

PISTA as A Sound-Based Therapeutic Approach to Help Address Psychosocial Distress Among Older Adults

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Key Highlights:

- There are two perceptions of sound: the psychological, which evokes memories and emotions, and the neurological, which triggers biological effects at the cellular level. Sound feeds electrical impulses that charge the neocortex creating a strong brain full of neurological pathways.
 - PISTA provides healing using a variety of stimuli to facilitate memory processing, which can alleviate stress, relieve pain, pacify fears, and modify maladaptive behaviors.
 - For older adults with dementia and their caregivers, we found PISTA was beneficial for reducing behavioral and psychological symptoms of dementia, and reduced potential abusive behaviors of caregivers through improved mood and positive thinking.
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Finding what happens inside our brain, and how our experiences connect with our unconscious and our emotions inspires neurologists, psychologists, and behavioral health specialists to figure it out. This paper introduces PISTA (Processing Inner Strength Toward Actualization (PISTA)) as a sound-based intervention approach to assist older adults with psychosocial distress.

For decades, neuroscientists have recognized the importance of brain stimuli and discovered the power of sound. There are two perceptions of sound: one is psychological where sound evokes memories and emotions, and the other is neurological which triggers psychoacoustic effects. Sound triggers neurological and biological effects at the cellular level, and feeds electrical impulses that charge the neocortex creating a strong brain full of neurological pathways (Leeds, 2010). In this context, Processing Inner Strength Toward Actualization (PISTA) therapy offers a promising approach.

PISTA provides healing using a variety of stimuli to facilitate memory processing, which can alleviate stress, relieve pain, pacify fears, and modify maladaptive behaviors. Moreover, this technique can uncover inner strength allowing people to empower themselves and help cope with psychosocial stress. It is probably a coincidence that the abbreviation PISTA means “clue” in Spanish; however, this approach does provide hints to inspire individuals to understand themselves.

PISTA is based on the neuroscience of processing sound and potential therapeutic benefits. First discovered by Heinrich Wilhelm Dove in 1839, and further elaborated upon by Gerald Oster in the 1970s, a third beat (or binaural beat) is created when tones of stimuli are different in each ear. The theory explains that playing two slightly different tones syncs the brain waves in both hemispheres, a process named brainwave entrainment (Carter & Russell, 1993). Taking this into account, PISTA is a contemporary method that leverages the human auditory function to heal and improve well-being.

Ever since PISTA was used for the first time in 1983, NovaPlam Foundation, an NGO based in Hong Kong, has created different sound files of music and rhythm as stimuli, and also Transcranial Magnetic Stimulation (TMS) to promote well-being. For therapeutic purposes, the sound files are composed of two tones which the brain combines and alters into a single tone during auditory processing. The frequency of this single tone varies according to what psychological state individuals would like their brains to achieve.

Even though sound by itself can affect the way people process information, there is a therapeutic structure designed to target a mental health problem or illness. Based on each individual patient case, an Entry Point (EP) consisting of a word or small phrase is created by a therapist. The EP provides a specific guide for the patient to focus attention on a particular memory, so when the sound file is heard this information is processed by the two hemispheres producing new understandings.

PISTA also takes individual psychosocial situations into account to assist with adjusting and coping with stages of development including stress associated with older age. Points of attention may include conflicting views to moral growth, interpersonal conflict, and/or social experiences associated with cognitive disequilibrium.

PISTA is a safe and individualized therapeutic technique. The patient decides on the depth and intensity of the emotions they would like to address, and the therapist develops an entry point.

The role of the therapist is to provide expertise on the method and technique, while the patient is the agent of change. The patient allows information to flow, and this provides clues for the conscience to create new understandings associated with greater wellbeing. For older adults with dementia and their caregivers, we found PISTA was beneficial for reducing behavioral and psychological symptoms of dementia and reduced potential abusive behaviors of caregivers through improved mood and positive thinking.

In conclusion, PISTA is an innovative method of therapy grounded in neuroscience that currently has promising, yet still limited, evidence to support its effectiveness. The therapeutic technique is designed to address specific mental health problems. PISTA evokes memories associated with each individual's situation, and aims to improve understanding and insight, while creating new neurological pathways, to improve mental health and quality of life.

REFERENCES:

1. [Béguin, F.](#); [Chan, S.](#); [Stang, A.](#) (2018). *To Mind and Mend: How the PISTA Method Heals and Improves Living*. McGraw-Hill Open Publishing.
2. [Chaieb, L.](#), [Wilpert, E. C.](#), [Reber, T. P.](#), & [Fell, J.](#) (2015). Auditory beat stimulation and its effects on cognition and mood States. *Frontiers in psychiatry*, 6, 70. <https://doi.org/10.3389/fpsy.2015.00070>
3. [Carter, J. L.](#) and [Russell, H. L.](#) 1993. A pilot investigation of auditory and visual entrainment of brain wave activity in learning disabled boys. *Texas Researcher*, 4: 65–73.
4. [Leeds, J.](#) (2010). *The power of sound: How to be healthy and productive using music and sound*. Simon and Schuster.



Dr. André Stang from Germany is an expert in understanding of the psychological impact of humans on their environment and daily performance. Trained in psychology and environmental science, he focused on the interactions occurring when “bad” chemicals cause imbalances in the human body. This knowledge, combined with his expertise in the integration of interdisciplinary methods, like psychology approaches, has contributed to his impressive track record and proven ability to improve older people's lives by promoting the best practices procedures in daily life.

Lana Chan is the founder of the Nova Palm Foundation with locations in Paris, London, Shenzhen, and Hong Kong. Nova Palm's work includes the PISTA Community Service Program for the Elderly providing both phone and in-home support along with financial aid to those in need.



Dr. Fei Sun is a professor and coordinates the Levande Geriatric Social Work Certificate program at the School of Social Work (SSW) at Michigan State University (MSU). He is a fellow of The Gerontological Society of America, and has been working with the Department of Mental Health and Substance Abuse of World Health Organization (WHO) on developing a global toolkit for dementia friendly communities. His overall research area is aging and mental health with a focus on addressing the impact of Alzheimer's disease and related disorders in Chinese American community.