Differential influences of exercise duration on cognitive function in high intensity exercise.

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Purpose: Previously, we reported that changes in the P300 component of the event-related potentials were observed following variable durations of moderate exercise. In this study, the influence of exercise duration on cognitive function in high intensity exercise was investigated using the P300 component of the event-related potentials.

Methods: This experiment consisted of a control condition and three exercise conditions (7, 20, and 40 min). In each exercise condition, the subjects cycled at load corresponding to 80%HRmax for 7, 20, and 40 min, respectively. Immediately after exercise, the subjects performed the same auditory oddball task as those in the control condition.

Results: The P300 amplitude increased significantly after 7 min of exercise compared to that of the control.

Discussion: This finding suggests that differences in exercise duration have different influences on cognitive function. Moreover, change in P300 after a short duration of high intensity exercise may be observed in comparison to the moderate exercise which we reported before.

Key words: exercise duration, cognitive function, event-related potentials, P300

Tap speed asymmetry in drummers during single hand tapping with stick

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Purpose: The purpose of this study was to investigate tap speed asymmetry in right-handed 13 drummers and 13 nondrummers.

Methods: The participants executed single hand tapping with stick as fast as possible for 10 second by left and right hand.

Results and Discussion: There was no significant difference in tap speed of the right hand between the drummers and the nondrummers, whereas in the left hand, the drummers tapped significantly faster than the nondrummers. For the nondrummers, tap speed of the left hand was significantly slower than the right hand, while the drummers didn't show significant difference between tap speed of the left hand and the right hand. These results suggest that tap speed of the nonpreferred hand progressed to the level of the preferred hand through daily drum training.

Key Words: asymmetry, tapping, drummers