

# **UNDERSTANDING THE EFFECTS OF TAICHI IN SCHIZOPHRENIC PATIENTS FROM THE PERSPECTIVE OF NEUROSCIENCES**

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**OBJECTIVES:** Taichi, a Chinese mind-body exercise with slow intentional movements, was suggested to be a protective intervention to prevent deteriorations in movement coordination for schizophrenic residential patients.<sup>1</sup> However the cause-and-effects and the mechanism of the Taichi on the patients remained unclear. This paper proposes an illustrative framework for the understanding of the effectiveness of Taichi on schizophrenic patients from the neuroscience perspective.

**DISCUSSION:** Continuous brain researches have marked deficiency in hippocampus and neural plasticity in schizophrenic patients<sup>2</sup> that the patients show weaker performance in spatial memory and movement coordination as compared to healthy population. In neuroscience researches, it is established that active aerobic exercise was responsible for the hippocampal enlargement, on healthy subjects and schizophrenic patients, through increase of capillary blood supply.<sup>2</sup> As a larger hippocampus is related to an increase of neurogenesis and (re)activation of neurological structure, therefore a better performance in spatial task is expected. Similar to what aerobic exercise could do on hippocampus, people who was trained to practice meditation had comparatively larger hippocampal volume than those without meditative experience.<sup>3</sup> Taichi, which can be understood as a physical exercise with meditative component (a mind-body exercise), can be viewed as an intervention with double dosages on the improvement of hippocampus alteration.

**CONCLUSIONS:** Evidences in neurosciences helped propose a mechanism on how Taichi affects schizophrenic patients through neurological pathways and hippocampus. With limited neuroscientific researches conducted in relation to Taichi, the proposed framework and detailed mechanism are worth to be further investigated and verified.

## **References**

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