exercises focusing on attention &amp; concentration, psychomotor speed, learning &amp; memory, and executive functions; Strategy coaching with cognitive specialists for retention of cognitive strategies and work related behaviors; Job search with vocational team (cognitive and employment specialists); Consultation after job attainment to revisit cognitive challenges and job supports</th>
<th>Employment Outcomes (comprised of standardized neuropsychological measures)</th>
<th>Employment Outcomes subscale. Trails B and composite cognitive scores showed a significant decrease from post-treatment to the 18-month follow-up in the TSW group. Only the WCST measure was maintained. Participants in the TSW group obtained more competitive and paid work compared to the E-VR group, though these differences were not significant. TSW group were significantly more likely to engage in any work-related activity and work more weeks over the 3-year follow-up than the E-VR group. Participants in E-VR group were paid a significantly higher hourly wage according to 3-year follow-up. This may be due to differences in level education between groups.</th>
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<td>Occurred at vocational rehabilitation site with the vocational team; 45-60 min computerized sessions, 1-2/week for 12 weeks; Approx.</td>
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**Inclusion:** Participants of this study were a diagnosis of schizophrenia, schizoaffective disorder, or an unspecified nonorganic psychosis according to the International Classification of Diseases, 10th Revision (ICD-10) with a duration of illness of ≤ 5 years, older than 18 years old, and had written consent.  
**Intervention:** The study implemented a Mind Flower Program which consisted of inspirational text messaging, free book lending, volunteer experiences at nursing homes or local festivals, mentor matching, individual counseling via email, phone, or face-to-face, psychoeducation about stress management, medication, and lifestyle; group  
Positive and Negative Symptom Scale (PANSS)  
Global Assessment of Functioning (GAF)  
Brooding Scale (BS)  
Social Functioning Questionnaire (SFQ)  
Psychotic Symptom Rating Scale-Delusions and Auditory Hallucinations (PSYRATS-D/AH)  
The Mind Flower program had only 25 participants after 32 participants were approached. During the 1-year follow-up period, none of the participants relapsed and there were significant time effects on the total and the three subscale scores of the PANSS and for the GAF score. There were also post-hoc analyses done and revealed that the total and three subscale scores for the PANSS were significantly lower at 6 and 12 month follow-ups than at baseline. For some of the
programs such as metacognition training; a reading club; physical fitness; and crisis interventions for suicide and emergent admissions. There were three stages within the program: Stage I, “Hope”; Stage II, “Jumping”; and Stage III, “Recovery”. The primary goals of the program were to ensure the continuity of treatment and improve socio-occupational functioning.

**Control:**
No control group was utilized in this study.

Results of this study support SocialVille as a fully remote intervention to target social cognition for outpatients with Schizophrenia. These results support outcomes of previous studies addressing the effects of SocialVille on individuals with Schizophrenia. While SC outcomes were significant,
**Reading [WTAR];**
- Clinically stable for 8 weeks prior to consent; No more than a moderate severity rating on hallucinations and unusual thought content (PANSS score less than or equal to 4); No active suicidal ideation with specific plan and intent (measured by Columbia-Suicide Severity Rating Scale [C-SSRS]); Maintained on a stable treatment of no more than 2 antipsychotic drugs and/or other concomitant psychotropic treatment for at least 6 weeks prior to consent.

- To improve processing speed and accuracy in reaction to socially relevant stimuli and social information. This was a virtual/remote intervention that took place in participants’ home environment using a loaner laptop. Training coaches interacted with participants weekly by phone. They discussed progress and provided coaching if the individual expressed difficulty completing the training programs. There were 7 approx. 6-minute exercises per session, for a total of 42 minutes per session. 3/5 sessions per week was recommended. Participants were asked to complete 40 training sessions over 8-12 weeks.

**Control:**
- 13 conventional computer games (Chinese checkers, Virtual Reality Functional Capacity Assessment Tool (VRFCAT), Global Functioning Scale- Social and Role (GFS)) limitations were noted in response to functional outcomes and motivation. Authors note that while the functional outcome measure used may be outdated, it is likely that functional outcomes may need to be addressed with another treatment or intervention. Application of some of these computer-based tasks as a “home exercise program” may be valuable for individuals with SMI being seen by outpatient OT. This study used training specialists to discuss weekly progress and provide coaching if the individual expressed difficulty completing the training programs. OTs may play a similar role if SocialVille is applied as an occupational therapy home exercise program. This program may be generalizable for individuals who struggle with social cognition; this might include individuals with SMI or developmental disabilities. Authors note that this program should be used adjunctively with other forms of training.

**Inclusion:**
Have a diagnosis of schizophrenia spectrum disorder according to the DSM-V, between the ages of 18-65, and instance of alcohol/ drug abuse within the last 6 months. This information was obtained

**Intervention:**
CAT is a psychosocial intervention that focuses on improving everyday functioning through activities aimed to decrease the impact of cognitive deficits and increase functional behavior. The overall treatment plan and how the

- Multnomah Community Ability Scale (MCAS)
- Social and Occupational Functioning Scale (SOFAS)
- Negative Symptom Assessment-Motivation Subscale

The data was analyzed using a linear mixed model for outcomes MCAS, SOFAS, and NSA-M. The results for MCAS and SOFAS were shown to not be clinically significant; however, there were trends in improvement at each checkpoint. The effect sizes were listed within graph form in the article as well.
from patient record and from their physician. The intervention is gone about is all surrounded by the everyday needs of the participant and their environment. The participants are taught compensatory strategies and ways to navigate their environment through supports.

**Control:**
Treatment as usual is described as the individualized care plan to the participant and includes a multidisciplinary team. The interventions included pharmacological treatment, psychoeducation, CBT, Liberman modules, psychomotor therapy, creative arts therapy, educative projects, sports and peer support groups. Participation in these interventions depended on the desire of the patient as well as their needs. There were specific groups for IP and OP services. IP as measured on a 95% confidence interval. The same can be said for the work-related activities as well where there was a significant effect of the intervention at month 10, with a gradual increase since month 4. The confidence interval was based on 95%.
CRT is described to be used to improve cognitive problems that may be associated with the diagnoses seen in this study. There are 9 treatment principles that were addressed over the course of the study.

**Control:**
All participants received TAU, regardless of their group. The researchers describe this as minimally receiving antipsychotics and the use of therapeutically safe environments to meet the needs of the patient. | Social and Occupational Functioning Assessment Scale (SOFAS)
MATRICS Consensus Cognitive Battery (MCCB)
MCCB composite scores, which measures cognitive functioning, showed a significant difference between the treatment and control group, favoring CRT at both end of treatment and 8 months follow-up.

In terms of social cognition, the researchers found no significant differences in measuring this task with the MCCB at end of treatment and follow-up.

Using the SOFAS, there were no significant differences between the two groups at the end of treatment or follow-up.

27 out of 28 participants partook in an anonymous interview to discuss satisfaction with the overall
<table>
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<th>Study</th>
<th>Intervention</th>
<th>Inclusion</th>
<th>Level</th>
<th>Details</th>
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<tr>
<td>19. A multicenter, randomized controlled trial of individualized occupational therapy for patients with schizophrenia in Japan.</td>
<td><strong>Intervention:</strong> Developed through original occupational therapy programs based on individualized interventions, it facilitates proactive participation in treatment. It is tailored to enhance cognitive functioning and adaptive behaviors, and includes motivational interviewing, self-monitoring, individualized visits, handicraft activities, psychoeducation, and discharge planning. Brief Assessment of Cognition in Schizophrenia - Japanese (BACS-J) Schizophrenia Cognition Rating Scale - Japanese (SCoRS-J) Social Functioning Scale - Japanese (SFS-J) Global Assessment of Functioning (GAF) Intrinsic Motivation Inventory -Japanese (IMI-J)</td>
<td><strong>Inclusion:</strong> Ages 20-65, recently admitted to a psychiatric hospital, and they should meet DSM-V criteria for schizophrenia or schizoaffective disorder.</td>
<td>Shimada T, Ohori M, Inagaki Y, Shimooka Y, Sugimura N, et al. (2018)</td>
<td>This study supports IOT helping individuals with schizophrenia enrolled in an occupational therapy program. The implementation of IOT did not have any adverse effects as well with individuals presenting with acute schizophrenia. It also supports cognitive functioning, intrinsic motivation, medication adherence, and treatment satisfaction. Adding IOT to GOT also supported the implementation of IOT within inpatient hospital settings compared to GOT alone.</td>
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| Control: The GOT group’s intervention was an activity-oriented treatment program in a group setting that included the following programs: physical fitness programs, handicraft programs, a cooking program, a music program, a recreation program, and a group psychoeducation program. | Morisky Medication Adherence Scale (MMAS-8)  
Positive and Negative Syndrome Scale (PANSS)  
Client Satisfaction Questionnaire (CSQ-8J) | 20. Feasibility and effectiveness of the Integrated Psychological Therapy (IPT) in patients with schizophrenia: a preliminary investigation from India.
Level 3: Single group design.  
**Inclusion:** Patients aged between 18 and 50 years, with minimum of grade 5 education, having a caregiver with whom they were in regular contact, were recruited.  
**Intervention:** Patients received four subprograms throughout the intervention process including cognitive differentiation, social perception, verbal communication, and social skills. Each IPT session included a review of the previous session/homework, agenda of current session, summary and homework for the next session.  
**Control:** Social and Occupational Functioning Scale (SOFs)  
Groningen Social Disabilities Schedule (GSDS) | Significant improvements from baseline to follow-up were seen in attention, executive functions, visual and verbal learning, memory, socio-occupational and role functioning. There was a significant decrease in symptom severity. Effect sizes at the three month follow up indicated larger effects on social functioning and verbal/visual learning and memory, and fewer lasting effects on cognitive flexibility. *No note of results being statically significant.* |
21. Effects of Early-Stage Group Psychoeducation Programme for Patients with Depression.


**Level II: Non-randomized Control Trial**

**Inclusion:** Hospitalized patients; Diagnosed with a depressive episode according to the 10th revision of the International Classification of Diseases; 19-89 y/o; Gave informed consent to participate

**Intervention:**
GPP objectives were to reduce patient anxiety surrounding hospitalization, encourage patient understanding of depression as an illness, educate patients on pharmacotherapy and depression, and increase patient motivation toward treatment and rehabilitation. There were 3 sessions focusing on the biology of depression (clinical course of depression throughout onset, hospitalization, and recovery), how antidepressant medications work (understanding side effects), and cognitive-behavioral techniques for managing depression (psychosocial treatments, how to prevent recurrence & use social resources).

**Inventory Scale for Mood and Sense of Fatigue (SMSF)**

Based on SMSF scores at the start of the program and at discharge, GPP was shown to be effective in improving thoughts and symptoms surrounding tension/anxiety, depression/loss of self-confidence, impatience, brain/thought fatigue, general physical condition, volition/vitality, and the feeling of being healthy for individuals experiencing depressive episodes. Although results were statistically significant and methods of analysis accurate, this study has many limitations and should be replicated to possibly obtain more powerful results. Limitations were identified as co-intervention, baseline inequality, memory/recall bias, and non-randomization.

By educating patients on their condition, the typical course of treatment, available resources, and self-management tools,
The GPP was led by 2 occupational therapists and 1 social worker. There was 1 1-hour session offered per week in an open tatami room near the inpatient psych ward hall.

**Control:**
Subjects received any combination of the following based on individual needs: Pharmacotherapy, psychotherapy, social work consultation, CBT, OT, m-ECT. Frequency, duration, and location was determined by individual needs.

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**Inclusion:** Participants were included in the study if they had a DSM-IV diagnosis confirmed by Structured Clinical Interview for DSM-IV or Mini International Neuropsychiatric Interview, were unemployed for at least one year. **Intervention:** Participants in this group received CCT and supported employment. CCT consisted of a compensatory strategy-based intervention with 4 modules that addressed: prospective memory (i.e., remembering to do something), self-regulation (SSPA), independent living skills (ILSS), and quality of life (QOLI).

- UPSA-Brief
- SSPA
- ILSS
- QOLI

The results showed that 40.3% of participants in the CCT held competitive work for the 2-year study for approximately 16 weeks with wages averaging $5790.50 in 2 years. In the control group receiving enhanced supported employment, 53.9% of participants held competitive work for the 2-year study averaging...
month and stating a goal of wanting to work, they were 18 years old or older, and were able to speak English. They did things in the future, conversational and task vigilance, learning and memory, and cognitive flexibility and problem-solving (i.e., executive functioning). The supported employment aspect of the study was Individual Placement and Support (IPS) which emphasizes individuals searching for work with mental health and employment services throughout the duration of the job hunt. There were 77 participants in this group. The intervention took place at a single outpatient clinic in San Diego, California. A master’s level employment specialist delivered the intervention. The intervention took place over a period of 12 sessions of CCT once a week and 12 $7810.20 working for approximately 22.6 weeks out of the 2 years.
sessions of IPS once a week each lasting 1 hour.

**Control:**
Participants in this group received only enhanced supported employment which emphasizes individuals searching for work with mental health and employment services provided throughout the duration of the job hunt. There were 76 participants in this group. The intervention took place at a single outpatient clinic in San Diego, California. A master’s level employment specialist delivered the intervention. The intervention took place over a period of 12 sessions of IPS twice a week each lasting 1 hour. The intervention lasted a total of 12 weeks with follow-up periods at the 3-, 6-, 12-, 18-, and 24-month marks.
The OGI method focused on learning through activities and everyday tasks. It followed GMT but with a focus on the individual choice of activities and toward the end when participants debriefed on their performance during the activities. It emphasized the use of functional activities such as food preparation, money management, and reading, writing, and using computers for information seeking proposed by a previous researcher; however, the current researchers adapted the intervention to be client-centered. The OGI group targeted BADLs such as personal hygiene, then other areas of occupations such as IADLs, social participation, and Behavioural Assessment of the Dysexecutive Syndrome (BADS) Direct Assessment of Functional Status-Revised (DAFS-BR) Independent Living Skills Survey (ILSS-BR) Positive and Negative Syndrome Scale for Schizophrenia (PANSS) The results of the study indicated there were no significant differences in BADS scores between groups with IQ included as a covariate. Within the study, IQ showed to influence most BADS subtests and DAFS-BR subtests. The key findings within the study is that OGI, compared with an activity-based intervention, was effective in the treatment of individuals who have treatment resistant schizophrenia. There was a medium-large effect size within almost all subscales of the BADS, the measure that evaluated executive function. The improvements were also shown during the 6-month follow-up when there was no active intervention. Within the secondary outcome, the OGI group showed medium to large improvements on the DAFS-BR which evaluated individual’s communication skills, finance management, and grooming. These improvements were also present at the 6-month |
leisure. All participants were given four homework assignments to practice the new tasks acquired.

Control:
Participants of the control group performed craft activities like painting or drawing on canvas and wood, but no skilled therapy interventions were used. The occupational therapist was present at the group sessions and provided materials, but did not interfere or instruct participants.

The ILSS-BR noted medium to large improvements within the OGI intervention group, which noted improved performance of ADLs upon perspective of a caregiver.


K.K.N. Yam, et al., A pilot training program for people in recovery of mental illness as vocational peer support workers in Hong Kong – Job Buddies Training Program (JBTP): A preliminary finding, Asian J.

Level II, pilot study

Inclusion Criteria:
Participants were included in the study if they had been diagnosed with mental illness, had stable mental condition, aged 18 or above, attended follow-up psychiatric service in Kwai Chung Hospital (KCH), received or had received Supported Employment Service.

Intervention:
The curriculum to become a job buddy consisted of three parts: coursework, storytelling workshop and practicum.
Coursework comprised 15 three-hour core classroom sessions and one half-day team-building activity. Storytelling workshop comprised Mental Health Recovery Measure
Chinese Self-Stigma of Mental Illness Scale
Chinese Occupational Self-Efficacy Scale

Qualitative results showed that all JB trainees have personal growth in the training. Personal growth was defined specifically as increased knowledge about oneself.
Psychiatry (2016), (SES), willing to share their own recovery stories; were required to submit a written paragraph about their unique personal recovery experiences before attending a panel interview, and had basic Chinese reading and writing skills.

1 three-hour session preparatory workshop and 8 three-hour sessions of storytelling workshop. Upon the completion of the coursework, the trainees will start the practicum to provide vocational support for other supported employment recipients. There were 17 participants in this group with 8 being selected for training. The intervention took place in the public psychiatric hospital setting of Hong Kong. Occupational therapist led the mentor intervention sessions. Sessions were held 2-3 times per week. The coursework and storytelling workshop were held simultaneously in the first 9 weeks with total training up to 72 hours, each session lasting for 3 hours. And the practicum lasted more than 6
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<th>Study Title</th>
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<th>Design/Aims</th>
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<td>25. Effectiveness of Social Skills Training Groups in Persons with</td>
<td>Aruldass, P., Sekar, T. S., Saravanan, S., Samuel, R., &amp; Jacob, K. S.,</td>
<td>Level III nonrandomized pretest/posttest.</td>
<td>Social skills training (SST) in cases of serious mental illness such as schizophrenia and bipolar affective disorder focuses on addressing functional deficits in social skills. SST focuses on using behavioral and social learning factors, such as those of setting goals, prompting in activities, modeling, and shaping to teach social skills. Inpatient SST group protocols can improve the social performance of individuals with schizophrenia or bipolar affective disorder. Social skill scores all improved across the five subdomains of VASP for individuals with schizophrenia or bipolar affective disorder.</td>
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<td>Severe Mental Illness: A Pre-Post Intervention Study</td>
<td>2022)</td>
<td>Inclusion: The inclusion criteria included those who were diagnosed with</td>
<td>Inpatient SST group protocols can improve the social performance of individuals with schizophrenia or bipolar affective disorder. Social skill scores all improved across the five subdomains of VASP for individuals with schizophrenia or bipolar affective disorder.</td>
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<td>schizophrenia or bipolar affective disorder, between the ages of 18-60,</td>
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<td>and given written informed consent for the study.</td>
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<td>months involving up to 50 training hours. No control group was utilized in</td>
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