

スポーツ科学研究, 11, 69-130, 2014 年

Study on the training of multi-limb coordination (preliminary experiment)Qi Weihuang¹, Kanosue Kazuyuki²¹Graduate School of Sport Sciences, Waseda University² Faculty of Sport Sciences, Waseda University

Sensorimotor synchronization (SMS) is an important factor of human movements, which means coordination of rhythmic movements with an external rhythm. It is an essential ability of our body and shows a strong preference for certain kinematic combinations, but the mechanism is still unclear. Therefore, it is meaningful to try to understand the mechanism of it, which will benefit not only athletes but also ordinary people.

10 Amateur drummers and 10 naïve people will be chosen as the subjects. Subjects will be demanded to finish the finger-tapping test with several different rhythms. In the experiment, subjects used only their index fingers of their hands to the sound of a metronome (250ms interval), the rhythms of two fingers are in-phase rhythms. Movement

of limbs and EMGs from muscoli flexor indicis and inicator were fed into a PC, LabChart will be used for further analysis.

I am currently doing preliminary experiment. Therefore, 1 amateur drummer and 1 naïve person was chosen to be subjects and 1 rhythm was used in this pre-experiment. A difference can be found between amateur drummer and naïve person. Although both of them tapped before the sound of metronome appeared, naïve person tapped much earlier than amateur drummer (70ms and 20ms).

The results showed differences between amateur drummers and naïve people, it also support to the Paillard-Fraisse hypothesis. The next step is to finish the formal experiment and then to analyze the different forms of multi-limb coordination.