



Music therapy

Disability evidence summary 2024

Person-first language



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

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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).

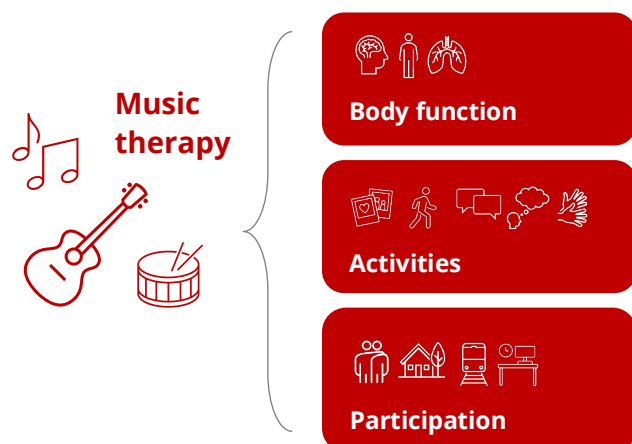
AMTA is a member organisation of Allied Health Professions Australia (AHPA) and the National Alliance for Self-Regulating Health Professions (NASRHP), along with speech pathology, occupational therapy and social work. Professional self-regulation ensures RMTs are appropriately qualified, skilled, and 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 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 stress and anxiety^{18,22,26-30,35,108,122,134,149-152}
- manage anger and frustration¹⁶
- manage challenging behaviour^{16,18,23,27,35,97,99,107}
- increase skills in behaviour regulation^{16,21,59,100,101,103}
- improve self-regulation and motivation^{22,97,100,101,103,146}
- increase emotional awareness and attunement^{23,101,106,146}
- improve mood and reduce psychological symptoms^{18,22,23,28,29,31,32,59,91,94,95,111,134,135,149-152}
- promote and improve mood and emotional regulation^{23,31,45,59,91-95,97,103,134,135,146,149-152}
- improve social skills^{22,26,39,59,97,99,105,106,117,122,142-144}
- improve person-carer relationships^{26,92}

- increase social engagement^{45,80,92,93,97,101,115,122}
- improve quality of life^{26,27,32,35,57,58,111,128,134-137,142}

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 tasks³⁶. 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 cognitive function and abilities^{27,34,37,64,97,111,121,131}
- improve memory^{37,131}
- increase attention, including sustained, alternating and selective attention^{37-39,131}
- improve executive functioning, including, planning, organisation, inhibition and self monitoring^{40,41,131,132}
- improve problem solving¹³¹
- increase sensory processing and integration^{37,59}
- improve reading ability and phonological awareness^{109,110}
- improve brain function^{40,42,49}
- increase initiation and motivation^{39,95,102}
- increase independence and community participation^{15,72,142,143}
- improve quality of life^{26,27,32,111}

Nearly every person has a sophisticated network of neural systems that allow them to meaningfully perceive music, even those with neural disease, damage or delay³⁶. Brain imaging research has found that a complex network of brain structures are involved in processing music⁴⁶. 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 independence¹⁵.





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^{49,50,53}
- develop expressive communication^{33,49-60,104,112-115,118,121-125,137,138,141-148}
- improve speech articulation and functional communication⁵³⁻⁵⁸
- improve respiration (breathing)^{50,58}
- improve attention^{19,38,39,122,131,141,146}
- develop social communication skills; including social understanding, non-verbal communication and gestures and the ability to use language for different purposes^{26,43,49,52,97,99,105,112,142,143}
- increase social functioning, interaction and participation^{39,50,101,112,113,115,117,124,138-140,142}
- support achievement of special education goals^{52,109,110,143}

- improve quality of life for people and their families^{57,58,111,135,137,142}

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 damage⁶⁰.

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 documented⁶¹. 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 technique¹. 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 phrases¹⁴.



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^{57,64-68,72,87,88,128,129,133}
- improve fine motor function and control^{68,87,126,128}
- develop proprioception and balance^{62,64,87,88}
- increase functional mobility^{62,64,86}
- increase physical independence⁷²⁻⁷⁵
- improve function of the respiratory system^{58,71}
- improve endurance^{87,90}
- improve body mass index⁹⁰
- manage pain^{67,87}
- increase social interaction and participation^{39,50,86}
- improve quality of life^{26,27,32,86,128}



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 cue¹. 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 therapy¹³.

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 movement⁷⁷. An effect of this is musical entrainment, where a person's body synchronises with musical stimulus⁷⁸. 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 brain⁷⁹. 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, 82}. Music therapy can help people connect with their community, both with peers within a music therapy group, and with community members outside of the group⁸³.

Music therapy can help:

- Improve global functional outcomes and quality of life¹³⁷
- improve confidence and self-esteem³
- develop a sense of empowerment and purpose
- develop a sense of belonging and social connectedness^{4-7,43,44}
- 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^{5,6,11,115,117}
- increase social inclusion and community participation^{4,6,12, 152}



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 interaction⁸⁴. 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^{85, 86}. 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^{74, 75, 152}.

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 crying². 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
Autism	Gassner et al., 2021 ²⁶	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 10 studies
	Applewhite et al., 2022 ¹⁹	This systematic review found that music therapy can improve emotional and behavioural outcomes for Autistic people.	Systematic Review 81 Studies
	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 21 articles 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 more methodological rigour, and focus on individualised functional goals, rather than more broad domain changes.	Systematic Review 36 articles included
	Shi et al., 2016 ⁵⁹	This systematic review found that music therapy improved mood, behaviour, language, sensory perception and social skills .	Systematic Review 6 studies (n-300)
	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 .	Systematic Review 12 studies included
	Rabeyron et al., 2020 ²¹	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 RCT

	Bergmann et al., 2021 ²²	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 NCT & Qualitative
	Wagener et al., 2021 ²³	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 Pre/Post
	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 Pre/Post
	Carpente, 2017 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 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 the human-delivered music intervention reduced negative affect and increased interested affect .	n=36 Pilot RCT
	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 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 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 RCT
Intellectual Disability	Huang & Gu 2024 ¹⁰⁶	This study found that music therapy intervention helped people with ID improve emotional recognition and empathy towards others.	n=120 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 Pre/Post & 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 Qualitative

Dementia	Gassner et al., 2021 ²⁶	This review 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
	van der Steen et al., 2018 ³⁵	This review found moderate evidence that music therapy interventions reduce depression and improve behavioural challenges , and low evidence that music therapy can reduce anxiety and improve quality of life	Cochrane Review 22 studies (n=1079)
	Zhang et al., 2017 ²⁷	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 34 studies included
	Ueda et al., 2013 ¹⁸	Systematic review on effects of music therapy on 'behavioural and psychological symptoms of dementia' Found moderate effect size for anxiety, small effect size for behaviour	Systematic Review 20 studies included
	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 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 Pilot Pre/Post Study
Psychosocial Disability	Lu et al., 2021 ³⁰	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.	Systematic Review with Meta-Analysis 32 studies included
	Jia et al., 2020 ³²	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
	Tseng et al., 2016 ³¹	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
	Volpe et al., 2018 ²⁸	For people with psychosis, MT was found to significantly improve symptom severity , and decrease anxiety/depression .	Pre/Post n=61
	Trimmer et al., 2018 ²⁹	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.	RCT n=28

	Hakvoort et al., 2015 ¹⁶	This study investigated the effect of music therapy on managing aggression, anger and dysfunctional behaviour for people with a psychosocial disability 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.	RCT n=14
	Grocke et al., 2014 ¹³⁶	This study found that music therapy significantly improved quality of life for people with severe mental illness	Randomised Experimental Mixed Methods n=99
Chronic Health Conditions	Pakdeesatitwara et al., 2024 ¹³⁴	Meta-analysis showed that music interventions have significant positive impacts on depression, generic and disease-specific psychological quality of life, and mood disturbance . When guided by music therapists in multiple sessions through music therapy process, music interventions showed positive significant impacts on anxiety .	Systematic Review with Meta-Analysis and Narrative Summary 21 studies
Neurologic Disabilities	Gold et al., 2015 ¹³⁵	This narrative systematic review supported the efficacy of music interventions on mood, depressive syndromes, and quality of life	Systematic Review 25 studies

Cognition

Population	Article	Outcome	Sample Size
Autism	Gorbett Litchke et al., 2021 ³⁴	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 Pre/Post
Intellectual Disability	Mina et al, 2021 ¹¹⁰	This systematic review found that music therapy interventions helped to improve reading and phonological awareness .	Systematic Review 7 studies included
	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 Pre/Post (NCT)

	Pasiali et al., 2014 ³⁸	A 6-week music therapy intervention for children with developmental delays significantly improved selective attention and alternating attention/attention control .	n=9 Pre/Post
Parkinson's Disease (adults)	da Silva, et al., 2021 ⁶⁴	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 Pre/Post
Brain Injury (TBI)	Siponkoski et al., 2020 ⁴⁰	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 RCT (crossover)
	Martínez-Molina et al., 2022 ¹³⁰	Music-based neurological rehabilitation improves executive function , particularly set shifting, and induces neural plasticity changes , including gray matter volume changes in the right inferior frontal gyrus and changes in functional connectivity of large-scale resting-state networks .	n=40 RCT (cross-over)
	Gardiner & Horwitz (2015) ¹³¹	The study found significant improvements in cognitive abilities, including verbal attention, visual attention, verbal learning, verbal memory, visual memory, planning and foresight , and mental flexibility and problem solving . The group ratings of the helpfulness of the group sessions were also positive.	n=22
	Sihvonen et al., 2022 ¹³²	This study found that neurologic music therapy induces structural white matter reorganization within the executive function network, leading to improved executive function recovery in patients with TBI.	n=25 Single blind cross-over
Tinnitus	Moossavi et al., 2022 ³⁷	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 Pre/Post
Stroke survivors	Haire et al., 2021 ⁴¹	Stroke survivors who received music therapy improved mental flexibility aspect of executive functioning.	n=30 adults, RCT (3 arm)
Psychosocial Disability	Geretsegger et al., 2017 ¹⁵³	This Cochrane Review found that music therapy had moderate quality evidence for improving global state, mental state (including negative and general symptoms), social functioning , and quality of life of people with schizophrenia or schizophrenia-like disorders	Cochrane Review 18 studies (n=1215)
	Gold et al., 2013 ¹³⁵	This study found that for people with psychosis, music therapy improved negative symptoms (SANS, d = 0.54, p < 0.001) as well as functioning, clinical global impressions, social avoidance through music, and vitality (all p < 0.01)	n=144 RCT
	Feng et al., 2019 ⁴²	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	n=15 adults Pre/Post

		ventromedial prefrontal cortex) after music therapy. The results indicate that music therapy could improve the brain function of MDD patients	
Dementia	Moreno-Morales et al., 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 8 studies included

Communication

Population	Article	Outcome	Size/Quality
Autism	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.	Systematic Review 39 studies (n=1774)
	Geretsegger et al., (2022) ¹³⁷	Meta-analysis (Cochrane review) of music therapy for autistic people. Music therapy compared with 'placebo' therapy or standard care was more likely (moderate evidence) to positively improve global functional outcomes and quality of life .	Systematic Review 26 studies (n=1165)
	Vaiouli & Andreou, 2018 ⁵³	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 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 .	Systematic Review 12 studies included
	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.	Systematic Review 12 studies
	Bieleninik et al., (2017) ¹³⁸	For autistic children aged 4-7 years, secondary outcomes were found, with music therapy associated with greater improvements than standard care in social motivation and autistic mannerisms .	n=364 RCT

Salomon-Gimmon & Elefant, 2019 ⁵¹	4 autistic children received 20 music therapy sessions, which were filmed and analysed. Findings showed that children increased vocal communication following music therapy, but that progress was not linear.	n=4 Video Analysis
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 Pre/Post Sub-Analysis of participants in RCT
Sharda et al., 2018 ⁴⁹	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. Music therapy improved communication significantly , and this was supported by greater brain functional connectivity for participants who received music therapy.	n=51 RCT
Miller-Jones, 2018 ⁵²	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 Qualitative
Thompson et al. (2022) ¹³⁹	For autistic adults aged 18-25 years, music therapy group work promoted social connection and increased subjective wellbeing .	n=12 Mixed Methods Pre/Post study
Thompson et al. (2019) ¹⁴⁰	Musical play with pre-school aged children was found to promote more social interactions between parent and child compared to playing with blocks.	N=9 Pre/Post randomised cross-over design
Yoo & Kim, 2018 ¹¹⁵	This study found that Autistic children showed increased engagement in joint action following a drumming intervention.	n=42 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	n=36 Pilot RCT

		social verbalisation compared to standard treatment. Rhythmic interventions improved spontaneous initiation of communication.	
Thompson & Abel (2018) ¹⁴¹	For autistic children, findings suggest that singing interventions can support spontaneous attention in social interactions.	n=16 Pre/Post Randomised Cross-Over design	
Thompson (2017) ¹⁴²	Autistic preschool aged children who participated in music therapy 4 years prior continued to have long-term benefits in their social communication skills, quality of life, and community participation.	n=8 Qualitative	
McFerran et al., (2016) ¹⁴³ .	Within an autism specialist school, music therapy strategies supported autistic students to achieve their goals in areas of communication, emotional expression, social skills, independence.	n=10 Action Research Case Study	
Thompson & McFerran (2015) ¹⁴⁴	Pre-school aged autistic children received music therapy in a family setting. Mothers reported increases in the child's social relationship behaviours.	n=11 Qualitative	
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 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 Pre/Post (NCT)	
Thompson et al., 2014 ¹⁴⁵	This study found a significant improvement on the Social Emotional Early Childhood scale	n=23 RCT	
Epstein et al., (2020) ¹⁴⁶	For autistic children, musical attunement supported emotional regulation, attention, and imaginative play.	n=6 Qualitative	
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 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 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 RCT
Intellectual Disability	Després 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 12 reviews 62 studies included
	Moreno-Garcia, et al., 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 19 studies included
	Rushton et al, 2022 ¹²³	This systematic review found that 6/7 studies reported that music-based interventions improved social skills for adults.	Systematic Review 7 studies included
	Johnels et al., 2021 ¹²⁴	This scoping review found promising results of music-based interventions in supporting social interaction abilities for children with ID	Scoping Review 25 studies included
	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 Pre/Post
	Thompson & McFerran (2015) ¹⁴⁷	In a special school setting, with four adolescents with profound and multiple disabilities, music therapy was more effective that toy play in promoting positive communication behaviours .	n=4 Pre/Post Cross-Over design
	Lee & McFerran, 2012 ¹⁴⁸	This study found that a music therapy intervention helped non-verbal adults with profound and multiple intellectual disabilities to improve their non-verbal communication skills .	n=5 Video Analysis
	Chou et al., 2019 ⁵⁰	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. Purposeful 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 Prospective Cohort study

People with communication disorders	Boster et al., 2021 ³⁹	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 71 studies included
Post-Stroke Aphasia	Liu et al., 2022 ⁵⁵	A meta-analysis included 6 studies with a total of 115 patients. 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
	Lim et al., 2013 ⁵⁴	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 NCT
	Raglio et al., 2016 ⁵⁶	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 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.	n=20 RCT
Parkinson's Disease	Barnish & Barran, 2020 ⁵⁷	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). 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 56 studies included
	Tamplin et al., 2019 ⁵⁸	This study investigated the impact of a group singing (ParkinSong) intervention. 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) . Weekly ParkinSong participants increased vocal intensity more than monthly participants. Vocal intensity declined in nontreatment control groups.	NCT N=75

Movement and coordination

Population	Article	Outcome	Size/Quality
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 included n=775
	Bradt et al., 2010 ¹²⁹	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 included n=184
	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. 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.	n=25 RCT
	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.	n=55 NCT
Acquired Brain Injury	Ghai, S. (2023) ¹³³	This systematic review found that music therapy had a positive effect on gait speed, cadence, and step symmetry in individuals with traumatic brain injury and spinal cord injury. Specifically, it finds that gait speed increases with metronome at 25% faster than preferred cadence , and that rhythmic auditory stimulation at 5% faster than normal cadence decreases gait speed, cadence, and stride length .	Systematic Review with Meta-Analysis 6 studies included
	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 studies included
Multiple Sclerosis	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 . 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 10 studies included
Parkinson's Disease	Machado Sotomayer et al., 2021 ⁶⁸	This review found that music therapy had positive effects for motor symptoms , as well as communication, swallowing, breathing and emotional wellbeing .	Systematic Review 58 papers
	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 . 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 n=13
Cerebral Palsy	Ghai et al., 2022 ¹⁵⁴	This review found that music intervention + standard care significantly improved gait speed, stride length, cadence, and gross motor function compared to standard care	Systematic Review 14 studies
	Yanagiwara et al., 2022 ⁷²	This review found that music therapy had a significant effect on the Gross Motor Function, Functional Independence Measure and Goal Attainment Scale scores. Music therapy had no significant effect on any of the other items.	Systematic Review 8 studies
Intellectual Disability	Chou et al., 2019 ⁸⁹	Music therapy improved receptive language, verbal and non-verbal communication skills, and social interaction for children with Rhet Syndrome. 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 Pre/post
	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. 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	n=30 Pre/Post

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 that music may play a positive role in motor interventions to support Tourette's Syndrome.	n=8 Pre/Post
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Community engagement

Population	Article	Outcome	Size/Quality
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.	Evaluative Survey n=6
	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 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.	Qualitative interviews with key stakeholders
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.	Pre/Post n=22
	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.	RCT n=17
	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.	Pre/Post n=4

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 emotional support from other group members, and benefits to mood, cognition and general wellbeing were noted.	Qualitative study n=11
	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 .	Qualitative study n=18
	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 .	Qualitative study 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 .	Qualitative study n=14
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 .	Pre/Post + Qualitative n=13
Psychosocial Disability	Aalbers et al. 2017 ¹⁵²	This Cochrane review found that music therapy can help to improve functioning (such as maintaining employment, engaging in community-based activities, and maintaining relationships). Music therapy also reduced depressive symptoms and anxiety .	Cochrane Review 9 studies (n=421)
	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.	Qualitative (Grounded Theory) n=11

	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 following the end of the program . The group was seen as a safe space that allowed for enjoyment and personal achievement .	Qualitative n=10
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