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Psychosocial Interventions for Older Adults With Severe Mental Illness: A Systematic Scoping Review and Meta-analysis

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Background: Older adults with severe mental illness (SMI) experience complex rehabilitative needs that are often neglected in clinical and research settings. Psychosocial interventions are key to supporting recovery; however, evidence specific to this population remains fragmented. This scoping review and meta-analysis aims to synthesize available research on psychosocial interventions designed for older adults with SMI and evaluate their effectiveness.

Study Design: Following the Arksey and O'Malley framework and PRISMA-ScR guidelines, we conducted a comprehensive search across PubMed, PsycINFO, and Scopus for studies published between 2000 and 2023. Eligibility was based on the PICO framework, focusing on adults aged ≥ 50 with SMI. Data were extracted and analyzed using descriptive synthesis and meta-analytic techniques.

Study Results: Sixteen studies met the inclusion criteria, encompassing 884 participants. Interventions primarily targeted clinical recovery, with limited focus on aspects of personal recovery. Meta-analysis indicated a moderate overall effect size ($ES = 0.366$, $P < .0001$) with low heterogeneity ($I^2 = 18.81\%$). Quality assessment revealed that 62.5% of studies had medium to high risk of bias.

Conclusions: While psychosocial interventions show promise in improving clinical outcomes for older adults with SMI, there is a significant gap in addressing personal recovery dimensions. Future research should emphasize holistic, long-term interventions to enhance both clinical and personal recoveries.

Key words: severe mental illness; older adults; psychosocial interventions; systematic review; meta-analysis; recovery; wellbeing.

Introduction

The definition of severe mental illness (SMI) encompasses three dimensions: (1) diagnosis, such as schizophrenia spectrum disorders or bipolar disorder; (2) disability, characterized by limitations in psychosocial functioning; and (3) duration of service contact exceeding 2 years.¹ Globally, the prevalence of SMI in older adults is estimated at 3%-5%.² Despite this prevalence, the age-specific rehabilitative needs of older adults have been largely neglected.^{3,4}

In addition to psychiatric symptoms, older adults with SMI face a high incidence of chronic physical conditions such as cardiovascular disease, diabetes, and neurodegenerative disorders like dementia.⁵⁻⁹ These comorbidities exacerbate SMI's impact, resulting in elevated health-care utilization, risk of social isolation, institutionalization, functional decline, mortality,¹⁰⁻¹⁴ while the difficulties with social functioning persist.¹⁵ Consequently, there is a reduction in life expectancy of 14.7 years compared to the general population.^{16,17}

The challenges faced by this group also include a 4-fold increased risk of nursing home admission, coexisting medical conditions, negative perception of aging, and high rates of loneliness.¹⁸⁻²⁴ Notably, older adults with SMI desire to live in a community with optimal quality of life.²⁵⁻²⁷ Addressing their needs requires tailored psychosocial interventions to improve their quality of life, social functioning, and subjective well-being (WB).^{15,20,28} Research specifically focused on older adults with SMI remains limited.^{15,29} Existing treatments, based on younger populations, overlook aging-related changes, resulting in suboptimal care and poorer outcomes for older adults.^{2,30}

Evidence shows that age modulates (but does not negate) the benefits of psychosocial interventions in SMI. A systematic review of 15 trials in adults ≥ 40 years found that geriatric adaptations (slower pacing, enlarged materials, and overlearning) are essential.¹⁵ Two randomized trials, FAST (≥ 40 years) and CBSST (42–74 years), showed meaningful gains in everyday functioning and social engagement, using modified session pacing and age-salient homework (eg, medication-sorting, retirement budgeting).^{31,32} A meta-analysis of integrated psychological therapy reported larger cognitive gains in older samples,³³ whereas a 73-trial meta-analysis of cognitive remediation found no age effect.³⁴ Together, these data argue for targeted late-life modifications rather than wholesale redevelopment of established psychosocial programs. Older adults face greater challenges in social and functional domains, not just in the reduction of psychotic symptoms.^{35–37} A crucial aspect in the treatment of this group is subjective WB, which has been relegated to the background despite high rates of depression, loneliness, stigma, and lack of appropriate treatment.²¹ Increasing positive affect in SMI would help them compensate for the complex experiences and negative emotions they often encounter.³⁸ This group requires special attention that considers the comorbidity of aging and SMI; therefore, emphasizing the positive aspects of both is essential for combating stigma and supporting mental health in older adults with SMI.³⁹

This scoping review and meta-analysis aims to synthesize current evidence on the prevalence, clinical features, and outcomes of psychosocial interventions for older adults with SMI. To capture the full range of potential benefits, we adopted a deliberately broad scope: psychosocial trials were eligible if they targeted any recovery domain (clinical, personal, or global subjective WB) and reported extractable data for adults ≥ 50 years with SMI. Although most available studies address clinical recovery, we explicitly report on all 3 domains to highlight existing gaps. By mapping remaining gaps, the review aims to inform age-appropriate intervention design and policy frameworks to meet the specialized needs of this underserved population.

Methods

Protocol Registration and Standards

This scoping review was conducted following the methodological framework outlined by Arksey and O'Malley,⁴⁰ and further refined by Levac et al.,⁴¹ ensuring adherence to the guidance provided by the Joanna Briggs Institute (JBI) for conducting scoping reviews.⁴² The protocol was preregistered on the Open Science Framework (OSF) (https://osf.io/yghpr/?view_only=84c5eafb3f3242ee9db7226b369bc609) and aligns with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA).⁴³

Search Strategy

The search strategy was developed with the support of a librarian to ensure comprehensiveness and accuracy (see [Appendix S1](#)). Searches were conducted on January 2024 in PubMed, PsycINFO, and Scopus, using both controlled vocabulary (eg, MeSH terms) and free-text terms to capture a broad range of studies on psychosocial interventions for older adults with SMI.

Eligibility Criteria

Eligible articles were selected based on the PICO framework (see [Table 1](#)). Inclusion criteria required studies whose full sample (or an extractable subgroup) was aged 50 and older diagnosed with SMI. Only articles published in English or Spanish between 2000 and 2023 were included.

Exclusion criteria included study populations under 50 years; without diagnosis of SMI (such as anxiety or depression), with only social exclusion conditions (such as prison), or with cognitive decline unrelated to SMI. Medication and genetic studies were also excluded.

This approach ensures a focus on studies relevant to the unique needs of older adults with SMI and the evaluation of psychosocial interventions in diverse yet applicable contexts.

Study Selection

Records were managed using Covidence software, facilitating duplicate removal and streamlining the screening process. Four reviewers (M.S.-I., R.C., J.V.P., and F.A.) independently assessed each study, with 2 evaluating each record. Discrepancies were resolved through discussion or by involving a third reviewer. All reasons for exclusion were documented and summarized in a PRISMA flow diagram (see [Figure 1](#)).

Data Extraction

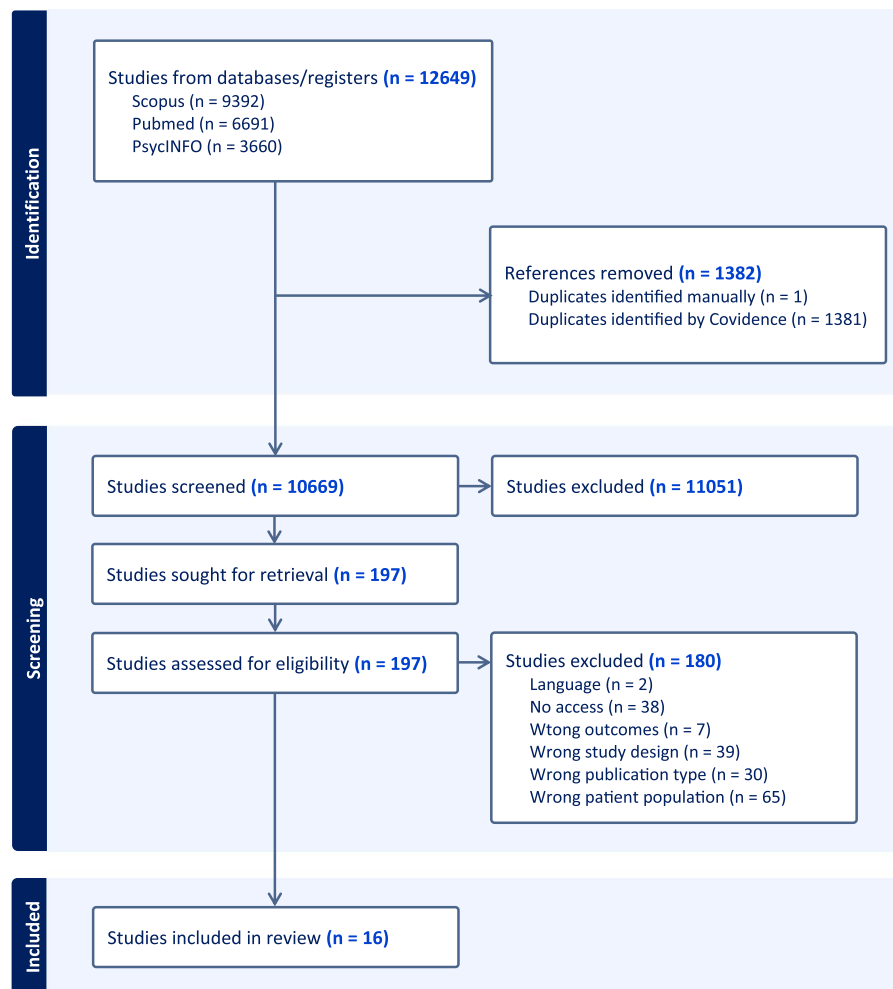
Data extraction was independently performed by 2 clinical psychologists (M.S.-I. and R.C.) using a predesigned Excel template based on the PICOS framework (see [Table 1](#)). Extracted data included study characteristics, participant demographics, intervention details, and outcomes.

Appraisal of Methodological Quality

The quality of included studies was evaluated independently by 2 reviewers (M.S.-I. and R.C.) using 2 tools. The TIDieR checklist⁴⁴ assessed the clarity and replicability of intervention descriptions, with items rated from 1 (poorly described) to 3 (well described).⁴⁴ In addition, the Mixed Methods Appraisal Tool (MMAT)^{45,46} evaluated the risk of bias across 5 methodological domains, scoring studies from 1 (low risk) to 3 (high risk). Consensus was reached through discussion to ensure reliability in ratings.

Table 1. Inclusion and Exclusion Criteria Based on PICOS Criteria

PICOS	Inclusion criteria	Exclusion criteria	Data extraction
Population	≥50 years - Diagnosis of SMI - Evidence of significant interference in daily functioning	<50 years - No diagnosis of SMI - No social exclusion conditions - Cognitive decline unrelated to SMI - Studies on caregivers/family members	- Participant number - Gender - Mean age - Diagnosis
Intervention	Psychological or psychosocial interventions	Studies on medication, genetics, epidemiology, or biometric focus	Intervention details
Comparison group	Any comparison group		Comparison group details
Outcome	- Personal recovery - Clinical recovery	Medical-only outcomes	- Measurement - Follow up
Study design	Empirical studies	Reviews, summaries, essays, case reports, theoretical works, opinion papers, gray literature, and articles not accessible	- Study design - Study setting

**Figure 1.** PRISMA Diagram

Statistical Analysis

To evaluate the effectiveness of interventions, a meta-analytic approach was followed. For each reported outcome, effect sizes (ESs) were calculated and categorized into 2 complementary frameworks: a detailed 10-outcome classification reflecting specific recovery dimensions, and a broader 3-domain framework encompassing personal recovery (PR), clinical recovery, and global subjective measures. This dual approach provided a nuanced understanding of interventions impact. Each grouping of studies was independently (meta)analyzed, fitting a random-effects model.

For the meta-analysis, 3 studies were excluded due to implausible ESs and poor adherence to TIDieR criteria, classified as not described in the checklist. This ensured methodological rigor and reliability, minimizing bias from inadequate intervention reporting.

Effect Size Estimation. Despite the risks of calculating mean differences from the same group (ie, pre-post) in meta-analyses—such as the potential indistinguishability between time and intervention effects⁴⁷—pre-post standardized mean differences (SMDH;^{48,49} see [Appendix S2](#), equations [1-3] for more details) were estimated as ESs for each study's reported outcome. Note that 9 out of 16 studies employed a pre-post design without control groups, focusing exclusively on patient recovery. Thus, it was the best option to make use of all available data. To describe results, we first average all ES coming from the same study (raw ES averages). Afterward, a more nuanced averaging scheme was employed (see below).

Outcomes Classifications. A fine-grained, 10-outcome grouping [1-10] was conducted, under the following 3, broad dimensions [A-C]: (A) PR: (1) person-centered orientation; (2) involvement of the person (empowerment, self-efficacy, and self-esteem); (3) self-determination and meaning of life; (4) hope. (B) Clinical recovery: (5) symptom remission; (6) occupational functioning; (7) independent living functioning. (C) Global subjective WB measures such happiness, life satisfaction, or eudaimonic WB related to personal growth: (8) social relations; (9) subjective quality of life; (10) life satisfaction. This approach allowed a different averaging scheme, instead of the first one mentioned above. See Table 2 in [Appendix S2](#) for a detailed description of each grouping.

Following Slade's measurement guidance, which treats hope, identity, meaning, empowerment, and connectedness as distinct but complementary recovery processes,⁵⁰ we analyzed each component separately rather than collapsing them into a single score. Disaggregation prevents conceptual blurring and avoids double-counting instruments that span several processes. Among the 5 components, indicators of empowerment/agency (operationalized most often as “involvement in personal decisions” or

shared-decision-making) were reported in over 70% of eligible studies. We therefore used this variable as an anchor outcome to maximize study inclusion and to provide a common yardstick for comparisons with clinical recovery. Our decision also mirrors policy-oriented recommendations on subjective WB. Diener⁵¹ call for policy-oriented guidance on subjective WB recommends measuring specific facets (eg, hope, meaning, and empowerment) in addition to global life satisfaction because each facet can change independently and is differentially sensitive to interventions.

Mixed-Effects Models with Covariates. To assess factors influencing variability in outcomes, a mixed-effects model was fitted for the fine-grained grouping mentioned above, including the following moderators: (1) outcome classification (grouped and non-grouped), (2) intervention description quality (TIDieR), (3) methodological quality (MMAT), (4) housing context (community-dwelling vs institutionalized), (5) intervention format (individual, group, or mixed), (6) interventionist type (professional or peer), and (7) study design.

Results

Search Results

The study selection and exclusion process is summarized in [Figure 1](#).

Description of Included Studies

Sixteen studies met the inclusion criteria, with a total sample of 884 participants and 85 reported outcomes. The general characteristics of the included studies are reported in [Supplementary Material S2](#). The studies originated mainly from the United States (43.75%), followed by the Netherlands (25%). The follow-up average duration was between 5.5 and 24 months. Participants had a mean age of 65.6 years, and primarily had diagnoses including mixed SMIs (56.25%), followed by schizophrenia (25%) (see [Appendix S4](#) for characteristics of studies).

Study designs included open-label nonrandomized pilot studies (32.14%) one randomized pilot study (5.36%) pre/post-experimental design (31.25%) and randomized controlled trials (RCTs) (31.25%). Half of the studies (53.3%) used control groups, while the rest followed pre-post designs. Notably, all studies focused on various aspects of clinical recovery, while only 5 studies (31.25%) addressed aspects of PR in addition to clinical recovery. In terms of instruments, 24.4% of the measures were collected objectively (eg, clinical assessments), while 75.6% relied on self-report tools. The most commonly used self-report instruments were the Independent Living Skills Survey for functioning (ILSS; clinical recovery) ($n = 11$), the Positive and Negative Syndrome Scale (PANSS) for symptom assessment ($n = 7$), and the Severity Indices of Personality Problems (SIPP-SF-S;

Table 2. Evaluation of the Replicability and Quality of Included Studies ($n = 16$)

Authors	TIDIER total score	MMAT total score
Accordino et al. ⁵⁵	Not described	High risk
Stobbe et al. ⁶⁴	Not described	High risk
Willemse et al. ⁶⁶	Somewhat described	High risk
Golas et al. ⁵⁸	Somewhat described	High risk
Mohammadi et al. ⁵⁷	Somewhat described	High risk
Tyler et al. ⁶⁰	Somewhat described	High risk
Bartels et al. ⁶⁵	Somewhat described	Medium risk
Pratt et al. ⁵²	Well described	Medium risk
Fortuna et al. ⁶⁷	Somewhat described	Medium risk
Chiang et al. ⁵⁶	Somewhat described	Medium risk
Mueser et al. ⁵³	Well described	Low risk
Bartels et al. ⁵⁴	Well described	low risk
Videler et al. ⁶²	Somewhat described	Low risk
Berry et al. ⁶³	Well described	Low risk
Videler et al. ⁶¹	Somewhat described	Low risk
Heinbach et al. ⁵⁹	Somewhat described	Low risk

$n = 5$) along with the Social Behavioral Schedule (SBS; $n = 5$) for social functioning (clinical recovery).

Most studies showed medium to high risk of bias, with 62.5% showing medium (31.25%) or high risk (31.25%). A total of 37.5% of the studies exhibited a low risk of bias. Further details for each study are provided in Table 2.

Interventions' Characteristics

Duration of interventions averaged 7.4 months (see Appendix S5, Table 4, Characteristics of Interventions) and nearly all (93.75%) were delivered face-to-face. Seven interventions were conducted by psychologists, while others involved trained professionals (eg, physicians). Only 25% of studies adequately adhered to TIDieR reporting (Table 2).

Components of the Interventions

Three studies evaluated the same intervention (HOPES), based on skills training: a pilot trial,⁵² an RCT with 2 years of follow-up,⁵³ and an RCT with 3 years of follow-up.⁵⁴

The interventions incorporated a range of therapeutic components targeting different aspects of recovery and functioning, which can be broadly categorized as follows:

1) Physical and Cognitive Activity:

- Two studies combined physical and cognitive activities^{55,56} to achieve clinical recovery (symptom remission and independent living)⁵⁶ and both clinical recovery (occupational functioning) and PR (self-determination and hope).⁵⁵
- Another study focused exclusively on cognitive activity, aiming to enhance clinical recovery through

symptom remission, independent living, occupational functioning, and social functioning;⁵⁷

- One study incorporated cognitive training and skills training to promote clinical recovery through symptom remission and independent living;⁵⁸
- A fourth study concentrated solely on physical activity, targeting clinical recovery (symptom remission).⁵⁹

2) Cognitive and Behavioral Therapies:

- One study employed recovery-focused therapy with cognitive activities to achieve PR (person-centered orientation, decision-making) and clinical recovery (symptom remission, independent living, occupational functioning, and social functioning);⁶⁰
- Two studies implemented group schema cognitive therapy as the primary intervention, aiming to achieve clinical recovery (symptom remission);^{61,62}
- Another study combined cognitive and behavioral techniques with future planning, goal setting, and life review to achieve clinical recovery (symptom remission).⁶³

3) Skills Training:

- Five studies implemented comprehensive skills training programs covering functioning, leisure, community living, friendship, and health self-management,^{52–54,64,65} aiming to achieve clinical recovery (symptom remission, occupational functioning, social functioning, and independent living);
- Another study provided skills training specifically targeting community living, friendship, and health self-management,⁵⁴ aiming to achieve clinical recovery (symptom remission, independent living, occupational and social functioning);
- One study integrated skills training on functioning, leisure, community living, friendship, and health self-management alongside future planning, goal setting, and cognitive-behavioral techniques.⁶³

4) Reminiscence Therapy:

- One study used reminiscence therapy to achieve PR (self-determination, hope) and clinical recovery (symptom remission);⁶⁶
- Another study combined reminiscence therapy with physical activity and skills training focused on friendship.⁵⁵

5) Psychoeducation and Motivational Interviewing:

- One study adopted a multifaceted approach, incorporating psychoeducation, future planning, goal setting, skills training on friendship and health self-management, cognitive-behavioral techniques, and motivational interviewing.⁶⁷

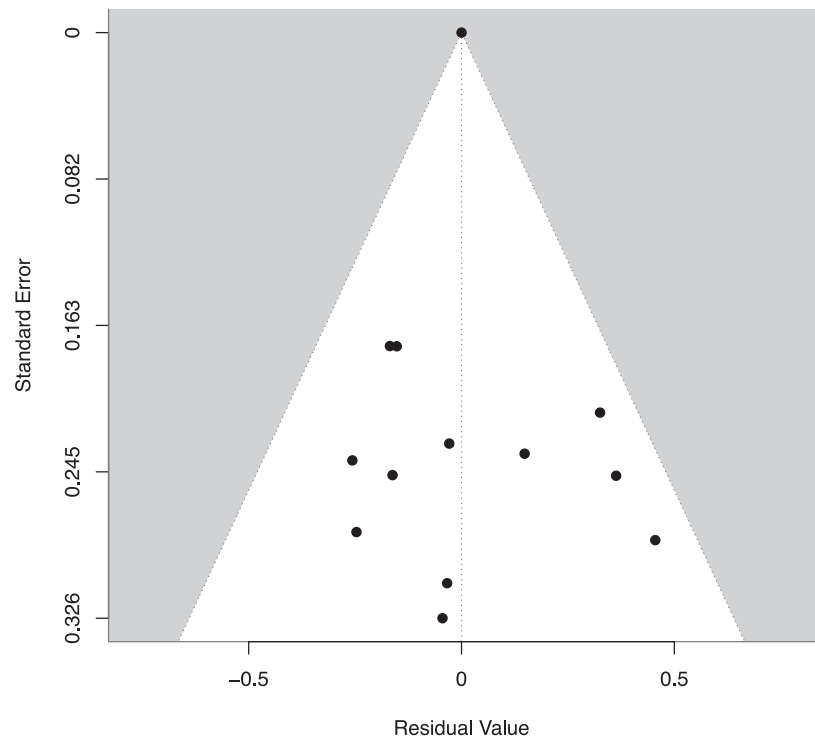


Figure 2. Funnel Plot for Publication Bias

Heterogeneity and Publication Bias on Raw ES Averages

For the meta-analysis, 13 studies were included; 3 were excluded due to implausible ESs and poor adherence to TIDieR criteria.

No substantial true heterogeneity was found among ESs (τ^2 : 0.049; as averaged for each study without further consideration), but a moderate amount of the total variation cannot be explained by chance alone ($I^2 = 59.24\%$). On the other hand, no significant publication bias was detected, either with different common statistical tests (Rosenthal’s fail-safe $n = 284$; Rosenberg’s fail-safe $n = 274$; Orwin’s fail-safe $n = 89$), or analyzing the funnel plot (Figure 2; Kendall’s rank test: $\tau = 0.21$ [$P = .37$]; Egger’s test for funnel plot asymmetry: $Z = 0.53$ [$P = .59$]).

Effect Size Analysis and Model Fitting. Despite the lack of a clear effect of the intervention with standard averages (see Figure 1 in Appendix S6), we proceed with the analysis by outcome, including the base model and moderators. First, we take into consideration broad outcome categories: most studies focused on clinical recovery (CR; $n = 55$), while PR ($n = 3$) and global, subjective measures of WB ($n = 2$) were rarely reported. Hence, only a qualitative overview can be provided. The average ES of each type of outcome is $SMDH_{CR} = 0.35$ ($SE_{CR} = 0.35$), $SMDH_{PR} = 0.29$ ($SE_{PR} = 0.02$), and $SMDH_{WB} = 0.34$ ($SE_{WB} = 0.33$). We would need more data to proceed with a reliable statistical test.

As stated before (section “Outcome classification” and Table 2 in Appendix S3), we subdivide these dimensions into 10 smaller outcome categories to conduct further analysis (comprising PR: (1) Person-centered orientation; (2) Involvement of the person; (3) Self-determination; (4) Hope; (5) Symptom management; (6) Occupational functioning. Clinical recovery: (7) Independent living functioning; (8) Social relations. Global Subjective Measures of Well Being: (9) Subjective quality of life; (10) Life satisfaction). We then averaged ESs coming from the same study that fall into the same of each of the 10 categories, leaving any other ES from that study aside. Then, we fit a base, random-effects model with no moderators (LL = -0.3581 ; $\tau^2 = 0.008$; I^2 : 18.81%), estimating a pooled $SMDH = 0.37$ ($SE = 0.0587$, $P < .0001$, 95% CI [0.2510, 0.4811]). Again, studies show a very homogeneous true ES, with some heterogeneity not attributable to chance. Prima facie, the pooled effect might seem robust, but a closer inspection reveals that it might be driven by specific, individual studies with a particularly high ES, while others are close to zero (see Figure 3).

Lastly, several qualitative moderators were included in the model to explore their impact on heterogeneity (TIDieR, MMAT, illness, housing, design, PR, clinical recovery, interventionist, format, and grouped outcome, that comprise the 10 categories mentioned before). Only TIDieR, MMAT, and grouped outcome showed a significant impact on ESs, as shown in Table 3.

Only the overall effect of TIDieR and MMAT was significant (intercept, with $P = .0015$ and $P < .0001$), with no

Table 3. Moderator Analysis Summary

Moderator	Coefficient	Estimate	SE	z	P	95% CI lower	95% CI upper
TIDieR*	Intercept	0.5610	0.1766	3.176	.0015	0.2148	0.9071
	TIDieR: Somewhat described	−0.2303	0.1994	−1.155	.2481	−0.6212	0.1605
	TIDieR: Well described	−0.2060	0.2072	−0.994	.3202	−0.6121	0.2001
MMAT*	Intercept	0.4166	0.1001	4.160	<.0001	0.2203	0.6128
	MMAT: Low risk	−0.1173	0.1311	−0.895	.3708	−0.3742	0.1396
	MMAT: Medium risk	0.0335	0.1722	0.195	.8456	−0.3039	0.3710
Grouped Outcome*	Intercept	0.2770	0.0796	3.481	.0005	0.1210	0.4330
	Involvement of the person	0.0430	0.2853	0.151	.8802	−0.5163	0.6023
	Symptom remission	−0.0287	0.1241	−0.232	.8169	−0.2720	0.2145
	Social relations	0.4572	0.1472	3.106	.0019	0.1687	0.7457

*Reference categories are: TIDieR: Not described; MMAT: High risk; Grouped outcome: Outcome involvement of the person (Involvement of the person [empowerment, self-efficacy, and self-esteem]). Involvement of the person encompasses critical aspects of personal recovery, such as the individual's perceived agency and self-worth, which are foundational to effective psychosocial interventions. By serving as the reference, Outcome involvement of the person allows for direct comparison with other outcomes within the personal recovery, clinical recovery, and global subjective measures dimensions.

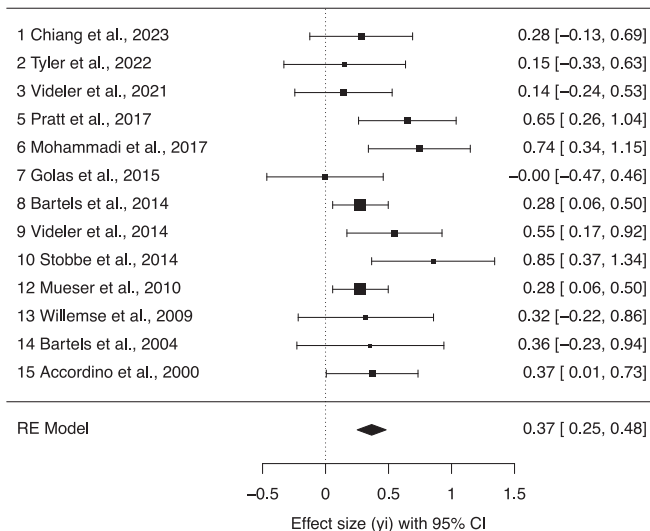


Figure 3. Forest Plot for the Base Model, With Individual Effect Sizes and a General, Pooled Effect [Note: The forest plot shows the individual effect sizes of each study with their respective 95% confidence intervals. The overall average effect size is represented by a diamond. Note that half of the studies ($n = 6$) have confidence intervals containing zero.]

differences in any level of each variable. Hence, the overall effect explains a proportion of the variability, although no statistical distinction can be established between levels. Grouped outcome, however, shows a significant overall impact ($P = .0005$), and differences between reference category (outcome = 2: involvement of the person) and outcome = 8 (social relations) (with an estimated difference in ES of 0.4572, $P = .0019$).

Discussion

This scoping review provides a comprehensive overview of interventions designed to support older adults with

SMI, a population facing distinct clinical and PR challenges.^{28,68–70} In this line, many clinicians and healthcare professionals lack awareness of the distinctive characteristics and requirements of older adults with SMI compared to younger populations.^{10,20,71} This scoping review identifies various intervention types and examines their effectiveness and limitations.

Generally, psychological interventions are effective and well-accepted among older adults with SMI.⁷² However, much of the available literature derives from studies with mixed-age populations, limiting the specificity of conclusions for older adults.⁷²

Clinical and Personal Recovery: Complementary Goals

Traditionally, the primary focus of treatments for SMI has been clinical recovery,⁷³ and more with recently, PR has gained attention.⁷⁴ Clinical recovery in SMI primarily focuses on symptom reduction, while PR emphasizes living a meaningful life despite symptoms.^{73,74} Though distinct, both dimensions are complementary: clinical recovery enhances functioning, while PR fosters emotional and existential growth.⁷⁵ However, the reviewed interventions predominantly targeted clinical recovery outcomes, such as symptom remission and independent living skills. As prior reviews have noted, these components alone are insufficient to address the broader WB of older adults with SMI.⁷⁶

For this purpose, incorporating PR in the treatments, encompassing self-determination, hope, and empowerment, is essential for achieving long-term WB and improving the quality of life for older adults with SMI.⁷⁶ Unlike clinical recovery, which focuses on symptom reduction, PR emphasizes the individual's subjective experience and capacity to live a meaningful life despite mental health challenges.^{75,77,78} The limited inclusion of PR outcomes in the reviewed studies highlights a

critical gap in the current literature. Data from these studies largely centers on clinical recovery, restricting quantitative analyses of PR and subjective WB outcomes. Expanding research in these areas is essential to provide robust statistical comparisons across recovery dimensions and to understand better how interventions can address the full spectrum of recovery needs.^{78,79}

Older adults with severe mental disorders frequently encounter specific issues impacting their WB, including a negative perception of aging and low satisfaction with physical health, which can intensify feelings of discontent and distress.⁶⁶ Research indicates that a positive attitude toward aging is associated with higher quality of life and fewer symptoms of anxiety and depression in older adults.⁸⁰ However, individuals with severe mental disorders often report their aging experience as neutral or negative, largely due to health issues and disability.⁸¹ Promoting positive attitudes toward aging and enhancing integrated healthcare services may help mitigate this dissatisfaction, potentially improving the quality of life for older adults with severe mental disorders as they age, as well as reducing ageism.⁸²

Efficacy of Interventions: Clinical vs Personal Recovery

Our findings highlight a predominant focus on clinical recovery, particularly symptom management and independent living skills. The studies reviewed indicate that while short-term interventions (2-5 months) can effectively improve symptom remission and functional independence, long-term programs, such as HOPES (up to 24 months), showed more sustained effects in clinical recovery. Notably, the only study that showed significant effects on PR had a much shorter duration (1 month), suggesting that while symptom management can be achieved through structured long-term interventions, fostering hope and decision-making involvement may require different, more personalized approaches.⁸³

Improvements were greatest for outcomes clustered under social relationships—including improvements in social skills,^{53,57} social functioning,^{52,54} relationship problems,^{57,64} social participation,⁵⁵ and social appropriateness.⁵³ This pattern underscores the central role of connectedness for older adults who are at heightened risk of isolation.

Previous syntheses have only partially addressed this issue. The most comprehensive to date—a 15-study review of adults ≥ 40 years by Smart and colleagues,¹⁵ reported small-to-moderate benefits from multicomponent skills training and integrated mental–physical health programs, but noted methodological weaknesses and a dearth of personal-recovery data. Our meta-analysis extends that work by quantifying pooled effects across a broader set of clinical and personal outcomes and by identifying social-relations variables as the strongest targets for late-life intervention.

Importantly, social relationships in the reviewed studies encompass multiple dimensions: receiving social support, improving the quality of interactions, reducing social isolation, and enhancing social competence. For instance, interventions that strengthened social skills and appropriateness⁵³ also contributed to reducing social isolation, highlighting the interconnected nature of these factors. This finding is consistent with theoretical models emphasizing the importance of social connectedness in promoting recovery-oriented outcomes, particularly for older adults who may experience heightened social isolation and exclusion. Specifically, social support also provides essential emotional and practical resources that sustain recovery over time. Previous studies have shown that PR is more closely linked to social support and reduced emotional isolation, which are key factors for older adults with SMI.⁸⁴

Previous studies have shown that sustainable recovery relies more on social factors and continuous support than on short-term medical interventions, highlighting the importance of programs that foster autonomy and personal capacity.⁸⁵ Furthermore, the combination of ongoing support, active participation, and a focus on personal autonomy has been shown to facilitate recovery in individuals with complex needs.⁸⁶ Future interventions should aim to integrate clinical and PR components, balancing symptom management with strategies that enhance social relationships and promote self-determination.

Quality of Studies and Risk of Bias

The quality assessment indicated that 62.5% of studies exhibited a moderate to high risk of bias, reflecting concerns related to sample sizes, study design limitations, and a heavy reliance on self-report measures. The MMAT identified specific biases, particularly in nonrandomized studies, which align with concerns raised regarding methodological challenges in SMI research.^{87,88} These biases underscore the need for more robust, RCTs with standardized, objective outcome measures that can provide a more reliable assessment of intervention efficacy and support the generalizability of findings.⁸⁹ Our findings build on the conclusions of a prior systematic review in this field, in which Smart et al.¹⁵ reported encouraging but heterogeneous gains in social functioning and called for larger, methodologically rigorous trials.

Studies that provided more detailed descriptions of their interventions tended to report smaller, more realistic ESs, whereas studies with poorer reporting often demonstrated larger, potentially overestimated ESs. Although this relationship did not reach statistical significance, a clear qualitative trend emerged, suggesting that inadequate reporting practices may inflate intervention effects. This underscores the importance of adhering to established reporting guidelines to ensure transparency,

accuracy, and reproducibility in evaluating intervention efficacy.

Furthermore, while individual coefficients for MMAT categories (eg, high risk, medium risk, and low risk) were not statistically significant, the overall methodological quality of the studies significantly influenced ESs. This suggests that methodological rigor plays a key role in determining the validity and reliability of outcomes, even if the differences between specific risk categories remain less clear. Addressing these issues is essential to mitigate bias, enhance the validity of effect estimates, and ultimately support the broader generalizability of findings.

Implications for Clinical Practice and Future Research

The present review underscores the need to tailor psychosocial interventions to meet the specific needs of older adults with SMI. This population faces unique challenges, including social isolation, depression, cognitive impairment, and chronic medical conditions, that substantially impair quality of life and functional outcomes.⁹ Moreover, stigma and prevalent misconceptions about mental health and aging may deter these individuals from seeking timely professional support, thereby contributing to underdiagnosis and inadequate treatment.

It is also important to recognize that depression and other mental illnesses manifest differently in older adults compared to younger populations. For instance, older adults with depression frequently report somatic complaints, such as unexplained physical discomfort, which may be mistakenly attributed solely to physical health issues despite their clinical significance.^{90–92} Recognizing these distinctions is essential for adapting interventions to address the unique needs of older adults with SMI effectively.

Given the prevalence of SMI among the aging population and the inherent complexities of addressing both clinical and PR, clinicians are encouraged to consider integrative intervention strategies. Such strategies may include psychoeducation skills training, social support,⁶⁵ as well as the incorporation of components that promote a sense of purpose. These components could be integrated into established psychotherapeutic modalities, such as through cognitive-behavioral, positive psychology,⁹³ or acceptance and commitment therapy,⁹⁴ to target comprehensive recovery goals.⁹⁵ However, it is important to exercise caution when interpreting these recommendations, as the meta-analytic data on intervention-specific effects is limited and primarily derived from observational studies. Notably, the evidence suggests that PR outcomes are important, yet data on interventions directly targeting PR remain sparse.

Future research should prioritize the development and rigorous evaluation of interventions that integrate PR metrics, such as self-efficacy, autonomy, and resilience, which have been linked to improved life satisfaction and

reduced rehospitalization in older adults with SMI.⁹⁶ In addition, advancing multidisciplinary approaches that integrate mental health care with primary care services is essential for managing the complex comorbidities frequently observed in this group.⁹

In conclusion, while current findings support the value of holistic, integrated psychosocial interventions for older adults with SMI, further research employing robust, intervention-specific designs is needed to substantiate these preliminary observations and inform clinical practice.

Limitations and Future Directions

This scoping review has several limitations. First, substantial variability in methodological rigor was observed, with medium to high risk of bias (MMAT) and suboptimal intervention reporting (TIDieR), affecting the reliability and generalizability of findings.

Second, the limited number of studies addressing PR outcomes, such as hope, self-determination, and empowerment, restricts robust conclusions about its efficacy. The emphasis on clinical recovery highlights a research gap requiring greater attention to subjective and psychosocial dimensions in older adults with SMI.

Third, the short duration of most studies and lack of long-term follow-up hinder understanding of intervention sustainability. Future research should adopt longitudinal designs to assess recovery durability and adherence. In addition, the heterogeneity of interventions (eg, delivery formats, components, and settings) underscores the need for standardized frameworks to evaluate psychosocial approaches effectively.

Fourth, because no universally accepted chronological cut-off defines “older” adults with SMI, we adopted a pragmatic threshold of ≥ 50 years, an age band widely used in late-life intervention studies (eg, the study by Fortuna et al.⁹⁷). Prior work underscores the methodological difficulty of operationalizing “older age” in psychiatric populations and argues for age-appropriate diagnostic criteria; within that debate, the 50-year cut-off is often justified because it captures the earlier onset of ageing processes seen in SMI and enables timely intervention.^{39,98} While this choice yielded an age-homogeneous sample, it necessarily excluded trials whose lower eligibility bound fell in the forties, preventing us from modeling a full age gradient. Future individual-participant meta-analyses should therefore treat chronological age as a continuous moderator to elucidate how intervention efficacy evolves from mid-life into later life.

Considering future directions, developing protocols that integrate PR components, such as optimism, meaning in life, and positive relationships, alongside traditional clinical treatments is crucial. Further studies should explore subjective WB and PR processes in older adults

with SMI, emphasizing long-term sustainability beyond the intervention period.⁹⁹

Author Contributions

Macarena Sánchez-Izquierdo: Writing—original draft, Writing—review & editing, Conceptualization, Validation, Supervision, Investigation, Methodology, Formal analysis, Visualization. Ignacio Echegoyen: Writing—original draft, Writing—review & editing, Methodology, Formal analysis, Visualization. Francisco López Arroyo: Investigation, Review & editing. Julia Vanesa Peinado: Investigation, Review & editing, Visualization. Ellen Lee: Writing—Review & Editing, Validation, Visualization. Rocío Caballero Campillo: Writing—original draft, Writing—Review & Editing, Conceptualization, Validation, Supervision, Investigation, Visualization.

Supplementary Material

Supplementary material is available at <https://academic.oup.com/schizophreniabulletin>.

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Conflicts of Interest

The authors report that there are no competing interests to declare.

Data Availability

Due to the nonempirical nature of the work (systematic review) no original data were collected for this article. The data supporting the findings of this study are available upon reasonable request from the corresponding author.

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