Therapeutic Singing for Cognitive Health & Well-Being

Executive Summary

Costs associated with cognitive and mental health conditions continue to rise. SingFit's digital health platform aims to address this issue by prescribing therapeutic music to the masses.

16 Million people in the United States are living with a cognitive impairment.

Over $277 Billion of spending on healthcare costs to address cognitive impairment in the US.

Mental health conditions cost over $225 Billion in 2019[14] and over half of adults with mental health conditions do not receive treatment.

Research shows active participation in music-making is beneficial for cognitive health and well-being.

However, access to music therapy has remained largely unavailable to the many with cognitive impairment or mental health conditions.

SingFit has created a digital health app to make therapeutic music more accessible.

Growing research on the many neurological benefits of therapeutic music provides one attractive option for promoting neuroplasticity and emotional health.

Research demonstrates that active participation in music interventions can help grow new neural connections and improve outcomes for those with cognitive impairment.[1] Additionally, it can positively regulate neurochemicals critical to good mental health, including serotonin and dopamine.[2]

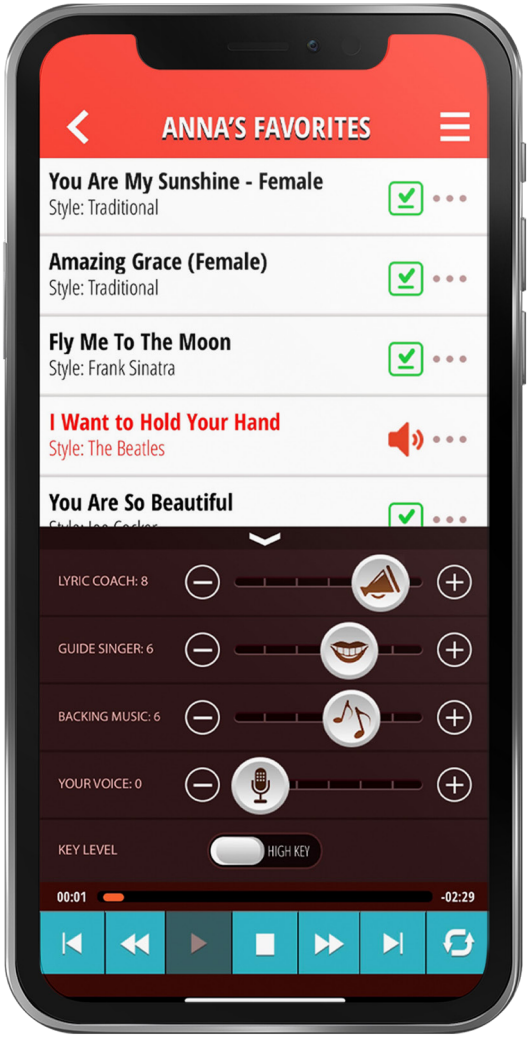
Singing has been shown to be beneficial for many neurological rehabilitation outcomes—from improving word production for those with aphasia and Parkinson's to elevating mood and reducing agitation in those with Alzheimer's and other forms of dementia.[3]

According to the Utley Foundation's Commission on Dementia and Music, music interventions are beneficial for symptoms of anxiety and depression spurring their work to ensure music is available for all in the U.K.[4]

SingFit's Solutions

Technology expands access to therapeutic music in a way never seen before. SingFit, a leader in therapeutic music, is a digital health platform designed to promote cognitive health and well-being. SingFit technology provides an app with music-therapist-designed algorithms, protocols, and training for professionals as well as unpaid caregivers.

In use for more than eight years in over 500 long-term communities, SingFit supports successful singing in order to improve cognitive well-being, speech and language, and emotional health. SingFit is harnessing the power of music as medicine and scaling their reach to many.



Demonstrated Results

In a 2017 pilot project with 249 participants, engagement with SingFit PRIME was nearly 80%.

In 2019, SingFit was shown to improve the mood of long-term care residents by 58%.

Feasibility testing with rehabilitation therapists demonstrated improved engagement and mood in therapy sessions.

Some clinicians increased Medicare Part B billable hours where SingFit improved speech or cognitive outcomes.

SingFit has demonstrated that anyone can harness the power of therapeutic music to improve neurological health and well-being for those with cognitive impairment.

The Impact of Cognitive Impairment and Mental Health

Cognitive impairment and cognitive decline are increasing concerns.

- 2 out of 3 Americans will experience some level of cognitive impairment.[5]
- The risk of experiencing cognitive impairment increases with age.[6]
- 1 out of 5 older adults experience cognitive decline as a normal part of aging.
- This is not the same as dementia or Alzheimer's.[7]
- As of 2022, nearly 11% of Americans over age 65 **(about 6.5 Million people)** are living with Alzheimer's Disease.
- That number is projected to triple over the next three decades.[8]

Between the cost of health care and long-term care, these conditions cost more than $277 Billion per year in the United States alone.[9] **This does not include unpaid caregiving, especially care provided by family members.** Older adults with cognitive impairment are also likely to **spend twice as many days hospitalized** as those without it, contributing to the vast cost of care.[10]

The Burden of Depression

Those with cognitive impairment are also likely to experience lowered quality of life.[11] Mental health is a growing issue in the United States, especially after the COVID-19 pandemic.

$225 BILLION Mental health conditions also have an astronomical cost: over $225 Billion in 2019.[14]

$71 BILLION Depressive disorders alone cost $71 Billion in 2013.[15]

27% Or 11.6 Million older adults suffer from depression.[12]

57% Over half (57%) of adults with a mental illness do not receive treatment.[13]

SINGFIT: A SOLUTION FOR COGNITIVE HEALTH & WELL-BEING

There is a clear need to support cognitive health and well-being especially in light of the treatment gaps and the mental health issues arising from the COVID-19 pandemic. While we currently have no definitive cures for cognitive decline or impairment, research has started focusing on how preserving physical and mental health can preserve cognitive engagement and cognitive health. Solutions that improve mental health, cognitive engagement, and physical health can improve cognitive function and ease the symptoms of cognitive impairment.[16] This can make a profound difference in both patient and caregiver health as well as quality of life, which is why SingFit provides a timely and scalable solution that improves cognitive engagement and promotes well-being for those suffering from cognitive impairment or emotional health issues.

Therapeutic Music Can Improve Cognitive and Mental Health

The understanding that music-making can help maintain and improve cognitive health is gaining in popularity. Research has shown that music can help increase brain function and support neuroplasticity.

Neuroplasticity:

the ability of the brain's neural networks to create new connections and strengthen existing ones.[17, 18]

While listening to music is helpful, active music-making has even more neurological, physiological, and social benefits.[19]

A study published in the *Journal of the American Geriatrics Society* showed that **active singing was more beneficial in improving cognitive function and life satisfaction than music listening alone.[20]**

Anyone can participate in singing, and it requires no prior experience or specific skills.

Music-making, and singing in particular, is **better for cognitive engagement.** A study cited in the *Journal of Clinical Nursing* concluded that when caregivers sang during their morning caregiving routines, those patients were more alert, less resistant in their behavior, and showed more positive emotions.[21]

How Singing Can Help

Singing Can Be a Full Brain Workout

Singing stimulates areas of the brain responsible for cognitive processing, language, communication, coordination, and motor timing and movement while also positively regulating cortisol, dopamine, and endorphins that can elevate mood and reduce pain.[2, 22, 23]

"Music-making is a global brain workout. So many areas of the brain are positively impacted by singing." According to certified music therapist and SingFit cofounder Andy Tubman.

Researchers have found that singing may **improve speech and verbal** ability in some neurological disorders like autism, Parkinson's disease, and aphasia.[18] While the research is ongoing, some studies have shown **improvement in speech and reading**. Studies indicate that singing and making music may lead to functional changes in the brain that can improve vocal communication skills.[18]

Singing also offers additional benefits to those with cognitive challenges. Regular singing has also been shown to help **reduce anxiety, depression, agitation, and aggression** in some participants.[24]

It can improve their **quality of life** while reducing isolation. Participation in therapeutic music activities has also been found to **reduce stress for caregivers**.

At Landspitali University Hospital in Reykjavik, Iceland, a study with moderate to severe dementia patients found that following singing sessions, it was reported that participants demonstrated:[25]

Increase in self-confidence.

Lowered anxiety and stress levels.

More willingness to interact with others.

Improved quality of life and feelings of well-being.

Active music-making triggers the release of oxytocin, which counteracts feelings of isolation and improves immune system health.[26] In contrast, music listening programs can be isolating for older adults, where singing, especially in groups, can maximize engagement and social support.

One of the challenges to increasing the use of music-based health technologies for cognitive health and improvement has been that many caregivers—whether professionals or family members—don't know how to engage with music in ways that could be therapeutic. **Many recognize that playing music can have positive effects but lack the expertise to know how to do it in consistent and effective ways** that can lead to increased cognitive engagement, better moods, and improved quality of life. There is much more to music therapy than just playing and listening to music. Having access to a specialized health technology such as SingFit makes active music participation easy. SingFit exponentially increases the opportunity for success.

SingFit App Bridges the Gap in Therapeutic Music

Benefits of Therapeutic Singing

- Full Brain Workout
- Improves Cognition and Memory
- Improves Anxiety
- Improves Lung Health
- Improves Verbal Skills
- Elevates Mood
- Encourages Socialization

With approximately 16 Million cognitively impaired patients in the United States alone and fewer than 10,000 board-certified music therapists—as compared to 140,000 speech therapists—there are just not enough practitioners to meet the demand.[27]

Increased access to therapeutic music may be important for treating the millions with cognitive impairment and also providing opportunities for cognitive health in the general population. This is the reason SingFit was created.

SingFit provides therapeutic music in an easy-to-implement app for both home and long-term care centers. The SingFit platform supports personalized singing and engaging with therapeutic music without the expense of hiring a music therapist.

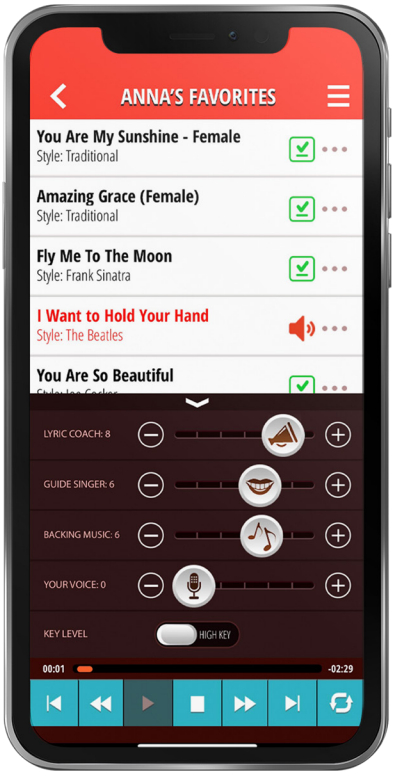
In fact, no other digital singing program for cognitive engagement exists on the market. SingFit makes therapeutic music accessible to anyone looking to maintain cognitive or emotional health.

SingFit stands out from other wellness apps by providing specialized training to tailor therapeutic music for those with cognitive impairment. SingFit's online training and instructional videos are easy to follow, even for someone with no experience or training in any type of music. Every part of the product is designed by music therapists with years of experience in caring for those with cognitive impairment and mental health disorders. Clinical support from board-certified music therapists is also available for all customers.

SINGFIT'S LYRIC COACH MAKES THERAPEUTIC MUSIC EASY

SingFit's Lyric Coach is one of SingFit's most innovative features. For people with certain conditions, reading is difficult and and is an academic process that can be a source of stress. SingFit's Lyric Coach technology supplies the lyrics with a spoken prompt just before each line of the song, removing the anxiety of trying to read lyrics and keep up.

SingFit music library provides the power of therapeutic music with a simple tap. The app library makes it easy for users to find their favorite songs and start engaging in therapeutic music immediately—even for those working with a person with moderate cognitive impairment. Age-based playlists support finding the perfect song out of the box for someone. It allows users to easily jump into actively participating in therapeutic singing even if they are unsure what they want to listen to.



SingFit Positively Impacts Cognitive Health and Wellness

Participants often feel an emotional connection to the music. This frequently prompts more communication and reminiscence as music activates long-term memory networks. A SingFit STUDIO Pro user reported, **"Julia gave me the best stories whenever we used SingFit. The songs reminded her of earlier times. Julia's mood really did change after the session... I asked how the music helped and she said, *'I just felt so able.'* "**

In a large pilot of 249 participants at 11 communities of a large senior care provider, we found that residents were engaged and their mood improved. On average, senior living residents displayed 4 of our 5 targeted engagement behaviors each session. The target engagement behaviors were smiling, singing, moving to music, answering questions, and interacting socially during SingFit groups.

92
Net Promotor Score
from rehabilitation therapists

58%
Mood Improvement
from pre to post SingFit

80%
Engagement
during SingFit PRIME

One adult day setting, Oxnard Family Circle, independently conducted a one-year pilot of SingFit PRIME. They found a 40% reduction in PRN—or given as needed—anxiety medications in three participants.

In 2020 SingFit also conducted feasibility testing in 141 sessions with 7 speech-language pathologists and occupational therapists. These rehabilitation therapists found that SingFit improved engagement of participants, increased confidence in their voice, and facilitated narrative speech. It furthered progress toward treatment goals, and several rehabilitation therapists shared that SingFit increased Medicare Part B billable hours by improving outcomes. They reported the technology was **easy to use** and **supported better outcomes** by improving engagement and mood.

The benefits of therapeutic singing extend beyond just the patients. Caregivers also benefit—both directly and indirectly from the use of therapeutic music. SingFit can impact the relationship between caregivers and patients by easing tension and providing regular opportunities for positive shared activities/experiences.

SingFit Improves Rehabilitation Outcomes

14% Of clients saw improved outcomes in speech therapy such that the number of sessions was extended.

2.6X These sessions were extended from an average of 6.3 sessions without SingFit to 16.3 sessions with SingFit or 2.6 times the number of sessions.

100% **of caregivers reported that using SingFit made their time with their loved one more enjoyable!**

When patient care becomes a more positive and rewarding experience, caregiver stress can decrease. In a recent survey of caregivers using SingFit with family members, all reported they would recommend the program to other caregivers.

One caregiver, Jeanne, described the transformation in her husband with dementia through the use of SingFit. She reported his increased cognitive engagement and willingness to take part in activities of daily living and personal care as well as how emotionally rewarding it was for her to see those changes.[28]

While more research is needed, feedback from early pilot projects shows that SingFit can improve caregiving for both family members and professional caregivers. Some of the feedback suggests that communicating through music helps caregivers to better understand and relate to those in their care.

Key Takeaways

SingFit Offers an Effective and Affordable Tool for Cognitive Health and Well-Being

1. More than 16 Million in the United States suffer from some type of cognitive impairment, and that number is projected to triple over the next three decades. Cognitive decline and related challenges are poised to become a major health crisis. In addition, almost 50 Million struggle with a mental health disorder. Together these conditions cost the US close to 500 Billion.

2. The field of healthcare needs solutions that can be implemented simply and easily in both home and institutional settings without special training. While there is growing interest in cognitive health and wellness, currently few options provide scalable treatment to improve cognition and well-being for those with cognitive impairment.

3. SingFit positively impacts cognitive health and well-being by improving mood and cognitive engagement.

4. With SingFit's innovative solutions, Music Health Technologies is turning music into effective, affordable, and highly distributable medicine. SingFit's mission is to deliver greater neurological, physiological, emotional, and societal health to people of all ages and cultures.

5. SingFit helps users maintain and improve their cognitive health, SingFit brings the power of active music-making to any caregiver. Using SingFit technology, caregivers can share joy and empower those with cognitive impairment.

To learn more about SingFit, or to try it out for yourself, visit us at SingFit.com.

What Professionals and Caregivers Say about SingFit

"SingFit has really changed her life. I have really seen that change in confidence. She used to perseverate her speech and she would say, 'I can't speak.' But now we have in-depth, complex conversations and she rarely gets stuck on finding the word 'blue,' for example. She has been very successful in our sessions despite previous therapy sessions where she felt that it drew attention to her defects and the issues she had with speech instead of giving her confidence."

—Caitlin Fattore, SLP

"I provided speech therapy to Jane in 2017. At the time she was resistant to going to sessions and had no real engagement. This time around was a huge contrast. SingFit was included in all of Jane's therapy sessions. She had a no-show rate of 0 and wasn't resistant to any sessions. She always wanted to do them. I think SingFit was a huge contributor to this."

—Kim O., SLP

"I think his mood is more stable. Every so often he has a bad day. But he hasn't had one in quite some time. I've used it when he gets stressed out, we might sing a song. And it's a good reminder to use music to help change his mood. Singfit made me realize this even more."

—Jan P. whose husband has Mild Cognitive Impairment

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