







# Music therapy

## Disability evidence summary 2024

Person-first language

Australian Music Therapy Association

## About the Australian Music Therapy Association

The Australian Music Therapy Association (AMTA) is Australia's peak body for music therapy. AMTA represents Registered Music Therapists (RMTs) and music therapy students and advocates for access to music therapy on behalf of the community. Our mission is to enable, advance and advocate for excellence in music therapy.

AMTA is the certifying body responsible for registering music therapists, accrediting music therapy courses, and maintaining professional standards and ethics. A member organisation of Allied Health Professions Australia (AHPA) and National Alliance for Self-Regulating Health Professions (NASRHP), AMTA supports Registered Music Therapists (RMTs) to use evidenced-based practices that actively promote the health, wellbeing and functioning of Australians.

AMTA respectfully acknowledges the Traditional Custodians of the lands we live and work upon. We recognise the enduring kinship and songlines retained in these lands. We cherish the rich and ongoing connections First Nations Peoples have to Country, culture, song, knowledge and artistic expression. We pay our respects to Elders past and present and recognise that sovereignty over these lands was never ceded**.**

## A note about language

AMTA uses person-first language in this report. We do so understanding that individuals with lived experience of disability have varied preferences for identifying with person-first or identity-first language. The decision to self-identify with person-first or identity-first language may relate to the power dynamics implied by different language; personal history with and understanding of disability; and personal associations relating to identity, culture, and pride.

Similarly, many factors inform these decisions by organisations, such as in the publication of this report. There is no single 'correct' approach to language. With the Commonwealth Government and Commonwealth-funded agencies in mind as the primary audience for this guide, AMTA has chosen to use person-first language in accordance with the current Australian Government Commonwealth Style Manual.

AMTA is proud to share our intention to produce partner identity-first and person-first resources where possible in the future. We thank AMTA's Culture and Diversity Advisory Group for their generous and expert advice on language and disability.

## Acknowledgements

This report is based on Bibb, J., Bower, J., Murphy, M., Baker, F.A., Hogan, B., Abad, V., Eager, R., Butcher, K. & Tamplin, J. (2018). Music Therapy in Disability: Information Booklet. Melbourne, Australian Music Therapy Association. The report was revised with the support of Dr Zara Thompson and the AMTA Disability Working Group: Helen Cameron, Megan Dalmazzo, Anita Connell, Elizabeth Mackney, Joshua Berryman and Hannah Halloran.

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# Contents

# Introduction

Australian Music Therapy Association's *Disability Evidence Summary 2024* provides disability and health professionals, policymakers and members of the community with an overview of the efficacy of music therapy and the outcomes music therapy achieves with people with disabilities.

The report highlights:

- evidence for music therapy interventions and their outcomes
- case studies to illustrate the ways in which music therapy assists people to build their capacity to participate in the broader community.

The evidence summary is intended as an overview only and does not include an exhaustive list of music therapy research, potential outcomes or case studies in the disability sector. The evidence base for music therapy is continually growing, nationally and internationally. At the time of publication, technologies such as functional magnetic resonant imaging provide new insights into how music therapy impacts directly on brain structures and function, and these learnings will continue in the future. The evolving nature of clinical evidence means this resource provides a snapshot of evidence available at time of publication.

Music therapy has significant potential to improve the lives of people with disabilities. From movement to cognition and thinking, social connection, communication and self-regulation, music therapy plays a vital role in supporting people to achieve their therapeutic goals.

# About music therapy

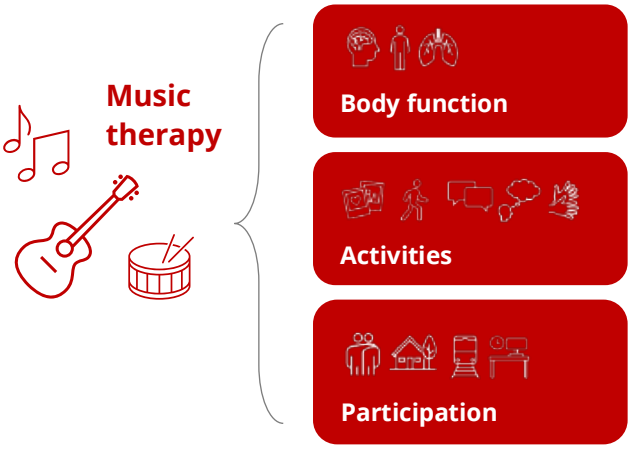
**Music therapy is an evidence-based self-regulating allied health profession**
Music therapy is an evidence-based allied health profession that supports Australians of all ages and abilities to improve their lives and achieve therapeutic goals.

Music therapy is delivered by Bachelor and Masters-level qualified and accredited Registered Music Therapists (RMTs). Music therapists have specialist expertise in how music interacts with the brain, body and in social and cultural contexts to support therapeutic outcomes. Nearly 900 RMTs are registered with the Australian Music Therapy Association (AMTA).

AMTA is a member organisation of Allied Health Professions Australia (AHPA) and the National Alliance for Self-Regulating Health Professions (NASRHP), along with speech pathology, occupational therapy and social work. Professional self-regulation ensures RMTs are appropriately qualified, skilled, and meet national regulatory requirements.

**Music therapy delivers essential supports to people with disabilities**
Music therapy provides crucial and life-changing supports for people with disabilities and their carers. RMTs are recognised therapy service providers within the National Disability Insurance Scheme. RMTs design and deliver individualised, music-based interventions that support social, communicative, physical, sensory, emotional, cognitive and behavioural goals.

RMTs have specialist expertise in the therapeutic use of music to impact the brain, mind and the body. Music therapy is an engaging, motivating therapy that helps participants address therapeutic goals. Music therapy influences thinking, behaviour, function and actions, and improves access to activities and community participation.




**RMTs use their professional qualifications, knowledge and skills to:**

- assess people's health and wellbeing
- devise therapeutic interventions and programs to preserve, restore or improve physical or psychological wellbeing, functional capacity and quality of life
- facilitate music-based interventions to positively impact brain function, neuroplasticity, physical, sensory regulation, social communication, cognition and emotional and behavioural regulation and community participation
- deliver treatment and support to achieve positive outcomes and experiences.

Music therapy techniques include singing, songwriting, instrument play, improvisation, music and movement, receptive music listening and other specialist techniques.

RMTs evaluate outcomes of music therapy using a variety of methods, including quantitative and qualitative methodologies and standardised reporting procedures commonly used within allied health settings, such as SOAP evaluations (Subjective, Objective Assessment and Plan) and person-reported measures.

**Where RMTs work:**


RMTs work in a range of settings including home, disability, aged care, mental health, acute hospital care, neurorehabilitation, palliative care, justice, out-of-home care and community wellbeing services. RMTs work collaboratively with individuals, carers, family members, support workers and other health professionals to develop and evaluate goals to achieve better health, wellbeing, functional and participation outcomes.

Music therapy may involve individual, group, carer training, education and telehealth models. Multidisciplinary work may include co-leading therapy sessions, providing specialist knowledge, team meetings, coaching others, sharing assessment and progress notes, and consultation about resources and equipment.

**The number of sessions needed to make a difference:**
The frequency of music therapy sessions depends on the needs of the person with disability. Sessions may be weekly, fortnightly or less frequent depending on goals and progress. The number of sessions required for a music therapy program is assessed on an individual basis.

In the National Disability Insurance Scheme (NDIS), music therapists, along with other allied health professionals, are required to write a detailed report for the time of review of a participant's plan. This report contains information about progress to date, and recommendations for further sessions if required. The report will include a plan clearly stating the expected therapy outcomes.

## Music therapy delivers essential supports to National Disability Insurance Scheme (NDIS) participants

Music therapy is included in NDIS under the support cluster of Therapeutic Supports. These services, under Capacity Building, "are provided to assist participants aged from 7 years to apply their functional skills to improve participation and independence in daily, practical activities in areas such as language and communication, personal care, mobility and movement, interpersonal interactions and community living" (National Disability Insurance Agency, 2018, p.16). Music therapy is also approved for inclusion in Early Intervention Support for Early Childhood (p.14).
Through the NDIS, RMTs design and deliver individualised music-based interventions that support social, communication, sensory, physical, emotional, cognitive and behavioural skills that enable greater participation.

## Continuum of music for health and wellbeing

The graphic below illustrates some of the ways in which music may be used in everyday life and when music is used as part of a funded music therapy service[16,17].

| **Music for wellbeing in everyday life** | **Music for wellbeing in the community** | **Music therapy for therapeutic outcomes** |
|---|---|---|
| For example: | For example: | For example: |
| Personal listening to relaxing music before going to sleep<br>Listening and singing to favourite songs to lift your mood<br>Attending concerts and music festivals | Communal music-making in bands, choirs or drumming groups<br>Musicians playing music in public places to create a fun atmosphere | RMTs planning, facilitating and evaluating tailored music therapy programs for a therapeutic benefit<br>Using specialist evidence-based music therapy techniques to address a range of cognitive, behavioural, communication, physical and socio-emotional, community participation goals<br>Delivered in homes, education, justice, aged care, health, primary care and community settings |

Note that RMTs often codesign music strategies for everyday life and in the community to support therapeutic goals of people with disabilities and their carers, family and support people

# Music therapy research in Australia

Music therapy is an evidence-based health allied health profession that is recognised in Australia and internationally.

**The Australian Journal of Music Therapy (AJMT)** is the flagship publication for the Australian Music Therapy Association. Launched in 1990, it is an international, peer reviewed journal with a dual focus on empirical research and rigorous reports of clinical advances. As of 2016 it is an open access, online journal.

**The University of Melbourne** hosts the Creative Arts and Music Therapy Research Unit (CAMTRU). CAMTRU supports the development of creative arts therapy disciplines across Australia through research and research training. The National Music Therapy Research Unit (NaMTRU) established by Emeritus Professor Denise Grocke in 1999 was merged with CAMTRU in 2016 to include graduate research (PhD) training program for creative arts therapists. CAMTRU researchers collaborate with local, national, and international stakeholders and creative arts and music therapy academic institutions around the world. More than 80 music therapy graduate research projects have been conducted through the Research Unit, as well as large-scale projects funded by the Australian Research Council, the National Health and Medical Research Council, the Medical Research Future Fund, and several prestigious international grants. Music therapy training has been offered at The University of Melbourne since 1975.

**Western Sydney University (WSU)** music therapy researchers are globally recognised practitioners and scholars who are ranked above world standard (Excellence in Research for Australia). WSU research is conducted by composers, performers, producers, musicologists, music therapists and cognitive and computational researchers who work collaboratively within the School of Humanities and Communication Arts and its affiliated research institutes/centres. The research is unique for its lateral thinking which is synergetic across practice-led research and research-led practice. Research and scholarship outputs include publications in peer-reviewed journals, invited book chapters, conference presentations and proceedings, recorded works, reports, white papers. Ten higher degree research projects have been completed with nine additional projects underway. WSU research has strong intercultural connections to Western Sydney's rich cultural heritages and their connection to world culture.

# Regulating mood and behaviour

Many people can experience difficulties regulating their mood, sensory and emotional needs. This can result in behaviours that are challenging for other people to manage or can cause harm to themselves or others. These behaviours can sometimes be distressing to the individual and those around them and can limit an individual's ability to participate in community.

**Music therapy can help people:**

- manage anger and frustration[18,19]
- manage challenging behaviour[18-21]
- increase skills in behaviour regulation[18,19]
- improve self-regulation and motivation[18,19,21,22]
- increase emotional awareness and attunement[18,19,22,23]
- improve mood and reduce psychological symptoms[3,4,8,19,20,24-33]
- promote and improve mood and emotional regulation[18,19,34]
- improve social skills[19,22,26]
- improve person-carer relationships[19,26]
- increase social engagement[5,19,22,35]
- improve quality of life[26,27,32].

The cause of changed or challenging behaviours can be varied. Music therapy can support people to regulate and reduce potentially harmful behaviours in a positive and person-centred way. Music therapists design music-based strategies that can support individuals and their supporters to regulate behaviour. These strategies can be included in positive behaviour support plans. In turn, music therapy interventions and strategies can reduce reliance on more restrictive practices (including pharmacological restraints).

The link between music and mood has long been recognised. Music therapy interventions can support people to manage mood-related challenges associated with disability. However, because music is also a strong emotional stimulus, it can also increase distress and even lead to self-harm if not used appropriately. For this reason, it is important for people with psychosocial disabilities and/or disabled people experiencing mood challenges to work with an RMT to ensure safe and appropriate use of music to support mood and behavioural goals.

## Music therapy reduces aggression and promotes self-management

Vinny, a 32 year old man, experienced increasing physically and verbally aggressive behaviours and significant memory impairments resulting from a chronic acquired neurological condition. Because of his poor memory and impaired impulse control, traditional behavioural strategies had been ineffective in reducing his aggressive outbursts.

During music therapy sessions, an RMT wrote a song with Vinny to prompt his recall of behaviour management strategies and improve behavioural regulation. The melodic structure of the song was simple, repetitive and predictable and the tempo slow. These musical elements were used to provide structure to organise the behavioural management strategies for easy recall.

With simple verbal prompts, Vinny was able to successfully use this song to self-initiate de-escalation of his aggressive behaviours both within and outside of the music therapy context. For Vinny, the song composed in music therapy provides a cognitively accessible tool to promote successful behaviour regulation.[10]

# Cognition and thinking

Music is known to be beneficial to brain health; both listening and playing music are complex and demanding cognitive tasks[36]. Music therapy can activate neurological (brain and nerve) structures to increase arousal and attention, facilitate memory, increase motivation and organisation, and support emotional and behavioural regulation. RMTs design music therapy interventions that address cognition and thinking skills in a positive way that focuses on building success.

**Music therapy can help:**

- improve memory[34]
- increase attention, including sustained, alternating and selective attention[37-39]
- improve executive functioning, including, planning, organisation, inhibition and self monitoring[40,41]
- improve problem solving[34]
- increase sensory processing and integration[37]
- developing arousal and awareness[37]
- improved brain function[40,42]
- increase initiation and motivation[3]
- increase independence and community participation[7,11,33,43-45]
- improve quality of life[26,27,32].

Nearly every person has a sophisticated network of neural systems that allow them to meaningfully perceive music, even those with neural disease, damage or delay[36]. Brain imaging research has found that a complex network of brain structures are involved in processing music[46]. Music therapy directly impacts these brain structures and systems to support and enhance cognition and thinking.

## Music therapy supports independence

At 3.5 years old, Philip was assessed to have mild to moderate Autism. He had limited speech, showed limited social interactions with peers, engaged only in adult facilitated play and presented with stereotypic behaviours.

Philip attended a community-based childcare program, however exhibited difficulties during the morning arrival transition, frequently screaming, crying or lying on the floor. The morning transition consisted of putting personal belongings away, entering the room, greeting carers and peers, engaging in play-based activities, then saying goodbye to parents.

After initial assessment, the music therapist composed a song outlining the five steps of the morning transition routine. The RMT made a recording of the song, and carers were trained in using this song. The song aimed to reduce Phillip's distress, provide structure and predictability and increase independence during the morning transition routine. Before music therapy, Phillip completed an average of two (of five) transition steps independently. After nine sessions of intervention, Phillip was able to consistently perform four to five of the five morning transition steps independently with decreased distress. After the music therapy intervention period, other caregivers were able to use the transition song to increase independence and reduce transition-related distress for Phillip.

The music therapist-composed transition song was able to increase Phillip's planning, organisation and emotional regulation to ultimately increase his independence[15].

# Communication and social interactions

The ability to process music is present from birth; the way we communicate is innately musical. Music offers a way of communicating emotion and social meaning without words, similar to how young children and parents interact before language develops[47,48].

**Music therapy can help:**

- develop receptive language[49,50]
- develop expressive communication[33,50-57]
- improve speech articulation and pronunciation[50,53,54,57,58]
- improve respiration (breathing)[50,58]
- improve attention[19,37,38]
- develop social communication skills; including social understanding, non-verbal communication and gestures and the ability to use language for different purposes[19,39,50,52,59]
- increase social interaction[3,50] and participation[39]
- support achievement of special education goals[52]
- improve quality of life for people and their families[50,57-59].

Music is processed through a network of cortical and subcortical brain structures, with strong connections in the limbic system's emotional core. As a result of this, the ability to meaningfully process music may remain intact despite significant deficits or damage[60].

For people who are non-speaking, non-verbal, pre-verbal, or who have difficulty communicating due to cognitive challenges, music therapy can provide a way to connect with others and express their emotions and opinions. Music based interventions are fun and person-centred; for this reason, music therapy is often more motivating and accessible for people working on communication goals than other traditional therapies.

Singing can be a way to help recover or maintain speech and language for people who have lost or impaired ability to speak due to a physical or neurological condition or injury. The phenomenon of individuals who cannot speak but are able to sing is well documented[61]. Singing is processed globally in the brain, which helps to compensate for areas of the brain that may be damaged (including those impacting speech). Additionally, singing exaggerates elements of speech (pitch, rhythm, articulation and phrasing), and can be an engaging and motivating way for people to practice and recover their speech[62,63].

Music therapy is uniquely placed to support communication goals in individuals who may have difficulty processing and responding to traditional speech therapy methods.

## Music therapy supports independence

Daniel, a six-year-old boy with Down Syndrome, was assessed to have severely delayed speech articulation, vocabulary and sentence use and a significantly impaired ability to effectively utilise speech to communicate his needs. Daniel was described as non-compliant in traditional speech therapy interventions and his speech deficits were negatively impacting his ability to meaningfully interact with his peers.

Following an in- depth assessment, Daniel participated in a music therapy program of weekly 1:1 interventions for a period of 3 months. A home practice program was also provided. Music therapy techniques used during the music therapy sessions included developmental speech and language training through music, a neurologic music therapy technique[1]. Functional communication was paired with developmentally appropriate musical experiences. Rhythmic cues provided by a metronome were used to prime the required oromotor skills for verbalisation, provide external pacing for speech/singing production and increase comprehensibility. Articulation practice was paired with rhythmic body movements to reinforce sound production, singing was paired with picture cards to increase vocabulary and improvised songs used to reinforce and extend the development of vocabulary.

At the completion of the 3-month music therapy treatment period, Daniel was consistently producing new phonemes (sounds) at the beginning of words, his spoken vocabulary had increased to include additional intelligible words, and he was able to speak and sign two-word phrases[14].

# Movement and coordination

Music interventions can have a positive impact on motor function, mobility and physical goals, due to both the impact of music on neurologic processes involved in movement, as well as the pleasurable and motivating qualities of music that can increase participation.

**Music therapy can help people:**

- improve gross motor strength, function, coordination and control[19,57,64-67]
- improve endurance[65,67]
- improve fine motor function and control[65,68,69]
- develop proprioception and balance[64]
- increase oro-motor control[70,71]
- improve function of the respiratory system[33]
- increase mobility[64]
- increase physical independence[72-75]
- manage pain[65]
- manage weight[76]
- increase social interaction[50,68] and participation[39]
- improve quality of life[26,27,32].

## Music therapy improves upper limb movements

Rachel, a 17-year-old with cerebral palsy and paresis on her right side, hoped to improve movement of her upper right arm and hand. Rhythmic Auditory Stimulation is a music therapy technique that is used to improve movement by providing an external beat as a temporal organising cue[1]. Rachel attended music therapy upper limb training for 12 sessions over 4 weeks. The sessions involved goal-directed movements toward different targets set to a metronome beat. By the end of the training period, her accuracy, speed and fluency of movement in her right arm and shoulder were improved significantly. These improvements impacted positively on her daily function and were maintained six months after finishing music therapy[13].

Active participation in musical experiences requires specific motor control functions, including timing, sequencing and spatial organisation of movement.

Areas of the brain involved in the processing of rhythm are also associated with coordinating movement[77]. An effect of this is musical entrainment, where a person's body synchronises with musical stimulus[78]. Music therapists have specialist knowledge in how music interacts with the brain and use this knowledge to design targeted interventions to support the development, maintenance or rehabilitation of motor skills and physical independence.

Listening to preferred music has also been found to stimulate the pleasure and reward circuitry of the brain[79]. The pleasurable and motivating qualities of music can increase participation in physical and movement activities, ultimately resulting in achievement of therapeutic outcomes.

# Community engagement

People with disabilities may often experience social isolation and reduced opportunities to participate in society; this can be due to individual challenges related to their disability, as well as social, environmental, and attitudinal barriers. Music therapy groups can provide a structured and safe space for people to connect with others who have similar disabilities and shared experiences. Music therapy can function as a first step to re-connecting with identity, hobbies, and community[80]. Music therapy can help people connect with their community, both with peers within a music therapy group, and with community members outside of the group[81].

**Music therapy can help:**

- improve confidence and self-esteem[3]
- develop a sense of empowerment and purpose
- develop a sense of belonging and social connectedness[4-7]
- increase opportunities for choice and agency
- develop peer relationships[5,8]
- develop social skills and connections in a safe and supported space[7,9]
- improve social skills and increase social interaction[5,6,11]
- increase social inclusion and community participation[4,6,12].

For people who have difficulty participating in social settings, musical experiences facilitated during music therapy sessions can provide clients with clear cues for anticipating and planning social responses, and in turn improve capacity for social interaction[82]. Music therapy can provide individuals with opportunities to practice and explore social relationships and develop skills in a safe and motivating environment that can be transferred to other areas of life[83,84]. Music can be an ideal motivator for participation in community activities, which then provide the routine and structure needed for participation in daily activities and future employment[85].

## Music therapy promotes participation

Brian, an eight-year old boy in a special education setting was blind, developmentally delayed and presented with no speech (apart from clicking his tongue), head-banging, rubbing of his eyes with his fists, wailing and continual crying[2]. The only positive interaction or communication Brian engaged in was cuddling staff at lunch times. This behaviour was discouraged by staff as it was deemed as inappropriate.

Brian had a good sense of rhythm and would bang on items in the classroom. Given Brian's goal for involvement in positive relationships, music therapy sessions used his sense of rhythm to focus on interaction and participation. Brian obviously enjoyed playing musical instruments and continued to display a sense of rhythm during music therapy sessions. Brian also vocalised the melody or lyrics of some lines of his favourite songs.

Initially Brian would not tolerate singing or playing instruments with peers in a group setting and had difficulty taking turns. Through individual sessions with the music therapist he began to take turns, listen and respond to the music therapist's piano playing, playing his own musical instruments and vocalising song melodies. Music therapy provided Brian with successful interactions and positive experiences of participation.

Brian's teacher reported that his mood was 'happier' after returning from music therapy and he became much more cooperative in class. His learning through music therapy transferred into interactive behaviour in previously challenging environments. Participation in music therapy sessions helped Brian to engage more comfortably with his peers in the classroom and develop more positive relationships.

# Annotated bibliography

## Mood and Behaviour

| Population | Research | Key Findings / Outcomes | Sample Size/Study Design |
|---|---|---|---|
| Dementia | Baker et al., 2022[22] | This study examined an interactive music therapy group and group singing interventions for people living with dementia. **Depressive symptoms significantly reduced** following group singing intervention | n=214<br>RCT |
| | Holden et al., 2019[23] | This study investigated the impact of a home-based MT intervention on behavioural and psychological symptoms of dementia. On the **neuropsychiatric Inventory (measuring mood, behaviour and psychiatric symptoms) - overall scores significantly improved**: For those who completed therapy, neuropsychiatric symptom scores improved at 6 weeks, an effect that was **sustained at 12 weeks** | n=11<br>Pilot Pre/Post Study |
| | Ueda, Suzukamo, Sato, & Izumi, 2013[18] | Systematic review on effects of music therapy on 'behavioural and psychological symptoms of dementia'<br>Found **moderate effect size for anxiety, small effect size for behaviour** | Systematic Review<br>20 studies included |
| | *G*assner, Geretsegger, & Mayer-Ferbas, 2021[24] | This study updated a previous Cochrane Review. It found that MT interventions have a positive impact on **anxiety, depression, social behaviour and quality of life** | Cochrane Review (10 studies included – RCTs) |
| | Zhang et al., 2017[25] | A systematic review found that music therapy has a **positive effect on treating anxiety and disruptive behaviours**, as well as positive **trends** towards supporting **depression, cognition and quality of life**. | Systematic Review<br>34 Studies Included |
| Autism | Lici et al., 2024[97] | This systematic review of music-based interventions found that singing, rhythm exercises and instrumental music can **ease social communication barriers** and **reduce challenging behaviours (particularly under pressure)** for autistic children. Music-based interventions **improved socialisation, emotional wellbeing, cognitive function, emotional regulation, and verbal communication** for people with ID. Found positive benefits of both music in education contexts, as well as **clinical music therapy** contexts. | Systematic Review<br>21 articles<br>15 reviews |
| | Marquez-Garcia et al., 2022[98] | This systematic review found **mixed results** for music therapy interventions for Autistic people, noting that smaller studies tend to report positive outcomes, but larger, more generalisable were non-significant. The study highlights the need for | Systematic Review<br>36 articles included |

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|---|---|---|---|
| | | more methodological rigour, and focus on individualised functional goals, rather than more broad domain changes. | |
| | Applewhite, Cankaya, Heiderscheit, & Himmerich, 2022[17] | This systematic review found that music therapy can improve **emotional and behavioural outcomes.** | Systematic Review (81 Studies Included) |
| | Rabeyron et al., 2020[19] | This study compared music therapy intervention with a music listening program. Results indicated that music therapy **improved lethargy and stereotypy** on the 'aberrant behaviours checklist', and **clinical global impression** scores decreased, indicating **clinically significant outcomes.** | n=36<br>RCT |
| | Bergmann, Birkner, Sappok, & Schmidt, 2021[20] | A group music and movement intervention for adults with Intellectual Disability and Autism found **significant improvement** in **social competence** (compared to control) and in **emotional competence** (compared to pre-assessment). Participants rated the program as **fun, social and helpful for learning stress regulation**. | n=12<br>NCT & Qualitative |
| | Wagener, Berning, Costa, Steffgen, & Melzer, 2021[21] | 19 autistic children were assessed for their ability to recognise different emotions in facial expression, compared to neurotypical children (n=31). Using emotionally congruent music was found to **increase accuracy of emotional recognition** for autistic children. | n=19<br>Pre/Post |
| | Gassner et al., 2021[24] | This study reviewed the literature relating to music therapy interventions for autistic individuals. The review found that **social-emotional reciprocity improved**, as did **initiating-behaviour, social communication, brain connectivity, and parent-child relationship**. | Cochrane review – update to previous review, 2 new studies included |
| | James et al., 2015[99] | This systematic review found sufficient evidence in 58% of studies that music therapy was beneficial for **improving social communication and language skills,** and **reducing challenging behaviour.** | 12 studies included<br>Systematic Review |
| | Dieringer et al. 2017[100] | This article found that music intervention + lyrics + verbal instruction **increased on-task behaviour** compared to music + lyrics alone. | n=5<br>Pre/Post |
| | Carpente, 2016[101] | This study found that a music therapy intervention helped to improve **self-regulation, engagement, behavioural organization**, and **two-way purposeful communication** for 4 Autistic children. | n=4<br>Pre/Post |
| | Srinivasan et al., 2015[102] | This study measured the impact of a music based (rhythmic) intervention delivered over 8 weeks by humans or robots to Autistic children, and found that | n=36<br>Pilot RCT |

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|---|---|---|---|
| | | the human-delivered music intervention **reduced negative affect and increased interested affect.** | |
| | Mateos-Moreno et al, 2013[103] | This study examined the impact of a 17-week (2 hrs per week) dance-movement and music therapy intervention for Autistic students. Findings showed improved ability to regulate **emotion and behaviour.** | n=8<br>Pre/Post (NCT) |
| | Lim & Draper, 2011[104] | This study combined an applied behavioural analysis method with a music-based intervention, and found that music-based interventions can be as effective as speech-based interventions in **enhancing verbal production** for Autistic children. | n=22<br>Pre/Post (NCT) |
| | Kim et al., 2009[105] | This RCT found that a music therapy intervention increased **non-verbal social communication** and **joint attention** for Autistic children, compared to social play. | n=15<br>RCT |
| Intellectual Disability | Huang & Gu 2024[106] | This study found that music therapy intervention helped to improve **emotional recognition** and **empathy towards** others for people with ID. | n=120<br>Pre/Post (NCT) |
| | Smeets et al, 2024[107] | A mixed methods study investigated the impact of 16 individual music therapy sessions (either in-person or online) with adults with mild-moderate intellectual disability. **Challenging behaviour was reduced,** while **improvements** were reported for **attention span**, **relatedness.** | n=10<br>Pre/Post &<br>Qualitative |
| | Youm et al, 2024[108] | This qualitative study found that long-term (3 year) music therapy intervention helped to **reduce anxiety** and **improve mental wellbeing** of young people with ID in Senegal. | n=6<br>Qualitative |
| Psychosocial Disability | Volpe et al., 2018[26] | For people with psychosis, MT was found to **significantly improve symptom severity**, and **decrease anxiety/depression.** | n=61<br>Pre/Post |
| | Trimmer, Tyo, Pikard, McKenna, & Naeem, 2018[27] | For adults with depression and/or anxiety, a group CBT/MT intervention was found to **significantly improve disability; anxiety and depression scores were also reduced,** but not statistically significantly. | n=28<br>RCT |
| | Lu et al., 2021[28] | A meta-analysis of RCTs found that MT can **significantly improve anxiety** during treatment. Further research is needed on the lasting effects after the intervention is discontinued. | Meta-analysis of RCTs (32 studies included) |
| | Hakvoort and colleagues,2015[16] | This study investigated the effect of music therapy on managing aggression, anger and dysfunctional behaviour for people with a psychosocial disability | n=14<br>RCT |

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|---|---|---|---|
| | | MT was found to **improve coping and management of anger and aggression under stress** for people who have psychosocial challenges. Participants in the music therapy treatment condition showed **greater changes in positive coping skills and less avoidance in coping** and dealing with their behaviour than the aggression management group. The researchers concluded that participation in music therapy may accelerate the process of behavioural change in people with psychosocial disability, which improves their capacity to participate in their community. | |
| | Tseng et al., 2016[29] | Meta-analysis revealed that music therapy intervention has significant **positive impact on symptoms of schizophrenia**, including **negative symptoms, mood symptoms, and positive symptoms**. | Systematic Review with Meta-Analysis, 12 studies included |
| | Jia et al., 2020[30] | Meta-analysis showed that music therapy **significantly improved total symptoms, negative symptoms, depression,** and **quality of life** for people with schizophrenia | Systematic Review with Meta-Analysis, 18 studies included |

## Cognition

| Population | Article | Outcome | Sample Size |
|---|---|---|---|
| Autism | Gorbett Litchke, Willemin, Willemin, Ekins, & Owens, 2021[32] | This study compared the impact of yoga and drumming program to regular classroom physical activity. Both drumming and yoga **significantly improved cognition and mood cognition**. | n=21<br>Pre-Post |
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| Parkinson's Disease (adults) | Katlen da Silva, Silva Brito, Pascucci Sande de Souza, & Luvizutto, 2021[62] | MT was found to **improve cognitive function, balance** and **functional mobility** of people with Parkinson's disease. However, the gains were not maintained when therapy was discontinued. | n=13<br>Pre/Post |
| Traumatic brain injury | Siponkoski et al., 2020[38] | MT **improved general executive function** and **set shifting** improved in the immediate and 6-month follow-up. MRI scan results showed **significant increase in grey matter volume in right inferior frontal gyrus** during the intervention period. | n=40<br>RCT (crossover) |
| Adults with tinnitus | Moossavi, Mehrkian, Najafi, & Bakhshi, 2022[35] | Music therapy intervention **reduced loudness, awareness, annoyance, and disability** induced by tinnitus, and also **improved cognitive function (auditory divided attention, selective attention and working memory).** | n=26<br>Pre/Post |
| Stroke survivors | Haire et al., 20213[9] | Stroke survivors who received music therapy improved **mental flexibility** aspect of executive functioning. | n=30 adults,<br>RCT (3 arm) |

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| Adults with major depressive disorder | Feng et al., 2019[40] | Adults with major depressive disorder experienced significant improvement on some aspects of a **'verbal fluency task'**. Scans showed **greater activation in areas of the brain involved in cognition** (dorsolateral prefrontal cortex, orbitofrontal cortex and ventromedial prefrontal cortex) after music therapy. The results indicate that music therapy could improve the brain function of MDD patients | n=15 adults<br>Pre/Post |
| Intellectual Disability | Jacob & Pillay, 2021[109] | This non-randomised controlled study found that 18 music therapy sessions **significantly improved reading ability** (based on pre/post Reading Skills Test) for students with an intellectual disability | n=17<br>Pre/Post (NCT) |
| | Mina et al, 202[110] | This systematic review found that music therapy interventions helped to improve **reading** and **phonological awareness**. | 7 studies included |
| | Pasiali, LaGasse, & Penn, 2014[36] | A 6-week music therapy intervention for children with developmental delays significantly **improved selective attention** and **alternating attention/attention control**. | n=9<br>Pre/Post |
| Dementia | Moreno-Morales, Calero, Moreno-Morales, & Pintado, 2020[111] | A systematic review with meta-analysis found that music therapy interventions **improve cognitive function** in people living with dementia, as well as **quality of life** after the intervention (short-term) and long-term **depression**. | Systematic Review<br>8 Studies Included |

## Communication and social interaction

| Population | Article | Outcome | Size/Quality |
|---|---|---|---|
| Autism | Tsirigoti & Georgiadi, 2024[112] | This systematic review found that music therapy interventions **may enhance social communication** for Autistic children, however, small sample sizes and methodological heterogeneity prevent conclusions about efficacy compared to other treatments. | 12 studies included<br>Systematic Review |
| | Mayer-Benarous et al., 2021[113] | This systematic review found that music therapy interventions were found to have a **positive impact** on **speech production** and **social functioning**, with stronger results observed for participants with dual diagnoses of Autism and Intellectual Disability. | 39 studies included (n=1774)<br>Systematic Review |
| | Salomon-Gimmon & Elefant, 2019[49] | 4 autistic children received 20 music therapy sessions, which were filmed and analysed.<br>Findings showed that children **increased vocal communication** following music therapy, but that progress was not linear. | n=4<br>Video analysis |

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| | Mossler et al., 2019[114] | Autistic children aged 4-7 received individualised music therapy sessions for 5 months as part of a large-scale RCT (TIME-A Study). This study explored a sub-set of participants and looked at the impact of the therapeutic relationship on social skill and communication outcomes. This study found that **different domains of social skills and language/communication were more likely to improve** when there was a **strong therapeutic relationship** between therapist and child. The findings were consistent between anonymised observers and parent self-report in natural settings. This suggests that **long-term consistent therapy with a professional** who can develop appropriate **rapport** is important for positive outcomes. | n=48<br>Pre/Post sub-analysis of participants in RCT |
| | Sharda et al., 2018[47] | Autistic children (aged 6-12) received 8-12 weeks of music intervention (compared to non-music intervention control). Outcomes measured included social communication measures (CCC-2) symptom severity (SRS-II), and receptive vocabulary (PPVT-4). Neuroimaging was also used to determine if there are any correlations between neurological changes and the communication outcomes.<br>Music therapy **improved communication significantly**, and this was supported by **greater brain functional connectivity** for participants who received music therapy. | n=51<br>RCT |
| | Miller-Jones, 2018[50] | This study explored how music therapy impacted the speech and language of Autistic children aged between 3-8 years old, from the perspectives of their families and therapists. Families reported that music therapy led to an **increase in word utterance**, **progress toward special education goals**, **emotional wellbeing**, **expressive communication in the home** and **community**, and an **increase in social skills.** | n=10<br>Qualitative |
| | Vaiouli & Andreou, 2018[51] | This systematic review of music therapy interventions for autistic people found that music is an **age-appropriate, communicative medium**. Music was found to **promote pre-verbal communication**, **receptive communication skills,** and **speech/language production.** Music was acknowledged for its motivating and repetitive qualities that enhanced language learning. The review also provides support for **collaboration between music therapists and speech and language pathologists** for the design and implementation of interventions that embed music and target language development of young children with autism. | Systematic Review<br>19 studies included |
| | James et al., 2015[99] | This systematic review found sufficient evidence in 58% of studies that music therapy was beneficial for **improving social communication and language skills,** and **reducing challenging behaviour.** | 12 studies included<br>Systematic Review |

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| | Yoo & Kim, 2018[115] | This study found that Autistic children showed **increased engagement in joint action** following a drumming intervention. | n=42<br>Pre/Post |
| | Srinivasan et al., 2016[102] | This study compared a music based (rhythmic) intervention delivered over 8 weeks by humans or robots to Autistic children. Children in both conditions **significantly improved social verbalisation** compared to standard treatment. Rhythmic interventions **improved spontaneous initiation of communication.** | n=36<br>Pilot RCT |
| | Paul et al, 2015[116] | This study compared a speech vs music intervention for communication with Autistic children. Findings revealed that the music intervention **increased socio-communicative responsiveness** compared to the speech intervention. | n=3<br>Video Analysis |
| | Ghasemtabar et al., 2015[117] | This study compared the impact of a music therapy intervention with a control group (non-randomised) for Autistic students, and found **improved social skills**, which were maintained after a 2-month follow-up. | n=27<br>Pre/Post (NCT) |
| | Sandiford et al., 2013[118] | This study found that a music intervention (melodic based communication therapy) **significantly improved speech elicitation** compared to a traditional speech therapy intervention. | n=12<br>Pilot RCT |
| | Lim, 2010[119] | This study compared the effects of music intervention and a speech intervention on verbal production for Autistic children. Results indicated that the music intervention was as effective as the speech intervention in **improving verbal production**, but that children with higher degree of disability showed **greater improvement after the music intervention**. | n=50<br>RCT |
| | Gattino et al, 2010[120] | This RCT examined the impact of a music therapy intervention on communication for Autistic children. Overall scores were non-significant, however, a **significant improvement for a non-verbal communication subscale** was observed | n=24<br>RCT |
| Intellectual Disability | Chou et al., 2019[48] | Children with Rett Syndrome attended 2 x 120-minute MT group sessions for 24 weeks with a family member. For participants in the MT group intervention, MT was found to improve **receptive language**, **verbal** and **non-verbal communication skills**, **and social interaction** for RTT patients. P**urposeful hand function**, **breathing patterns**, and **eye contact** were also **significantly improved, and frequency of epileptic seizures was noted to decrease**. Family **caregivers** who participated in the MT intervention with their child exhibited significantly **lower stress** following the program. | n=23<br>Prospective co-hort study |

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| | Moreno-Garcia, Monteagudo-Chiner, & Cabedo-Mas, 2020[121] | This systematic review found that music has **positive effects** in the treatment and progress of the four main areas of development (**social-emotional**, **motor, cognitive** and **communication**) in children with DS. | Systematic Review<br>19 studies included |
| | Despres et al 2023[122] | This systematic review reports that music therapy interventions positively impact **anxiety**, **attention, communication, play experience.** However, only a small number of studies measured these variables. **Music skills** and **social skills**, obtained positive or significant results in 86% and 90% of cases, respectively, with 85% for the variable ***engagement* or *participation***. The results are lower for the variables **emotions, behaviours, and motor skills.** | Systematic Review<br>12 reviews<br>62 studies |
| | Rushton et al, 2022[123] | This systematic review found that 6/7 studies reported that music-based interventions improved **social skills** for adults. | 7 studies included Systematic Review |
| | Johnels et al., 2021[124] | This scoping review found promising results of music-based interventions in supporting social interaction abilities for children with ID | 25 Included Studies - Scoping review |
| | Senkal and Muhtar, 2021[125] | This study found that after a 6 week Orff Music Therapy intervention, participants experienced **improved auditory processing**, indicated by reduced total Listening Inventory scores. | n=29<br>Pre/Post |
| People with communication disorders | Boster et al., 2021[37] | A systematic review of literature relating to music interventions for children and adults with communication disorders (including Autism, developmental and acquired disabilities) found that music-based interventions can **improve social** and **participation outcomes**, such as **frequency of responses**, **initiation of communication**, **turn-taking**, **joint attention**, and **group participation**. | Systematic Review<br>71 studies included |
| Post-stroke aphasia | Lim et al., 2013[52] | This study compared the impact of neurologic music therapy and speech/language therapy. Neurologic music therapy intervention was found to have **significantly improved** the **speech** and **language ability** of chronic post-stroke aphasia patients across **three domains** (**aphasia quotient, repetition, and naming**), while speech and language therapy only improved one domain (repetition). Neurologic music therapy was also found to **significantly improve language ability for subacute stroke survivors**, while speech and language therapy had no significant effect for this group. | n=22<br>NCT |
| | Raglio et al., 2016[54] | This study compared the impact of music therapy (free improvisational approach) combined with speech and language therapy, with people who received only speech and language therapy. Participants who received both music therapy and speech therapy showed a **significant improvement** in | n=20<br>RCT |

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| | | **spontaneous speech**. No improvement in this domain was noted for the SLP group. This suggests that people **who receive both** MT and SLP have **better speech outcomes** than people who receive SLP only. | |
| | Liu et al., 2022[53] | A meta-analysis included 6 studies with a total of 115 patients.<br>Music therapy interventions were found to **significantly improve functional communication, repetition**, and **naming** in patients with post-stroke aphasia, however, there was no significant impact on comprehension. | Systematic Review (6 studies included) |
| Parkinson's disease | Barnish & Barran, 2020[55] | A systematic review focused on creative arts therapies for people living with Parkinson's disease (including dance, singing, music therapy and theatre). 56 studies were included (total 1531 participants)<br>The review found evidence that music interventions can **positively impact speech, communication, quality of life** and **motor function** outcomes for people with PD. | Systematic Review<br>(56 included studies) |
| | Tamplin et al., 2019[56] | This study investigated the impact of a group singing (ParkinSong) intervention.<br>The ParkinSong intervention **significantly improved vocal intensity, maximum expiratory pressure**, and **voice-related quality of life** in comparison to controls (i.e. increase loudness and respiratory controls)<br>**Weekly** ParkinSong participants **increased vocal intensity** more than **monthly** participants. Vocal intensity declined in nontreatment control groups. | NCT<br>N=75 |

## Movement and coordination

| Population | Article | Outcome | Size/Quality |
|---|---|---|---|
| Stroke Survivors | Palumbo, 2019[86] | This study explored a combined music therapy (MT) and occupational therapy (OT) intervention targeting upper limb movement for stroke survivors and compared this intervention to a 'home exercise program'. Although overall, there was no statistically significant difference in scores on the Fugl-Meyer Scale (upper limb function) scale, the study found that for participants who were experiencing higher levels of depression benefited significantly more from the music intervention, compared to the home exercise program. These participants also scored significantly better on a general health questionnaire (PHQ9) and self-perceived mobility scale. | RCT<br><br>n=25 |

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| | | Qualitative data supported this observation and indicated that participants who received the music intervention also benefited from emotional support, social interaction and enjoyment of therapy, which were not experienced by participants who received the home exercise program only. | |
| MS | Gonzalez-Hoelling et al., 2021[87] | Music therapy intervention was found to be better than conventional therapy or no intervention in relation to gait (double support time and walking speed), fatigue level, fatigability, coordination, dexterity, balance, walking endurance, lower extremity functional strength, emotional status, and pain.<br>This suggests that music therapy is a safe and effective intervention for people with MS and can address both motor and non-motor related outcomes. | Systematic Review<br>10 studies included |
| Parkinson's Disease (adults) | Katlen et al., 2021[62] | This study explored a music-based intervention addressing physical outcomes for people with Parkinson's disease (PD). The study found a significant improvement in balance, sitting and rising, and timed up-and-go tests.<br>This suggests that the music intervention improved balance and functional mobility for individuals with PD. These functional gains were not maintained when the therapy was discontinued, consistent with the progressive nature of PD. This highlights the importance of ongoing intervention for maintenance. | Pre/Post<br>n=13 |
| Stroke Survivors (adults) | Gonzalez-Hoelling et al., 2021[88] | This study explored the impact of a music therapy intervention (rhythmic auditory stimulation) with conventional therapy for subacute stroke survivors. The music therapy intervention + physiotherapy was found to improve walking ability. However, it was not found to be more effective in improving gait or balance. | NCT<br><br>n=55 |
| Rett Syndrome (children + families) | Chou et al., 2019[89] | Music therapy improved receptive language, verbal and non-verbal communication skills, and social interaction for RTT patients.<br>In addition, purposeful hand function, breathing patterns, and eye contact were significantly improved. Of note, music therapy also decreased the frequency of epileptic seizures. Caregivers in the study group exhibited significantly lower stress following the program. | n=11<br>Pre/post |
| Intellectual Disability | Martinez-Aldao et al., 2019[90] | This study investigated a music-movement intervention to improve the physical health and wellbeing of adults with intellectual disability.<br>The music intervention was found to improve body mass index, cardiovascular endurance (6-min walk test) and muscular strength (standing long jump test). The intervention was also found to be feasible | Pre/Post<br>n=30 |
| Adults with Tourette Syndrome | Dina et al., 2020[91] | A music intervention was used to support adults living with Tourette's syndrome. The music intervention was found to have a positive impact on the manifestation of tics, as well as on the mood of the participants. This suggests | N=8<br>Pre/Post |

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| | | that music may play a positive role in motor interventions to support Tourette's Syndrome. | |
| Acquired Brain Injury | Burns et al., 2024[126] | This integrative review found that music therapy interventions can **augment motor skills** and **enhance communication**, although more rigorous evidence is required | Integrative review (8 studies included) |
| Neurological Disabilities | Twyford et al, 2024[127] | This scoping review found preliminary evidence for the use of music therapy interventions to support functional outcomes (**physical, communication, social, psychological, sensory and behavioural)** for children/young people with neurological disabilities. However, most studies were case descriptions with small sample sizes – further research is needed. | Scoping review (30 papers included) |
| Stroke Survivors | Magee et al., 2017[128] | This Cochrane review updated the previous review from 2010 (see below) found that music therapy interventions **may improve gait parameters after stroke; upper limb function; communication outcomes, and quality of life**, however, quality of evidence was low-very low; more robust evidence via RCTs are required. | Cochrane Review (22 studies, n=775) |
| Stroke Survivors | Bradt et al., 2010[127] | This Cochrane review found that the music therapy intervention 'rhythmic auditory stimulation' (RAS) may be beneficial **for improving gait parameters** in stroke patients, including gait velocity, cadence, stride length and gait symmetry. More research is required for other outcomes areas. | Cochrane Review (7 studies, n=184) |

## Community engagement

| Population | Article | Outcome | Size/Quality |
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| Intellectual Disability | Thompson et al., 2021[43] | Members of an online music therapy group for adults with intellectual/developmental disabilities and the people who support them to attend were asked to complete an online survey about their experiences of participating in the groups. Findings revealed that both group members and carers felt that the groups provided an important space for **connecting with others who have similar interests, staying connected during COVID19 lockdowns, and practicing their social communication skills.** | n=6<br><br>Evaluative Survey |
| | Pavlicevic et al., 2014[44] | This study explored the experiences of members of a long-term community music therapy group for adults with intellectual disabilities from the perspective of their supporters. Findings revealed that the long-term shared therapeutic music group provided the members with opportunities to | Qualitative interviews with key stakeholders |

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| | | develop and experience **confidence, self-esteem, shared acceptance and belonging, and success**. The group was found to be an important space for members and their families to **connect socially, form and sustain friendships and experience inclusion.** | |
| | Jacob & Pillay, 2021[109] | This non-randomised controlled study found that 18 music therapy sessions **significantly improved reading ability** (based on pre/post Reading Skills Test) for students with an intellectual disability | n=17<br>Pre/Post (NCT) |
| | Mina et al, 2021[110] | This systematic review found that music therapy interventions helped to improve **reading** and **phonological awareness**. | 7 studies included |
| | Pasiali, LaGasse, & Penn, 2014[36] | A 6-week music therapy intervention for children with developmental delays significantly **improved selective attention** and **alternating attention/attention control**. | n=9<br>Pre/Post |
| Autism | Hillier et al., 2012[82] | A study of an eight-week music therapy group for Autistic young adults revealed that the group program **significantly reduced anxiety** amongst participants and **increased self-esteem** and **attitudes towards peers.** | n=22<br>Pre/Post |
| | LaGasse, 2014[11] | This study compared the impact of a five-week music therapy group with a no-music social skills group for Autistic children. The study found that children in the MT group experienced improvement in **joint attention** and **social-responsiveness scores,** although there were no differences between groups in terms of initiating and responding to communication, or social withdraw/behaviours. | n=17<br>RCT |
| | Kern & Aldridge, 2006[15] | This multiple-baseline study investigated the impact of personalised social songs for Autistic children on social play. The interaction **produced desirable peer interaction outcomes**, and the collaborative consultative approach enabled teachers to implement interventions successfully in ongoing playground routines. | n=4<br>Pre/Post |
| Dementia | Thompson et al., 2023[45] | This study explored the experiences of people with dementia and their family carers who attend a therapeutic, community-based choir. Findings revealed that members experienced significant **social connections**, **reduced isolation**, and **opportunities to express their identity**, despite their condition. Participants also reported they received important **social and** | n=11<br>Qualitative study |

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| | | **emotional support** from other group members, and benefits to **mood**, **cognition** and **general wellbeing** were noted. | |
| | Clark, Tamplin & Baker, 2018[92] | This study investigated the experiences of people with dementia and family carers who participated in a 20-week therapeutic group singing program in a community setting. The study found that the choir provided opportunities for members to form **empathic friendships** through **the shared experiences** of dementia and singing together. Participants also reported experience **enhanced relationship** between carer and person with dementia, and **benefits to mood** and **general wellbeing**. | n=18<br>Qualitative study |
| | Clark et al., 2021[93] | Following a 6-week therapeutic group song writing program for people with dementia and their family carers, participants reported that the program prompted **interaction and collaboration**, which led to **social connections**, **empathic relationships** and **experiences of inclusion**. Participants also reported that the program provided opportunities for supported engagement, which **highlighted their abilities** and **reduced feelings of self-doubt.** | n=10 |
| Parkinson's disease & stroke survivors | Fogg-Rogers et al., 2013[94] | Fourteen members of a community-based therapeutic choir participated in a qualitative study. Findings revealed that the choir provided a fun and social environment, that allowed members to **connect** with others who have **shared experiences**, which leads to improvements in **mood, language, breathing** and **voice.** | n=14<br>Qualitative study |
| Stroke survivors | Tamplin et al., 2013[95] | This study reports results of a 20-week community based therapeutic choir for stroke survivors with aphasia. Findings suggest that participation in a therapeutic choir can help to **reduce psychological distress**, **increase confidence**, **provide peer support**, **enhance mood**, **increase motivation**, and **support communication.** | n=13<br>Pre/Post + Qualitative |
| Psychosocial disability | Hense, McFerran & McGarry, 2014[80] | This study presents a grounded theory of how young people experiencing mental ill-health and subsequent psychosocial disability use music to aid in the **recovery of their identity.** Group music therapy was a helpful as a '**bridge' between the personal and community** for participants, and allowed them to practice **connecting with others** in a safe and supportive space. | n=11<br>Qualitative (Grounded Theory) |
| | Windle et al., 2020[7] | Ten members of a group song writing program for people with long-term depression were interviewed about their experiences. Participants reported that the group provided opportunities for **social connection** that **continued** | n=10<br>Qualitative |

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| | | **following the end of the program**. The group was seen as a **safe space** that allowed for **enjoyment** and **personal achievement**. | |

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