



*brain sciences*



*Special Issue Reprint*

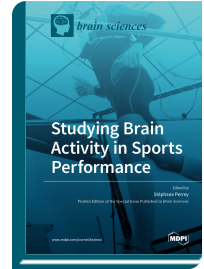
## Studying Brain Activity in Sports Performance

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The improvement of exercise performance in sports not only involves the enhancement of physical strength, but also includes the development of psychological and cognitive functions. There is an increasing body of evidence to show that physical exercise is a powerful way to improve a number of aspects of cognition and brain function at the systemic and behavioral levels. Yet, several questions remain: What type of exercise program is optimal for improving cognitive functions? What are the real effects of certain innovative exercise protocols on the relationship between behavior and the brain? To what extent do ergogenic aids boost cognitive function? How efficient are neuromodulation techniques in relation to behavioral performance? The answers to these questions likely require multidisciplinary insights not only from physiologists and sports scientists, but also from neuroscientists and psychologists. The manuscripts published (16 research papers and one perspective article from various academic fields) in this Special Issue Book “Exercise: A Gate That Primes the Brain to Perform” bring together current knowledge and novel directions in human exercise-cognition research dealing with performance. This book showcases the various relationships between cognitive function, brain activity, and behavioral performance with applications in sports and exercise science.



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