

# Appendix 1

## Healthy diet: a proposal

As a nutritionist I have always been fascinated by the world of nutrition and how, through it, we can improve our health and enrich our spirit. What exactly do we mean by "healthy eating"? In a world where industrial, packaged food is so prevalent, it's critical to understand the power of real, natural food. Food represents much more than simple nourishment for our body. It is the fuel that allows us to face life with vitality, strength and resilience. However, our modern society has increasingly distanced us from real food, replacing it with highly processed products, rich in preservatives, additives and artificial ingredients. These foods may seem convenient and attractive, but in the long term, they do not allow us to achieve true health and well-being.

Healthy eating is about returning to the origins, simplicity and authenticity of food. It means making conscious choices that favor fresh, unrefined and natural ingredients. This type of nutrition provides us with the essential nutrients our bodies need to function at their best and to support our commitment to martial arts and holism. Throughout this article, we will explore the benefits of healthy eating and how it can positively impact our health and well-being. We will discover why it is so important to avoid industrial and packaged food and how we can incorporate more natural eating habits into our daily lives. To do this I was inspired by the samurai diet. The samurai, legendary warriors of feudal Japan, were not only distinguished by their martial skills, but also by their profound connection between mind, body and spirit. The art of war and the practice of martial arts required not only great physical strength and agility, but also a clear mind and inner balance. In this holistic perspective, nutrition played a fundamental role in nourishing both the body and spirit of the samurai. In fact, there was particular attention paid to nutrition, since it was recognized that what they ate directly influenced their martial performance and their overall well-being. Their nutrition was based on principles of balance, quality and awareness, reflecting the importance of nutrition to support a healthy body and a clear mind.

A key element of the samurai diet was the choice of fresh, natural and high-quality foods. They preferred foods from local and seasonal sources, such as rice, fish, vegetables, fruits and green tea. This choice reflected their focus on balance and connection with nature, values that were also reflected in their holistic practices. The samurai were aware of the importance of proper hydration, especially during training and battles. Maintaining adequate hydration helped maintain the energy, concentration and physical stamina needed to face martial challenges. For this reason, samurai drank clean water and green tea, which in addition to hydrating also provided beneficial antioxidants for the body and mind. In addition to the choice of foods, much attention was paid to the quality and preparation of the meals. They cooked foods with care and respect, recognizing that the preparation process affected the energy and nutritional properties of the foods themselves. Eating with awareness and gratitude was an integral part of the food experience of the samurai, who recognized food as nourishment not only

for the body, but also for the spirit. Maintaining a healthy body and a clear mind was essential to meeting the physical and mental challenges that martial arts required.

The samurai's diet was based on principles of balance, providing a combination of carbohydrates, proteins and healthy fats to support their energy needs and promote muscle strength.

Choosing fresh, local and seasonal foods allowed the samurai to derive the maximum nutritional benefit from foods. Consuming fish, in particular, provided high-quality protein, omega-3 fatty acids beneficial for heart and blood vessel health, and other essential nutrients. Rice, on the other hand, was a source of high-energy carbohydrates, providing the fuel needed for intense training and battles. In addition to food choices, samurai also paid attention to their overall diet. They followed a balanced diet, avoiding excesses and large meals. Moderation at the table was an integral part of their lifestyle, allowing them to avoid overconsumption and maintain an ideal body weight for martial performance. This nutrition, however, went far beyond physical knowledge. It was a practice that involved the whole person, including spiritual aspects. Food was in fact considered a source of vital energy, nourishing not only the body, but also the spirit. Eating mindfully and gratefully, appreciating every bite, was an integral part of their holistic approach to nutrition. But how can we connect these concepts in our current age? How can we increase our health in this increasingly industrialized age that takes us far from the purity of real food? I thought, through this article, to evaluate some fundamental aspects with you:

### 1. Promote 0 km foods

When it comes to choosing the food we put on our plate, opting for 0 km food means making a conscious and sustainable decision. This approach involves choosing foods that come from our local or regional community. This can include fresh produce, meat, dairy and other local food products. Choosing 0 km food offers numerous advantages both for us and for the environment. First, we support local farmers and our local economy, helping keep our region's agricultural and culinary traditions alive. Furthermore, farm-to-table food is often fresher and richer in nutrients, as it does not require long transport distances. But what does the term "0 km" actually mean? It refers to the distance food travels from its origin to the end consumer. By choosing 0 km food, we reduce the carbon footprint associated with food transport, contributing to greater environmental sustainability. We can find 0 km food in local markets, on farms, in organic product shops and through local distribution systems such as CSAs (Community Supported Agriculture) or solidarity purchasing groups. In addition to enjoying fresh, quality food, we connect with our community and support sustainable agricultural practices.

### 2. The importance of seasonality in nutrition

Following seasonality in nutrition means adapting our diet to food products that are naturally available during certain periods of the year. Instead of buying out-of-season products that are imported from other regions or even other countries, let's focus on what nature offers us locally in each season. Seasonality in nutrition offers numerous advantages both for our health and for the environment. When we consume seasonal fruits and vegetables, we get the maximum nutritional value from food products, since they are harvested at the right time of ripening. This means they contain more vitamins, minerals and antioxidants which contribute to our overall health and well-being. Additionally, in-season produce often tastes better than its out-of-season equivalents. Seasonal produce is grown locally and harvested at times when environmental conditions are optimal for its growth. This means they are able to develop their full potential for distinctive flavour, texture and aroma. For example, sweet and juicy summer straw-

berries or crisp autumn apples have a unique taste that is difficult to find in their out-of-season counterparts. Following seasonality in nutrition allows us to vary our diet and experiment with a wide range of flavors and ingredients. Each season offers us a new set of fruits and vegetables to explore and appreciate. This helps us avoid dietary monotony and maintain a balanced and stimulating diet. One of the best sources for identifying seasonal produce is our local market or farm. Here we can find fresh fruit and vegetables, grown locally and harvested at the right time. Information about food seasons can be easily found online or through seasonal guides.

### **3. The organic choice for our health**

Organic food is gaining more and more popularity as more and more people realize the benefits it can offer to their health and the environment. But what exactly does it mean for a food to be organic and why should we choose it? Organic foods are produced without the use of synthetic pesticides, chemical fertilizers and genetically modified organisms. Instead, organic farmers use natural methods such as crop rotation, composting and biological pest control to protect plants and promote soil health. Choosing organic foods reduces our exposure to harmful chemical residues that can be present in conventional foods. Studies have shown that synthetic pesticides used in conventional agriculture can build up in our bodies and potentially cause long-term adverse health effects. Furthermore, organic farming promotes environmental sustainability. By reducing the use of harmful chemicals, organic farming helps preserve soil quality, protect water and maintain the balance of ecosystems. When we choose organic foods, we support farmers who engage in sustainable, environmentally friendly farming practices. Additionally, organic produce often has a higher nutrient content, particularly antioxidants, which can contribute to our health and immune system. Another very important topic that I would like to address is how to choose proteins in our daily diet. In fact, when it comes to nourishing our bodies with high-quality proteins, the choices we make can have a significant impact on our overall health and well-being. Two options that deserve particular attention are wild-caught fish and meat from free-range animals, preferably on a grass-based diet. Let's explore the importance of these food choices and how they can contribute to our health.

### **4. Favor wild-caught fish over farmed fish**

Caught fish is one of the best sources of protein that we can include in our diet. In addition to providing high-quality protein, fish is rich in omega-3 fatty acids, essential vitamins and minerals. Omega-3s are polyunsaturated fats known for their benefits for heart health, brain and immune function. Choosing wild-caught fish rather than farmed fish is important because wild fish tends to have a superior nutritional composition. Wild fish eat a varied and natural diet, which contributes to their nutrient concentration. Additionally, farmed fish can contain harmful chemicals, such as antibiotics, pesticides and heavy metals, which can build up in the fish's tissues. When we choose wild caught fish, it is important to refer to sustainable sources and correct labelling. The Marine Stewardship Council (MSC) provides a certification system for sustainably sourced seafood. The MSC label guarantees that the fish has been caught sustainably and that the fish populations have not been overfished.

### **5. Favor "Grass Fed" meat, that is, free-range meat**

Meat from "grass fed" animals refers to animals that have been fed primarily a grass-based diet throughout their lives. This type of meat has gained popularity for its potential health benefits over meat from factory farms, where animals are fed grain-based feed and additives. Grass fed meat is richer in nutrients such as omega-3 fatty acids, vitamin E and antioxidants than meat from factory farms. This is due to the animals'

natural diet, which contributes to their health and the nutritional content of the meat. The omega-3s found in grass fed meat can support heart health, reduce inflammation and support overall well-being. Additionally, free-range animals may have a lower risk of exposure to antibiotics, hormones and other additives used in factory farming. This is an important aspect to consider, as excessive Furthermore, it is worth pointing out that while fish and grass-fed meat can provide valuable nutrients, it is important to consider the overall balance of our protein sources. Variety is key in a healthy diet, as different protein sources offer different nutrients and benefits. In addition to the health benefits, the choice to consume "grass fed" meat also promotes environmental sustainability. Free-range animals feed on grass, which requires fewer water and land resources than the cereals used in intensive farming. This reduces the overall environmental footprint of the meat industry and contributes to the preservation of natural resources. The main difference between animals raised on free range and animals in intensive farming concerns breeding and nutrition practices, as well as the living conditions of the animals themselves. Animals raised on the ground, or also called grazing animals or free-range animals, are free to graze outdoors and feed mainly on grass and other plants present in the environment. This type of breeding allows animals to express natural behaviors, such as grazing, movement and exploration of the surrounding environment. Grass-based feeding contributes to a more natural diet for animals and can influence the nutritional composition of meat, increasing the content of omega-3 fatty acids and other beneficial nutrients. On the other hand, in intensive farming, animals are often confined to narrow spaces, such as stables or cages, and their diet is mainly based on commercial feed based on cereals and additives. These animals do not have the opportunity to graze outdoors or express natural behaviors. Eating a high-grain diet can lead to a different nutritional profile in meat than in grass-fed animals. Furthermore, in intensive farming, antibiotics and hormones are often used to promote growth and prevent diseases caused by farming conditions.

### **6. Eat right Once**

I have explored the importance of choosing our diet and doing it in the best possible way, I would like to discuss one last point which is the key to finding balance in our body: eating the right thing. We are what we eat, and choosing a balanced and conscious diet can make a difference in our health and general well-being. Eating right isn't just about the quantity of food we consume, but also the quality and nutritional composition of our food choices. When we make conscious food choices, we provide our bodies with the essential nutrients it needs to function at its best and promote long-lasting health. One of the main rewards of healthy eating is the optimal nutrition it provides to our bodies. A balanced and varied diet ensures an adequate supply of vitamins, minerals, fiber and antioxidants, key elements for the correct functioning of our body. Consuming a variety of foods such as fruits, vegetables, whole grains, lean proteins and healthy fats helps us maintain optimal nutritional balance, providing the building blocks needed for overall health. Moderation at the table is another fundamental element of a healthy diet. Learning to recognize and respect adequate portions and to listen to our body's satiety signals helps us avoid excess calories and maintain a healthy weight. Awareness of portion sizes and control of calorie intake can prevent unwanted weight gain and promote a balanced body composition. A healthy diet also contributes to better digestive health and intestinal well-being. Eating smaller meals and distributing food intake into several meals throughout the day promotes proper digestion and prevents problems such as heartburn, feelings of heaviness and dyspepsia. Including fiber-rich foods such as fruits, vegetables and whole grains helps maintain a healthy and regular digestive system, promoting optimal intestinal balance. Furthermore, eating the right food invites us to be aware of what we put on our plate. Taking time to enjoy your food, chew slowly and ap-

preciate the flavors is an important aspect of healthy eating. Being aware of the food we eat allows us to develop a healthier relationship with food and listen to our body's hunger and satiety signals. This helps us avoid excesses and maintain a balanced relationship with food, avoiding dysfunctional eating behaviors and promoting a more intuitive approach to nutrition. Healthy eating is not just about a single meal, but also about long-term eating habits. Eating a balanced, moderate diet over time can have numerous health benefits, including a reduced risk of chronic diseases such as obesity, type 2 diabetes, cardiovascular disease and some types of cancer. A balanced diet can also help improve mood, increase energy levels and promote a better overall quality of life. Getting closer to these simple concepts, rediscovering purity and simplicity in natural nutrition can contribute in a powerful way to improving our state of health.

## Appendix 2

### SCIENTIFIC STUDIES ON AIKIDO

*Physiological and psychological benefits of aikido training: a systematic review*

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#### Abstract

Background & Study Aim: The aikido is a philosophy and a Japanese art of self-defence, which is proposed to have several Benefitsal effects on mind and body. It is limited, but growing research on this topic. A summary of the empirical works could shed light on the anecdotally postulated benefits of aikido. This systematic literature review aims to summarise the current knowledge about the physiological and psychological benefits of aikido training.

#### Material & Methods:

Databases including SPORTDiscuss, PsycINFO, PubMed, MEDLINE, and ScienceDirect were searched by following the PRISMA guidelines for systematic reviews. A total of 20 articles met the final inclusion criteria.

#### Results:

The authors of the half of selected articles examined the physiological benefits (flexibility, wrist strength, functional efficiency, balance stability, scoliosis, and injuries) while the other half looked at psychological benefits of aikido training (mindfulness, self-control, self-esteem, health-related behaviour, mood profile, and goal orientation) but also on Type A behaviour, as aggressiveness and anger. In line with the analysed reports, the gist of these studies suggests that aikido training has positive benefits on both physiological and psychological measures, including flexibility, scoliosis, balance stability, mindfulness, anger control, and/or ego-orientation indeed. However, certain methodological concerns weaken the strength of the evidence.

#### Conclusions:

The key message of this review is that the theoretically postulated benefits of aikido have started to emerge from both physiologically and psychologically oriented empirical research, which provide infrastructure, as well as the incentive, for future work in this currently underexplored field of study

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## SCIENTIFIC STUDIES ON “KI”

Philosophy, Psychology, Physics and Practice of Ki

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Abstract:

Ki (in Japanese) or Qi (in Chinese) is the key concept in Eastern medicine, Eastern philosophy, as well as in martial arts. We explain the philosophical and psychological background of Ki. We emphasize that the unique aspects of Eastern philosophy are ‘non-linearity’ and ‘holistic’ approach. We then present physics aspect of Ki. Our experiments demonstrated that a ‘Ki-beam’ carries ‘entropy’ (or information), which is different from ‘energy’. We introduce our experience of having taught Ki to 37 beginners in the United States through the Nishino Breathing Method. If beginners had martial arts training or a strong background in music or dance, about half of them could sense Ki within 10 weeks (1 h class per week) of practice

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## SCIENTIFIC STUDY ON KATSUKO NISHI

Limb's Vibrations Exercise Monitoring with MEMS Accelerometer to Identify Influence of Cardiovascular System

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### Abstract.

Katsuzo Nishi in 1927 proposed the capillarity exercise based on limbs vibrations to compensate obstruction of blood circulation. Research was made to identify influence of vibrations to human's physiological parameters. There were made an exercise regarding to Nishi methodology and imitation of exercise with one arm on vibration stand while monitoring physiological parameters and accelerations. Detected parameters' changes were significantly smaller when vibrating only one hand. Future plans are to imitate exercise while vibrating all limbs and make a stand to imitate cardiovascular system to identify vibrations influence in blood flow rate.

### 1. Introduction

Human's vibration therapy date back to ancient Greece. It is becoming more frequently used nowadays to improve muscle strength, power and flexibility as well as coordination or even cardiovascular system. It is known that vibrations exercises has effect of preventing parasites and other germs from invading the body and at the same time helping to activate a suitable degree the various organs of the body [1]. There were made many researches of vibration effect to human's biological processes. It was determined that whole body vibrations affect increase of artery blood flow, heart rate and other parameters [2, 3]. Katsuzo Nishi [4] introduced his Nishi system in 1927. It was based on his own studies and practice of what would amount to some 360 types of folk cures and health methods, both ancient and contemporary Oriental and Occidental. He included his own theories of dynamics of the human body based on the mechanical science. His theories are characterized by the idea that humans' internal organs are basically the same as those evolved for the mammalian and human two-legged life style causes certain structural strains on the human bone structure. These cause obstruction problems of the food flow through intestines. Furthermore Nishi refuted the heart-driven blood circulation theory of William Harvey. Nishi stated that the capillaries provide the true driving force of the circulatory system. To compensate obstruction of circulation in human's limbs because of two-legged life he proposed the capillarity exercise. In paper [5] new models of the micro dosing elements are presented. Hybrid experimental-numerical analysis techniques are used for investigation of micro spray systems. Experimental analysis of the investigated systems is based on laser holographic interferometry which is used for the identification and optimization of working regimes of the system. The aim of this study was to identify vibration's influence to cardiovascular system with future vision to develop a device for heart stimulation via limbs vibrations.

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# STUDIES AND RESEARCH ON THE BENEFITS OF TAI CHI CHUAN

**In: Scuola Tai Chi Chuan tradizionale della Famiglia Yang, Firenze**  
<https://firenzetaichichuan.it/taichichuan-stile-yang-studi-e-ricerche-Benefits-taichichuan/>

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MEIXING GAO, Experimental Study on the Effect of Taijiquan on the Physical Function and Mental Health of College Students Published online 2022 Sep 21. Posted in : <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9519284/>

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### Abstract

With the continuous development of education and economy, people pay more and more attention to the improvement of comprehensive quality. College students are a special social group. Now they are not only under enormous pressure of study and employment but also pay more attention to physical function and mental health. Maintaining healthy physical fitness is one of the goals pursued by more and more college students. This paper studies the effects of Tai Chi on the physical and mental health of college students. Taijiquan is a physical education class, divided into an experimental group and a control group. The experimental group was trained three times a week, and the control group was trained once a week. Through the evaluation of college students who practice Tai Chi three times a week and college students who practice Tai Chi once a week, the conclusions are: first, there are significant differences in lung capacity, one-minute skipping rope, and sitting forward bending; second, in self-esteem on assessment, significant differences were found in visual perception threshold ability, somatization, and anxiety factors. The final results are as follows: after 8 weeks of Taijiquan practice, the effect of the experimental group and the control group on the spirometry test ( $P > 0.05$ ) and the difference in sitting flexion index between male and female students were statistically significant ( $P < 0.05$ ); Taijiquan was practiced with different frequencies for 8 weeks. After that, the number of skipping ropes did not increase significantly ( $P < 0.05$ ). That is, different frequencies of Taijiquan practice have an impact on the physique of college students. Taijiquan exercise also has a significant impact on the visual perception threshold ability, which can effectively reduce the somatization, paranoia, anxiety, depression, and other psychological states of college students.

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Tai Ji Quan: An overview of its history, health benefits, and cultural value  
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#### Abstract

Tai Ji Quan is considered to be a part of traditional Chinese Wushu (a martial art) and comprises various styles that have evolved historically from the Chen, Yang, Wǔ, Wú, and Sun families (schools). Recent simplification of the original classic styles has made Tai Ji Quan easier to adopt in practice. Thus, the traditional legacy of using Tai Ji Quan for self-defense, mindful nurturing of well-being, and fitness enhancement has been expanded to more contemporary applications that focus on promoting physical and mental health, enhancing general well-being, preventing chronic diseases, and being an effective clinical intervention for diverse medical conditions. As the impact of Tai Ji Quan on physical performance and health continues to grow, there is a need to better understand its historical impact and current status. This paper provides an overview of the evolution of Tai Ji Quan in China, its functional utility, and the scientific evidence of its health benefits, as well as how it has been a vehicle for enhancing cultural understanding and exchanging between East and West.

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Effectiveness of Tai Chi on quality of life, depressive symptoms and physical function among community-dwelling older adults with chronic disease: A systematic review and meta-analysis

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### Abstract

#### Background

With a rapid increase in aging population and prevalence of chronic diseases worldwide, older adults are seen facing more physical and psychological burdens, affecting their quality of life (QoL). Tai Chi, a traditional Chinese mind-body physical activity, appeals to many older adults and has been extensively studied. However, the effectiveness of Tai Chi on QoL, depressive symptoms and physical function on community-dwelling older adults remains vague.

#### Objectives

To synthesise and evaluate effectiveness of Tai Chi on QoL, depressive symptoms and physical function among community-dwelling older adults with chronic disease.

Donald D. Davis, Meditation, Taijiquan and Qigong: Evidence for Their Impact on Health and Longevity

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#### Abstract:

This paper examines the effects of meditation, mindfulness, taijiquan, and qigong. I review the most recent and rigorous scientific research to document the impact of these practices on outcomes commonly sought by Daoist practitioners: health and longevity. I discuss the apparent pathways through which these practices achieve their effects, and conclude with recommendations for practice to enhance the likelihood that the potential benefits of these practices are successfully achieved.

# Efficacy of Rajayoga Meditation on Positive Thinking: An Index for Self-Satisfaction and Happiness in Life

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### Abstract

Objectives: Psychological studies have shown that brief period of mindfulness meditation significantly improves critical cognitive skills. But, there are no studies which have assessed the effects of Brahma Kumaris Rajayoga Meditation (BKRM) practice on positive thinking and happiness in life. The present study was designed to test the hypothesis is BKRM enhances positive thinking and that essential to attain higher levels of self-satisfaction and happiness in life.

Material and Methods: This study is a cross sectional comparative study which was done between Rajayoga meditators and non-meditators. This study was conducted at BKRM Centres at Manipal and Udupi in Karnataka, India. Fifty subjects were selected for this study, which included those practising BKRM in their normal routine life (n=25) and non-meditators (n=25) who were aged 42.95±/15.29 years. Self-reported Oxford happiness questionnaire (OHQ) was administered to all subjects and their happiness scores and status were assessed and compared. Items related to self-satisfaction in life were selected from the OHQ and compared between meditators and non-meditators. Participants completed self-reported OHQ, from which data of happiness status and self-satisfaction in relation to meditation duration and frequency were analyzed by descriptive statistics and test of hypothesis.

Results: Mean happiness scores of BKRM were significantly higher (p<0.001) in meditators as compared to those in non-meditators. The number of meditators experiencing happiness status were significantly higher (p<0.05) in comparison with non-meditators. Additionally, meditators scored significantly higher on self-satisfaction items (p<0.001) as compared to non-meditators. There was no correlation between age and years of meditation practice with happiness score and self-satisfaction score.



Conclusion: BKRM helps in significantly increasing self-satisfaction and happiness in life by enhancing positive thinking. Irrespective of age and years of short-term or long-term meditation practice, enhanced positive thinking increases self-satisfaction and happiness in life.

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# Rajyoga Meditation Experience Induces Enhanced Positive Thoughts and Alters Gray Matter Volume of Brain Regions: A Cross-sectional Study

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## Abstract

### Objectives

Many studies on various meditation types have reported regional gray matter volume changes using voxel-based morphometric analysis of structural MRI, but there are no studies done on structural MRI of Rajyoga meditators. The objective of the present study is to analyze and compare gray matter volume changes of brain regions in meditators and non-meditators and further study the effects of meditation experience on alterations in various brain regions. These regions were then correlated and compared to positive thought scores of participants.

### Methods

Forty participants in each group (closely matched for age, gender, and handedness) were selected after obtaining their informed consent, and voxel-based morphometric analysis was carried out using their structural MRI scans.

### Results

On voxel-wise comparison of the brain scans, meditators were observed to have significantly higher global gray matter volume and significant regional gray matter volume increases in the right superior frontal gyrus, left inferior orbitofrontal cortex, left inferior parietal gyrus, left posterior cerebellum, left middle temporal gyrus, bilateral precuneus, and cuneus. Additionally, long-term meditators particularly had significantly higher positive thinking scores compared to non-meditators. On multiple regression analysis, gray matter volume of the left superior parietal gyrus and left inferior parietal gyrus had a positive association, whereas the left posterior cerebellum had a negative association with hours of meditation experience. With the positive thoughts score, a significant relationship was found in the right superior temporal gyrus in meditators.

### Conclusions

These findings indicate that Rajyoga meditation experience/practice enhances gray matter volume of specific brain regions and positive thoughts.

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