

# Singing and Playing in the Recovering and Degenerating Brain: Efficacy and Neural Mechanisms of Music in Stroke, Brain Injury, and Alzheimer's Disease

<https://www.neurodegenerationresearch.eu/survey/singing-and-playing-in-the-recovering-and-degenerating-brain-efficacy-and-neural-mechanisms-of-music-in-stroke-brain-injury-and-alzheimer%c2%92s-disease/>

## **Name of Fellow**

Särkämö Teppo

## **Institution**

### **Funder**

Academy of Finland

## **Contact information of fellow**

### **Country**

Finland

## **Title of project/programme**

Singing and Playing in the Recovering and Degenerating Brain: Efficacy and Neural Mechanisms of Music in Stroke, Brain Injury, and Alzheimer's Disease

## **Source of funding information**

Academy of Finland

## **Total sum awarded (Euro)**

€ 434,485

## **Start date of award**

01/09/16

## **Total duration of award in years**

5.0

## **The project/programme is most relevant to:**

Neurodegenerative disease in general

## **Keywords**

neurorehabilitation | music therapy | brain plasticity | recovery | traumatic brain injury | stroke | Alzheimer's disease | dementia | music | amusia | language | aphasia | singing | cognition | neuropsychology | neuroimaging | emotion | depression | quality of life

### **Research Abstract**

Musical activities, such as singing, instrument playing and music listening, are highly enjoyable, stimulating and versatile actions for the brain. In severe neurological disorders, such as stroke, traumatic brain injury (TBI), and Alzheimer's disease (AD), music can be very rewarding and motivating and can provide a powerful tool for cognitive, verbal, motor and emotional rehabilitation, but more evidence for its efficacy and neural mechanisms is needed. Using a unique combination of behavioural, hormonal, and neuroimaging measures in the context of 4 clinical trials involving 240 patients, the goal of the project is to determine the efficacy of instrumental music rehabilitation in TBI, everyday music listening in stroke, and choir singing in aphasia; uncover the neural basis for the rehabilitative effect of music; explore the capacity for singing and song learning in aphasia; and assess the preservation of musical emotions and memories in AD, ranging from mild to end-stage dementia.

### **Types:**

Fellowships

### **Member States:**

Finland

### **Diseases:**

Neurodegenerative disease in general

### **Years:**

2016

### **Database Categories:**

N/A

### **Database Tags:**

N/A