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**A Sound Approach:
A Review of the Role of Music in Addressing our
Mental Health Crisis**

SUMMARY

This research paper explores the growing mental health crisis, particularly among adolescents and marginalized communities, and examines how music can serve as a powerful tool for mental well-being. It highlights alarming statistics on youth suicide, depression, and self-harm, emphasizing the lack of accessible and effective interventions. Music, being universally available and deeply connected to human emotions, offers a unique way to address these challenges. The study discusses music's role in fostering social connections, reducing loneliness, and promoting positive mental health. It also delves into neuroscience, explaining how music stimulates brain regions tied to reward, emotion, and stress regulation. The paper reviews music therapy's effectiveness in treating depression and anxiety, as well as the everyday benefits of listening to and engaging with music. Lastly, it calls for greater recognition of music as a mental health resource, urging policymakers, researchers, and organizations to expand its use in public health strategies.

KEY TAKEAWAYS

Mental Health Crisis: Rates of depression, anxiety, and suicide are rising, especially among adolescents and marginalized groups.

Music's Role: Music is a universal, accessible tool that can support mental well-being through emotional expression, social bonding, and stress relief.

Scientific Backing: Neuroscience confirms that music activates brain regions linked to pleasure, motivation, and emotional regulation.

Therapeutic Benefits: Music therapy has been shown to reduce stress, anxiety, and depression, while even casual listening can improve mood and coping skills.

Call to Action: More research, funding, and public health initiatives are needed to harness music's full potential as a mental health intervention.



A SOUND APPROACH

A Review of the Role of Music in Addressing our Mental Health Crisis

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"THE CRISIS OF OUR TIME"

We are living through an increasingly well-documented national and global mental health crisis across ages and demographics, but one especially fraught for adolescents and young adults and for communities underserved by healthcare. Former U.S. Surgeon General Vivek Murthy has identified youth mental health struggles as "the crisis of our time." He issued advisories on The Epidemic of Loneliness and Isolation,¹ The Effects of Social Media on Youth Mental Health,² and a general warning on Youth Mental Health³ which was further threatened by the pandemic. While mental health trends are worsening in adolescent populations across the board, some groups are disproportionately affected. The CDC reported that 57% of U.S. teen girls felt persistently sad or hopeless in 2021, representing a nearly 60% increase and the highest level reported over the past decade.⁴



**"Music can
heal the
wounds that
medicine can-
not touch."**

–DEBASISH MRIDHA

Given this landscape, it is not surprising that increased rates of suicidality also exist. In 2022, 49,476 Americans died by suicide.⁵ Beyond actual deaths by suicide, there were approximately 1.6 million known suicide attempts in the US in 2022 and an estimated 4.3% of US adults report past year suicidal ideation.⁶ Suicide rates in adolescents are of particular concern, as suicide is the third leading cause of death in the US among individuals 15-18 years old.⁷ Within just a two-year span from 2019 to 2021, there was a 51% increase in ER visits for suspected suicide attempts in adolescent girls and a 4% increase for adolescent boys.⁷ Globally, the WHO identified suicide as the second leading cause of death among 15–29 year-olds in 2021.⁸

Due to differences in access to healthcare, historical and ongoing interpersonal and structural discrimination, and other inequities in resource access and stigma, youth who hold marginalized identities are at even greater risk for suicide and self-injury. Indeed, suicide rates in Black youth increased an alarming 144% from 2007 to 2022.⁹ Further, in 2024, The Trevor Project reported that 39% of LGBTQ+ young people seriously considered suicide within the past year, including 46% of transgender and nonbinary young people.¹⁰

In addition to suicidal thoughts and behaviors per se, an estimated 17% of adolescents and 14-17% of adults have engaged in non-suicidal self-injury in their lifetime (i.e. causing intentional harm or injury to one's body without intent to die by the action; Lurigio et al., 2023). Collectively, self-injurious thoughts and

behaviors, suicidal thoughts, suicidal behaviors and self-harm represent a dire and escalating public health concern.

Despite pervasive and pressing need, prevention and intervention programs are extremely limited in providing consistent, reliable, and effective care. Obstacles to psychoeducation and to treatment remain entrenched in our society, especially among marginalized and underserved communities. Mental health stigma is a persistent concern across ages and demographic groups. Especially with young people, simply finding ways to address mental health issues in a way that is approachable and relatable is a challenge. The developmental period from adolescence to young adulthood is wrought with unique vulnerabilities as individuals go through major changes biologically, psychologically, and socially, as they explore their identities and carve out a place in the world as increasingly independent people. Grappling with these years can be awkward and stormy, even in the absence of diagnosable mental health disorders. When mental illness is present, there is greater risk for negative outcomes and greater need for interventions. Unfortunately, though, this developmental stage is marked by high rates of treatment disengagement, inconsistent attendance, and premature termination.^{11,12}



**"Music was
my refuge.
I could crawl
into the space
between the
notes and curl
my back to
loneliness."**

—MAYA ANGELOU

HOW CAN MUSIC HELP?

While a wide range of clinical and public health solutions to this complex problem are needed, music-centered approaches offer a compelling array of benefits that are simultaneously novel and based on tried and true, known functions of music. Music is everywhere, transcending cultures and time, and is an essential and unique part of being human and our sense of wellbeing throughout our lifespan. Throughout history, people have turned to music to lift their spirits, energize their bodies, strengthen social connections, enhance their sense of belonging within their communities, find solace during difficult times, and to both grieve and rejoice. Music is a companion (some would say soundtrack) to human existence and emotion, accompanying the highs and lows of life while fostering connection to others and to our own internal worlds. Importantly too, music is nearly universally accessible in some form. Music Therapy is a valuable and established area of clinical intervention (more below) that has a specific place in the treatment landscape for mental illness. But its underlying principles, consistent with the fundamental place of music in the human experience, are relevant to the general population and to promoting mental health and

wellness in everyday life. Hearing the storytelling of others through musical lyrics can play a powerful role during emotional crisis by promoting hopefulness and help-seeking. Anecdotal views of music's helpfulness is supported by abundant contemporary research in the area of neuroscience that highlights the many ways music can promote wellness and healing at a brain level both in our everyday life and as an intervention.

From a psychosocial perspective, attending music events provides 'in real life' (off-screen) connection and helps establish like-minded communities of fan-bases and smaller peer groups. Naturally, concerts and festivals employ a shared affinity for musical artists as a potential antidote to isolation, loneliness and excessive screentime - especially for teens and young adults. As per a recent Surgeon General's Advisory, "adolescents who spend more than three hours a day on social media face double the risk of anxiety and depression symptoms, and the average daily use in this age group, as of the summer of 2023, was 4.8 hours."¹³⁻¹⁵ Social media and excessive digital connectivity can negatively affect adolescents' self-esteem, body image, mood, attention and social bonding. While we recognize that technology and social media are the fabric of our world and even have significant upsides in many ways (e.g. music discovery, playlist curation, identity-based peer groups), music remains a potent and accessible outlet for identity discovery, self and emotional expression, and community building. Within the technological landscape, we recognize the detrimental impacts that excessive time spent and/or negative experiences faced on social media can have on youth mental health, including self-esteem, body-image, mood, attention, sleep, and social bonding.¹³⁻¹⁵ At the same time, social media use is ubiquitous among younger generations—a fact which is unlikely to change. Emerging research supports that positive online experiences can, in fact, promote mental health¹⁶ such as when youth engage with mood-boosting content or connect with others with shared identities and interests. Providing youth with the knowledge and tools to use technology to their benefit, perhaps including through engagement music-related interests and fan communities, may be an important approach to technology and social media use. Whether through attending concerts, sharing and curating playlists, or participating in fan communities from small music subcultures to mega-scaled phenomena like Taylor Swift's "Swifties" music creates meaningful social bonds and a sense of belonging on micro and macro levels. When resources are available, music education, creation and production can also



"Music acts like a magic key, to which the most tightly closed heart opens."

– MARIA VON TRAPP

contribute to promoting the wellbeing of adolescents and young adults. Non-profit initiatives such as programs by Save the Music are based on the unique Social Emotional Learning opportunities embedded in music education in school settings.¹⁷

THE NEUROSCIENCE OF MUSIC AND WELLNESS

Within the field of neuroscience, the idea of an “Enriched Environment” (EE) describes an environment that engages humans (and non-human animals) on sensory, motor, cognitive, and social levels and provides a neurobiological framework through which to understand the relationship between music and wellbeing.¹⁸ EEs promote brain activity and well-being via brain plasticity, cognitive recovery, motor skills, and social connection.¹⁹ Music promotes EEs on all levels, activating brain networks involved in auditory perception, movement, attention, memory, language, and emotion.^{20,21}

Music engages a wide array of brain networks, encompassing regions associated with auditory and motor processing, attention, working memory, language, cognitive control, and, crucially, reward and dopaminergic pathways.^{22–27} Neuroimaging research demonstrates that the pleasure derived from music involves activity in key reward and emotion related regions, such as the nucleus accumbens, insula, amygdala, and ventromedial prefrontal cortex, as well as their connections with the auditory cortex.^{24,26,28,29} These interactions underscore music’s ability to activate the mesolimbic dopaminergic system, which is integral to experiencing pleasure, motivation, and to engage in emotional regulation. Notably, this reward system plays a central role in well-being and life satisfaction, and its dysfunction is often implicated in depression, characterized by anhedonia, reduced motivation, and diminished energy.^{30,31}

Music’s capacity to enhance psychophysiological arousal and activate the reward circuitry makes it a highly effective tool for managing one’s mood and alleviating stress, anxiety, and depression across diverse populations, including adolescents, adults, the elderly, and clinical groups.^{21,32} Studies show that individuals who derive greater pleasure from music experience more pronounced mental health benefits, reinforcing the link between music’s rewarding properties and its therapeutic potential.³³ By tapping into the brain’s reward systems, music not only offers profound emotional and cognitive benefits but also serves as a scalable, accessible intervention to support mental health and well-being.



“Music is therapy. It is a communication far more powerful than words, far more immediate, far more efficient.”

– YEHUDI MENUHIN

MUSIC THERAPY AS AN ADAPTABLE PARADIGM

Given the role that music has played in human life throughout history, it is clear that there is an innate drive for us to engage with music. Music creates a shared experience that facilitates connection, expression of thoughts and feelings, and a focus that relieves stress and calms racing thoughts. Music contributes to improved mood and contains messages that hold meaning for individuals. However, in some cases, music can negatively interact with emotional processing, either by supporting avoidance or over-amplification of feelings.^{34,35} This highlights the importance of developing skills in intentional music listening in order to maximize its benefits, which can be done via music therapy, music education, or informally through independent exploration.

The use of music in a structured, supportive setting, as with a music therapist, guides the intervention to promote well-being. Music therapy interventions are effective for stress reduction³⁶ and reducing symptoms of depression and anxiety.³⁷ Interventions may include active music making or receptive music listening, and may take place in a group or as individual therapy.³⁷ Active music making may include song-writing or creating music on instruments.³⁷ This often includes the use of improvised music, in which the music therapist uses musical responses to promote emotional attunement and a sense of safety in the music to explore challenges and reach for therapeutic goals.³⁸ For music listening, therapeutic processes may include lyric analysis and verbal processing of associations with the memories, images, thoughts, and feelings evoked by the music.³⁹ In a music therapy intervention for adults in inpatient psychiatric care following a suicide attempt, group music therapy included music listening, lyric analysis, song-writing, and group music improvisation. Participants described an improvement in their mental well-being supported by a change in their mental state, behaviors, or feelings.³⁴

Decades of research supports the clinical utility of music therapy in promoting both mental and physical health and well-being. A recent report by the WHO highlights the role of music therapy (as well as other expressive art interventions) in supporting engagement, prevention, and treatment in both medical and psychiatric/behavioral mental health settings.^{40,41} The report emphasizes the power of music in the promotion of imagination, activation of the senses, emotional exploration, aesthetic engagement, and domains of executive functioning (i.e., cognitive attention).⁴⁰ Part of the utility of music and other



**"Music washes
away from the
soul the dust
of everyday
life."**

—BERTHOLD AUERBACH



**"Where words
leave off, mu-
sic begins."**

—HEINRICH HEINE

art-based interventions may be explained by their multi-sensory approach that goes beyond language-based work (which is the basis of most traditional mental health treatments). We know that mental health difficulties impact all kinds of brain functioning, including language production and processing.⁴² By using "dynamic and multisensory approaches"⁴², interventions that include music and rhythm tap into different parts of the brain than traditional therapeutic approaches and may provide unique benefits for individuals experiencing high levels of stress, anxiety, mood disruption, trauma symptoms, and more.^{43–45}

Music therapists have developed evidence-based practices over decades to treat a wide range of conditions and effectively use music to aid motor recovery, mood regulation, pain management, memory care, communication skills, and interpersonal connection. In many places, people can now seek the care of a music therapist as an alternative to talk therapy, using their connection to music as a pathway towards personal growth and support during difficult times. While music therapists offer specialized care per se, people can also use music independently for their wellness. This is especially important in the U.S., where access to specialized care is often limited due to geographical and economic barriers. Importantly, the benefits of independently engaging with music are not limited to music creation and making; research shows that simply listening to music can improve wellness by helping to create an enriched environment.

NATURALISTIC MUSIC LISTENING

Outside of therapeutic settings, individuals report using media consumption, including music listening, as a coping strategy for mental and emotional challenges including depressed mood and suicidal thoughts.⁴⁶ Perkins and colleagues (2020) identified four pathways between music engagement and adult well-being: expressing emotions, self-development, respite, social connections.⁴⁷ Despite promising results from these studies, findings across studies are inconsistent and more research is needed to identify strategies that promote positive outcomes.^{42,48} To our knowledge, there are no systematic reviews on intervention studies on socioemotional mechanisms of music listening and mental health that are developmentally specific to adolescents and young adults. Given the frequency with which music listening is naturalistically used to cope with emotional difficulties, stress, and suicidal thoughts, and the ease and high accessibility of this resource for improving

mental wellbeing, there is a critical need for studies to identify music listening strategies that effectively promote mental wellbeing.

MUSIC AS A COPING MECHANISM

Knowingly or unknowingly, many people turn to music as a way to cope with everyday stressors as well as larger emotionally challenging periods. Individuals can listen to music that is congruent or incongruent with their mood. For example, some people may find it cathartic and/or comforting to listen to sad music when they are feeling sad (mood-congruent listening). Mood-congruent listening can help people process their emotions and may make them feel less alone by hearing music and/or lyrics that depict shared experiences with others. While mood-congruent listening can be problematic in increasing negative feelings (e.g., sadness) in some individuals, most people do not report significant worsening of their mood as a result of listening to more negatively emotionally-valenced music. In one study, approximately 10-17% of people reported feeling worse as a result of listening to sad music when they were sad, whereas others reported feeling comforted.⁴⁹ Importantly, this study highlights differences between people on the basis of personal characteristics (e.g., gender) and life experiences (e.g., quality of social relationships) that may increase the risks and/or decrease the benefits of mood-congruent listening.⁴⁹

Other times, individuals may opt to listen to more upbeat or happy music when they are feeling sad in hopes of elevating their mood (mood-incongruent listening). Research supports the emotional impact of this type of listening, highlighting that listening to happy music when sad can effectively improve mood.⁵⁰ Psychological research evidence does not necessarily tell us whether mood-congruent or mood-incongruent listening is better or healthier for people across the board. Rather, it depends on the person and situation. What is most important is that individuals have some understanding of their own individual responses to music and learn skills and strategies to be intentional in their listening to maximize its benefits as a tool for coping.⁵¹

MUSIC AND SOCIOEMOTIONAL DEVELOPMENT

Music can be a powerful tool in both reducing distress associated with feeling alone in experiences and in cultivating understanding and empathy for others' experiences. Research by Suvi Saarikallio and colleagues (2019) proposes three pathways through which music enhances these psychosocial processes.⁵² First, they



"The power of music to integrate and cure... is quite fundamental. It is the profoundest nonchemical medication."

—OLIVER SACKS



"Music has a healing power. It has the ability to take people out of themselves for a few hours."

—ELTON JOHN

describe Access: the ways in which music can facilitate both external and shared non-verbal experiences with others such as emotional reactions, arousal, and self-exploration. Second, Awareness: how individuals make meaning from daily experiences. Here, they suggest that research increases empathy by helping people build skills in identifying others' emotions expressed in music. Finally, Agency: the development of one's own music taste and interests, enhancing agency over one's own emotional and social experiences.⁵²

Fan communities dedicated to music are strong grounds on which to facilitate social connection based on shared interests. Artists, albums, or songs that discuss themes related to identities and mental health may provide a common language for individuals to connect with others who have similar experiences, thereby reducing feelings of isolation. Additionally, live music events (i.e., concerts) may be an affirming space where individuals are surrounded by others with shared interests, experiences, and/or identities. Despite the fleeting nature of live music events, the feeling of unity with other people may have lasting impacts on health outcomes.⁵³ Social listening, or listening to music in the presence of others, has been shown to increase the reward of music listening, including increased pleasure ratings, more prosocial behavior, and better memory outcomes.⁵⁴

This may be especially important for young people and people who hold minoritized identities (e.g., LGBTQ+ people, people of color). Currently in pop culture, there is a growing number of LGBTQ+-identifying artists openly discussing identity-related experiences both in their lyrics and during performances. Research by The Trevor Project highlights the protective role that music and other creative media plays in the lives of LGBTQ+ youth, enhancing social and community connection to other people and feeling seen, understood, and represented in one's identity/identities.⁵⁵

THE PAPAGENO EFFECT

In Mozart's "The Magic Flute," the character Papageno is heartbroken, and believes that the only way to end his suffering is suicide. However, before he can act on these thoughts, he is shown alternative ways out of his situation by other characters in the play. This tale of hope in the face of suicidal thoughts is the namesake for an important phenomenon. The Papageno Effect suggests that art and media have the power to present consumers alternative approaches to managing crises (i.e., beyond suicide). In other words,



**"Music can
change the
world because
it can change
people."**

– BONO

hearing others' stories of hope and managing crises has the power to help others and dispel stigma. Research shows that both real and fictional media and art-based depictions of hope and positive coping during moments of crisis may have a protective effect on individuals experiencing suicidal thoughts or urges. Music, as a creative mass medium that is centered around emotion and lyrical storytelling, as well as personal anecdotes relayed by musicians themselves, are powerful examples of narratives that can be helpful and even prophylactic for those in crisis. Research by Niederkrotenthaler and Till (2019) found that Logic's hip hop song "1-800-273-8255" was associated with large increases in calls to the National Suicide Prevention Lifeline at several timepoints, including when the song was first released, when the accompanying music video was released, and when Logic performed the song at the 2017 MTV Video Music Awards.⁵⁶ These results show the impressive impact of just one song that depicts a message of hope and support related to suicide.

BARRIERS

As with most interventions and initiatives, there are financial and other resource barriers to various types of music engagement. For example, live music events (e.g., concerts) are often costly and typically occur in more urban (vs. rural) locations. On the other hand, the majority of people in the United States have access to a personal device, with approximately 91% of Americans owning a smartphone.⁵⁷ Further, while several streaming platforms cost money for full access to features, many also have a free version. Thus, despite some important resource-based limitations, naturalistic music listening is a relatively low cost, low burden activity for most people, making it a good target for accessible mental health dialogue and intervention.

LOOKING AHEAD TOWARDS OPPORTUNITIES

Despite the limited research base on music listening interventions and mental health, there is increasing attention directed at this concept, which is increasingly being met by funding organizations, suggesting a promising future for this area of study. The NIH's Trans-NIH Music and Health Working Group was assembled in 2017 and has worked to prioritize research on the connections between music and wellness. Through multiple funding opportunities, this initiative is helping to establish a robust scientific foundation for music's therapeutic potential, which will benefit clinical practices and the everyday life of the general

population. For example, The National Institutes of Health (NIH) in partnership with the Kennedy Center for the Performing Arts recently launched the Sound Health Initiative that awarded \$20 million dollars to expand the evidence-base for music-based interventions to address mental health disorders.⁵⁸

This growing wave of music research is translating into innovative industry practices, as startups are increasingly harnessing the transformative power of music for well-being through cutting-edge applications and methodologies aimed at enhancing mental health. To be successful, these academic and industry efforts need to be supported by public awareness and community programs. Several non-profit organizations are taking practical steps to bridge the gap between research and real-world impact by helping the general population use music as a tool for their mental health and general wellness. These efforts empower individuals to engage with music in accessible ways that promote self-care and emotional resilience, complementing traditional therapeutic or educational approaches and expanding access to wellness resources.



"One good thing about music, when it hits you, you feel no pain."

– BOB MARLEY

CALL TO ACTION

The majority of existing knowledge on the use of music in therapeutic environments is focused on traditional, active music therapy. We know both active (i.e., making music) and receptive (i.e., listening to and analyzing music) music therapy can help improve internalizing symptoms in youth.^{59,60} However, these therapeutic approaches are limited in their scalability since they require clinicians to facilitate intervention. Alternatively, prevention and promotion efforts that build upon naturalistic engagement with music may be more scalable across typical barriers to care (e.g., resources, location).

Ultimately, our message is simple yet potent in the context of a youth mental health crisis, an epidemic of loneliness, and persistent obstacles to mental health care: music can play a significant role in preserving mental health and promoting wellness. Synergistic ventures between researchers, government agencies, musicians, music therapists and other clinicians, start-ups and non-profit organizations with complementary expertise and a common goal in mind are fundamental to develop the full potential of music to improve wellness. We call on policymakers, healthcare providers, and society at large to acknowledge the value of music, ensure access to musical resources, and support further research into music's potential at the neurobiological, behavioral, and societal levels. It is time to bring the healing power of music to everyone. ■

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