Narrative Review Article

Music Therapy for Mental Health Problems: Review and Proposal

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ABSTRACT

This narrative review examines current evidence on music therapy for depression, anxiety disorders, schizophrenia spectrum disorders, and related mental health conditions. Across the reviewed literature, both receptive and active music therapy approaches appear promising as adjuncts to standard care, with the strongest support seen in short-term improvements in depressive symptoms, anxiety symptoms, negative symptoms in schizophrenia, and selected quality-of-life outcomes. At the same time, the literature remains limited by heterogeneous protocols, uneven reporting of personalization strategies, inconsistent measurement of mechanisms such as stress regulation and adherence, and sparse long-term follow-up. Based on these recurring gaps, this paper also outlines a conceptual future study design centered on a closed loop personalized music therapy model that combines therapist-led sessions with adaptive home practice informed by symptom check-ins and heart rate variability. Overall, the reviewed evidence supports music therapy as a credible low-risk adjunctive approach while highlighting the need for more standardized and personalized future research.

Keywords: Music therapy; depression; anxiety; schizophrenia; heart rate variability; personalization; stress regulation

INTRODUCTION

Mental health conditions such as depression, anxiety disorders, and schizophrenia spectrum disorders remain major causes of disability and reduced quality of life. Although psychotherapy and pharmacological treatment remain central to care, many patients continue to experience persistent symptoms, limited access to treatment, side effects, or difficulty sustaining improvement over time. These challenges have increased interest in supportive and adjunctive interventions that can help regulate mood, reduce stress, and improve engagement in treatment (1-4).

One such intervention is music therapy, a structured therapeutic process delivered by a trained professional to achieve defined health goals (5). Unlike listening to ordinary music, music therapy can include receptive methods such as guided listening and relaxation, active methods such as singing or improvisation, or hybrid approaches that combine therapist led sessions with independent practice (5). This paper reviews evidence on which music therapy methods appear most effective for alleviating mental health problems and then proposes a future protocol designed to improve consistency, personalization, and long-term benefit. This paper is presented as a narrative review rather than an original empirical study. It synthesizes findings from systematic reviews, meta-analyses, landmark clinical trials, and representative studies to clarify major themes in the literature and to motivate the conceptual future research framework proposed later in the paper.

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EVIDENCE REVIEW OF MUSIC THERAPY INTERVENTIONS

Defining Intervention Types

Literature usually separates music therapy methods into receptive methods, active methods, and hybrid formats (2, 4-6). Receptive methods involve guided listening, relaxation, imagery, or reflective processing of selected music (4, 5, 7) (Table 1). Active methods involve singing, improvisation, instrument play, songwriting, rhythmic entrainment, or group interaction (2, 5, 6, 8). Hybrid formats combine therapist led sessions with structured home practice (2, 5, 9). This distinction matters because many studies combine several elements, which makes it difficult to identify which ingredient is responsible for the strongest effects (2, 3, 6, 8).

A related issue is reporting on quality. Many studies describe music therapy in broad terms but do not explain how music was selected, how the therapist adjusted the session, whether participants practiced at home, or how adherence was monitored. That weakness makes replication difficult and limits direct comparison across studies (2, 3, 6, 8).

Evidence for Depression

Early syntheses and landmark clinical work, including the 2008 Cochrane review and a later randomized controlled trial, helped establish this literature on depression (1, 10). The clearest long-standing synthesis remains the updated Cochrane review by (2), which found short term beneficial effects when music therapy was added to treatment as usual for people with depression. That review remains important because it set a high standard for evidence synthesis while also showing that sample sizes, intervention descriptions, and long-term durability varied across studies.

More recent evidence adds nuance. (9) reported that group music therapy in women with major depressive disorder improved everyday depressive symptoms, quality of life, and emotion regulation related outcomes, although longer term maintenance was less certain. (3) likewise concluded that music therapy can improve depressive symptoms, while also noting methodological variation across trials. Together, these studies suggest that music therapy is promising for depression, but that future work should better standardize treatment dose, reporting, and follow up.

Evidence for Anxiety and Stress Related Symptoms

Anxiety findings have become stronger with the publication of the broad multilevel meta-analysis by (4). That study synthesized ninety-three effect sizes from fifty-one studies and found an overall medium effect for anxiety outcomes, especially for self-reported anxiety. The same article found that physiological outcomes were less consistently improved, which is important because it cautions researchers against assuming that subjective relief automatically produces measurable physiological regulation.

These findings suggest that receptive methods and mixed active plus receptive methods may be especially practical because they can be adapted across settings. Even so, the field still needs clearer rules for matching particular methods to particular symptom profiles.

Table 1. *Representative Evidence on Music Therapy Outcomes, Populations, and Methodological Limitations. Summary of selected studies examining music therapy interventions across depression, anxiety, schizophrenia, and older adults.*

Reference	Population	Main finding	Key limitation
2	People with depression	Short term benefit when music therapy is added to treatment as usual.	Small samples and variable protocols.
4	Mixed anxiety populations	Overall medium effect on anxiety outcomes, especially self reported anxiety.	Physiological outcomes less consistent.
11	People with schizophrenia	Improved total symptoms, negative symptoms, depressive symptoms, and quality of life.	Evidence quality still low to moderate.
12	Schizophrenia with negative symptoms	No clear advantage of therapist led music therapy over structured music listening.	Suggests method specific effects are still uncertain.
7	Older adults with mild cognitive impairment and depression	Receptive music therapy improved cognition and depressive symptoms.	Single country sample and limited generalizability.

Evidence for Schizophrenia Spectrum Disorders

Earlier broader syntheses of serious mental disorders and schizophrenia also suggested that music therapy can improve symptoms and functioning when sufficient therapy is provided (6, 8). More recent work has continued to support this direction (11) found that adjunct music therapy significantly improved total symptoms, negative symptoms, depressive symptoms, and quality of life in their meta-analysis. This finding matters because negative symptoms such as reduced motivation, flattened effect, and social withdrawal are often difficult to treat.

At the same time, not every controlled study shows superiority of therapists led music therapy over other structured music exposure (12), for example, compared music therapy with music listening for negative symptoms in schizophrenia and did not find a clear difference between the groups. This result does not show that music therapy is ineffective. Instead, it suggests that the field still needs better evidence about when therapist guided interaction offers advantages beyond carefully structured listening alone.

Evidence in Older Adults and Related Populations

Studies involving older adults are relevant because they test whether music therapy remains feasible in populations that may have lower mobility, greater fatigue, or combined emotional and cognitive symptoms (13) concluded in a systematic review and meta-analysis that music therapy can reduce depression and anxiety symptoms in older adults, while still calling for stronger study design. (7) also found that receptive music therapy improved cognitive function and reduced depressive symptoms in older adults with mild cognitive impairment and depression.

These findings are useful for the present paper because they show that receptive methods may be particularly scalable and acceptable in populations where highly active participation is not always practical.

Major Gaps in Literature

Across the literature, four gaps appear repeatedly. First, intervention heterogeneity remains high, and prior meta-analytic work has suggested that treatment dose and implementation features can meaningfully shape outcomes (8). Second, long term follow up is often missing (2, 3, 8, 9). Third, many studies do not measure mechanisms such as stress regulation, adherence, or differential response by patient profile (2, 3, 8, 9). Fourth, personalization is common in practice but poorly standardized in research (2, 3, 5). In other words, therapists often adapt the music to the individual, yet the logic behind those adaptations is rarely described in a way that can be replicated.

Taken together, these gaps suggest that future music therapy research should move beyond simply asking whether music therapy is effective and instead examine how, for whom, and under what conditions it works best. The recurring problems of heterogeneous protocols limited long term follow up, weak measurement of stress regulation mechanisms, and poorly documented personalization all point toward the need for a more structured and adaptive model. A framework that combines therapist guidance, standardized decision rules, home practice, symptom tracking, and physiological feedback could help make music therapy interventions more reproducible while still preserving individualized care. The proposed CL-PMT framework is therefore presented as a conceptual response to these limitations, linking the evidence reviewed above to a future research design focused on personalization, adherence, and measurable treatment mechanisms.

FUTURE DIRECTIONS AND PROPOSED CL-PMT FRAMEWORK

Why a New Protocol is Needed

The literature suggests that music therapy can be effective, but results remain uneven across populations, protocols, and outcome measures. The main recurring problem is not the absence of promising findings; rather, it is the absence of clearly reproducible personalization. Therapists often individualize the intervention, yet published studies rarely explain that process well enough for replication (2, 3, 5).

For that reason, the most persuasive next step is not simply to repeat another generic music therapy trial. Instead, the recurring gaps identified in the literature directly motivate a more explicit framework for future work: intervention heterogeneity supports the need for clearer decision rules, weak personalization reporting supports an adaptive treatment model, and limited attention to adherence and stress-regulation mechanisms supports structured home practice with symptoms and physiological tracking (2, 3, 8, 9). On that basis, the CL-PMT framework is presented below as a conceptually grounded response to the main limitations identified in the review.

Closed Loop Personalized Music Therapy

This paper outlines closed loop personalized music therapy, abbreviated as CL-PMT, as a conceptual

framework for future research. In this proposed model, future participants could receive therapist-led music therapy sessions combined with structured home practice. The term closed loop refers to the idea that the intervention could be adjusted over time in response to two forms of feedback: brief symptom check-ins and wearable-based physiological indicators such as heart rate variability, abbreviated as HRV.

In a future operational version of this framework, the model could begin with an intake assessment that considers depressive symptoms, anxiety symptoms, sleep disturbance, rumination, functional impairment, and musical preferences. A safety screen could also be included to identify factors such as trauma triggers or a history suggestive of mania. During a possible treatment phase, participants could receive weekly therapist-guided sessions over a defined period, such as eight weeks. These sessions could combine a receptive regulation component, such as guided listening and grounding, with an active processing component, such as songwriting, improvisation, or structured rhythm work when appropriate.

Structured home practice could also be included as an illustrative component of the model. For example, future studies might examine brief daily practice using a guided playlist and slow-paced breathing aligned to musical phrasing. At regular checkpoints, a therapist could adjust the balance of receptive and active methods according to symptom trajectory, patient feedback, and physiological response trends. These elements are presented as possible design features for future investigation, not as a validated or required treatment protocol.

Conceptual Proposed Study Design

The following study design is intended as an illustrative proposal for future research. A pragmatic randomized controlled trial could be one possible way to evaluate CL-PMT if future investigators choose to develop and test the framework more formally. One hypothetical three-arm design could compare treatment as usual alone, standard music therapy plus treatment as usual, and CL-PMT plus treatment as usual. Possible outcome measures might include the Patient Health Questionnaire-9 for depressive symptoms and the Generalized Anxiety Disorder-7 scale for anxiety symptoms. Additional measures could include sleep quality, adherence, quality of life, and functional outcomes. Because stress regulation is one theoretical mechanism through which the model may operate, future studies could also explore resting or circadian HRV summaries where feasible.

Rather than presenting formal hypotheses from an original study, this conceptual design suggests possible research questions for future investigation. For example, future studies could examine whether CL-PMT plus treatment as usual is associated with greater symptom reduction or better maintenance at follow-up than standard music therapy plus treatment as usual or treatment as usual alone. Another possible research question is whether an adaptive design could improve adherence by making home practice more personally relevant. These proposed comparisons are intended to illustrate how the framework might be tested in future research.

CONCLUSION

The reviewed literature supports music therapy as a promising adjunctive intervention for several mental health problems, particularly depressive symptoms, anxiety symptoms, and selected symptom domains in schizophrenia. However, the evidence base remains limited by heterogeneous protocols, uneven personalization, and insufficient long-term follow-up. Taken together, these findings suggest that future progress will depend less on identifying one universally effective music therapy method and more on developing reproducible, adaptive frameworks that clearly document how interventions are personalized and monitored. The CL-PMT model proposed here is offered as one conceptual direction for future research seeking to combine therapist guidance, structured home practice, and stronger outcome measurement.

CONFLICT OF INTEREST

The author declares that there are no conflicts of interest related to this work.

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