

Call for Papers

Special Issue „Physical Activity and Neuroscience”

Dear colleagues,

The *Journal of Applied Sport and Exercise Psychology (JASEP)* is planning a special issue on the topic "Physical Activity and Neuroscience", which will be published in 2025. As guest editors, we would like to invite you to submit your own contributions.

Effects of physical activity on different indicators of health are often thought as being linked primarily to physical impairments such as cardiovascular diseases, diabetes, or diseases of the musculoskeletal system. However, there is an increasing body of evidence showing that physical activity is associated with beneficial effects on brain mechanisms and related cognitive and affective functions (e.g., Erickson et al., 2019). But which kind and which dose of physical activity unfold effects on which specific functions?

An increasing amount of studies at the interface between psychology, sport und human movement science, and neuroscience begin to address these critical issues in a systematic manner. In this particular context, neuroscientific methods can contribute in several important ways. For example, neuroscience studies reveal that in addition to physical fitness parameters especially also cognitive functions are important factors in different sports domains (e.g., in generating creative solutions in soccer game situations; Rominger et al., 2021). In addition, there are exciting research reports indicating that different kind of physical activities are manifested in different networks of the brain, therewith possibly also supporting different cognitive functions (Völcker-Rehage & Niemann, 2013). The regular engagement in physical activity is moreover associated with changes in functional and structural characteristics of the brain (e.g., volume of the hippocampus) and related cognitive and affective functions (e.g., depressive symptoms; Fink et al., 2021). Taken together, neuroscientific measures thus constitute important biomarkers providing important information on the effects of physical activity on different facets of health, along with psychometric and behavioral indicators.

This special issue should highlight recent research activities in this nascent field and draw attention to this nascent interdisciplinary field. We are accepting primarily empirical studies, although quantitative and

qualitative research reports, practical reports and case analyses are of particular interest as well. Reviews on selected topics are also possible. A clear focus on physical activity and neuroscience (including psychophysiology) is required. Submissions can be in either German or English.

A better understanding of the manifold beneficial effects of physical activity (kind of physical activity, dose and response, etc.) on health and well-being is associated with important practical implications and should stimulate the sensibility towards this important topic in our society.

Please submit your manuscript to the *Journal of Applied Sport and Exercise Psychology (JASEP)* via the Editorial Manager (<http://www.editorialmanager.com/spo>) by **January 6, 2025** and include the keyword "Physical Activity and Neuroscience" under "Comment".

Manuscripts should adhere to the general manuscript guidelines as well as the notes to authors (<http://hgf.io/jasep>).

Looking forward to your contributions,

Univ.-Prof. Dr. Andreas Fink, Dr. Corinna Pechtold-Stefan, & PD Dr. Christian Rominger

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- Erickson, K. I., Hillman, C., Stillman, C. M., Ballard, R. M., Bloodgood, B., Conroy, D. E., Macko, R., Marquez, D. X., Petruzzello, S. J., Powell, K. E., & FOR 2018 PHYSICAL ACTIVITY GUIDELINES ADVISORY COMMITTEE* (2019). Physical Activity, Cognition, and Brain Outcomes: A Review of the 2018 Physical Activity Guidelines. *Medicine and science in sports and exercise*, 51(6), 1242–1251. <https://doi.org/10.1249/MSS.0000000000001936>
- Fink, A., Koschutnig, K., Zussner, T., Perchtold-Stefan, C. M., Rominger, C., Benedek, M., & Papousek, I. (2021). A two-week running intervention reduces symptoms related to depression and increases hippocampal volume in young adults. *Cortex; a journal devoted to the study of the nervous system and behavior*, 144, 70–81. <https://doi.org/10.1016/j.cortex.2021.08.010>
- Rominger, C., Koschutnig, K., Memmert, D., Papousek, I., Perchtold-Stefan, C. M., Benedek, M., Schwerdtfeger, A. R., & Fink, A. (2021). Brain activation during the observation of real soccer game situations predicts creative goal scoring. *Social cognitive and affective neuroscience*, 16(7), 707–715. <https://doi.org/10.1093/scan/nsab035>
- Voelcker-Rehage, C., & Niemann, C. (2013). Structural and functional brain changes related to different types of physical activity across the life span. *Neuroscience and biobehavioral reviews*, 37(9 Pt B), 2268–2295. <https://doi.org/10.1016/j.neubiorev.2013.01.028>