Acute effects of training on the SNAIX Neuro-Bike on EEG brain activity and attention performance

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Abstract

The Snaix Neuro-Bike is an instable system applied in sports therapy and sports training as well. The balance movement is similar to the cross-coat of the human due to the joint in the center of the bicycle frame. In the present study, we investigated acute effects of training on the SNAIX Neuro-Bike on spontaneous EEG activity and on short-term attentional performance. Subjects performed two trainings (SNAIX Neuro-Bike, ordinary bicycle) at two training durations (10 and 20 minutes) followed by a 5-minute concentration test in a within-subjects design. Spontaneous resting EEG was recorded before, and after each training session. Behavioral data show decreases in attentional performance with longer training duration on the ordinary bicycle. EEG data reveal increased gamma power in the occipital and parietal lobes during the concentration test after SNAIX Neuro-Bike training. Increases in posterior theta activity were observed with longer training durations on a conventional bicycle. Our results demonstrate beneficial effects of training on a SNAIX Neuro-Bike on EEG brain activity, and on attentional performance. We hypothesize that training on a SNAIX Neuro-Bike activates the brain towards an optimal state for attentional performance.

Biography

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