

Cognitively enhanced Tai Ji Quan: wisdom in a global promotion of traditional Chinese exercise

Lulu Wang¹, Zili Zhang², Kobkullaya Ngamcharoenmongkhon³, Ye Zhao¹, Suparata Kiartivich^{1,*}

¹Department of Public Health, International College, Krirk University, Bangkok, Thailand; ²Tai Chi Culture College, Handan University, Handan, China; ³Department of Education, International College, Krirk University, Bangkok, Thailand

Tai Ji Quan is a traditional Chinese exercise involving the dynamic-resting or rigid-soft movements. From a systematic perspective, these movements provide a power transformation process that can produce continuous power to resist the enemy and promote health.

In a recent article^[1], the authors recommended a long-term moderate-intensity cognitively enhanced Tai Ji Quan (CETJQ) training, because it improves the adults with mild cognitive impairment. This study demonstrated that CETJQ outperforms both standard Tai Ji Quan and conventional stretching exercises. CETJQ was introduced as a novel mind-body approach that integrates physical and cognitive elements. This method combines multitasking exercises that challenge cognitive functions, such as attention, working memory, task shifting, response inhibition, and visual-spatial processing. As a result, CETJQ offers a more comprehensive and interactive experience than conventional Tai Ji Quan or stretching exercises, which only focus on physical elements or posture mimics.

CETJQ specifically amplifies the cognitive aspects of Tai Ji Quan practice. CETJQ employs heightened sensitivity to dynamic stimulus-release processes, focusing intensely on the body extremities and refined movement control to optimize tendon reflexes and enhance nervous system responsiveness. This methodology goes beyond the traditional unity of form and spirit by deliberately engaging cognitive faculties more intensively, promoting neuroplasticity and strengthening the brain-body connection through continuous self-awareness and instantaneous adjustments, ultimately serving as a comprehensive practice for both neurological optimization and holistic health enhancement^[2].

The working hypothesis posits that a meticulously designed CETJQ protocol can efficiently enhance both bodily sensitivity and cognitive engagement. However, this hypothesis requires rigorous empirical validation in well-designed studies. Future research endeavors should focus on (1) elucidating the specific neurophysiological mechanisms underlying the CETJQ's potential cognitive benefits, (2) quantifying its effects in comparison with

standard interventions using validated cognitive assessment tools, and (3) evaluating its long-term impact on cognitive function across demographically diverse populations. Such comprehensive investigations would significantly contribute to our understanding of mind-body interventions in cognitive health and potentially inform the development of non-pharmacological strategies for cognitive enhancement and preservation.

The authors' published series reveals the wisdom of a global promotion of the Chinese tradition exercise. For almost 20 years, they have primarily focused on different types of clinical trials of Tai Ji Quan for the management of aging population, especially for the elderly people in communities. These articles have been published in many top scientific journals^[3-5]. In comparison, the scientific development of traditional Tai Ji Quan in China is still in its developmental stages. The key insight lies in a deeper understanding (from the perspective of the initial paradigm) of traditional Chinese exercise and a scientific approach to demonstrating these original principles.

In their recent research, they defined CETJQ training as to mean a further introduction to the key points in Tai Ji Quan. The results for the other two groups are metaphor for a superficial understanding of tradition. We should reconsider the key philosophy of individual traditions, such as Tai Ji Quan, Yoga, Karate, and others. Each of these must have a systematic theory. However, the simple imitation of body movements without interaction or reaction to external or internal stimuli does not constitute a reasonable inheritance and innovation. Moreover, Tai Ji Quan, as an exercise therapy within the framework of lifestyle medicine, stands out as one of the most effective and sustainable approaches to achieving long-term health. This practice not only addresses physical fitness but also integrates mental and cognitive well-being.

To return back to an efficient training, the technology to demonstrate the key points of Tai Ji Quan is swings and sways. Each merely had three types of movements. Different academic schools are essentially inseparable from swings and sways and can develop similar body control, physical perception, and instantaneous adjustment

*Corresponding author. Suparata Kiartivich, E-mail: suparata.kia@krirk.ac.th.

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in the transition between the first two. In conclusion, the correct training, deeper understanding, and scientific design of Tai Ji Quan are the wisdom behind its global promotion.

Conflict of interest statement

The authors declare no conflict of interest.

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Author contributions

Lulu Wang, Zili Zhang, and Ye Zhao contributed to the design and concept. Ye Zhao, Kobkullaya Ngamcharoenmongkhon, and Suparata Kiartivich performed the literature searches, wrote the manuscript, and critiqued successive versions. Suparata Kiartivich coordinated the efforts and integrated the sections and comments.

Ethical approval of studies and informed consent

Not applicable.

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Data availability

Not applicable.

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