

Thesis

Effects of a single bout of coordinative training and high intensity interval training (HIIT) on cognitive function in healthy adults.

Description

More and more people are pursuing a sedentary lifestyle. Studies have shown that physical activity not only promotes physical health, but can also improve cognitive functions, especially executive functions in children as well as adults (Álvarez-Bueno et al., 2017; Angevaren et al. 2008). Changes in cognitive performance due to endurance exercise represent a larger proportion of published research. Thus, memory, attention, inhibition, and working memory can be positively stimulated and cognitive capacity expanded by one-time as well as regular training. Research has focused on neuropsychological measures (e.g., Stroop task, Flanker test, Go-No-Go task, Trail-Making test, and verbal memory performance over word lists, (Álvarez-Bueno et al., 2017; Chang et al. 2012)). When examining the effects of a single intervention, high-intensity interval training (HIIT) is shown to be most effective in improving cognitive performance in endurance sports. Effects of coordinative training are particularly studied in children in the school setting and secondarily in older age. Possible effects have hardly been investigated in healthy adults. This study examines how exercise affects specific brain functions in adults. To do this, a one-time intensive running, or coordination exercise is performed. The results of the study could help to improve students' everyday learning and form a foundation for further research into the relationship between exercise and cognition, which can be applied in the therapeutic setting.

Methods

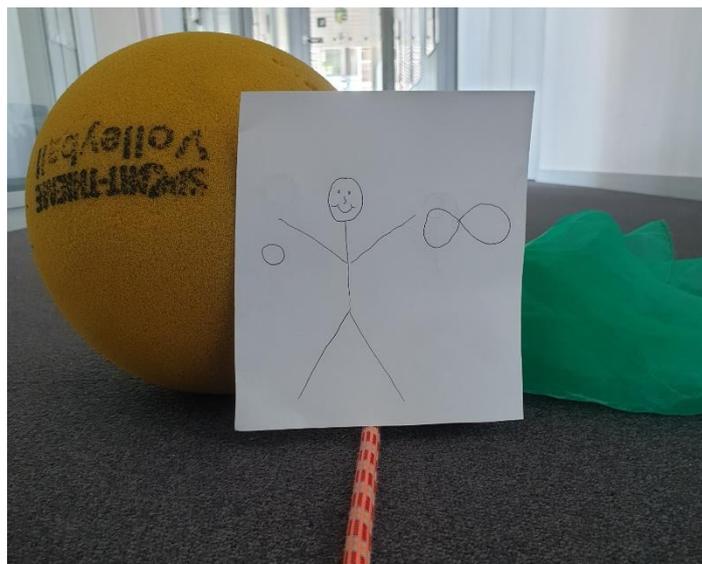
California Verbal Learning Test (CVTL), selective and sustained attention test d2, coordinative exercise, HIIT – running exercise

Potential research questions

How does coordinative training compare to high-intensity interval training (HIIT) and a control condition on attention performance, word fluency, and verbal learning (using word lists) in college students?

Contact

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Literatur

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- Angevaren, M., Aufdemkampe, G., Verhaar, H. J. J., Aleman, A., & Vanhees, L. (2008). Physical activity and enhanced fitness to improve cognitive function in older people without known cognitive impairment. *The Cochrane database of systematic reviews*. (3), CD005381.
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