

## Examining the prevalence of pseudoscientific ideas and neuromyths amongst sports coaches in Canada: Implications for coach education and participant learning

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This research examine the prevalence and site of exposure of both scientific and pseudoscientific ideas in the domain of sports coaching. A total of 1,568 participants from across Canada completed a questionnaire that asked questions about exposure to different learning- and brain-based ideas, and following how these ideas might enhance coaching practice; and their awareness of neuromyths and general assertions about the brain.

Coaches agreed with 58.8% ( $\pm 19.8$ ) of statements promoting myths and answered 23.1% ( $\pm 19.0$ ) of questions pertaining to general assertions about the brain correctly. Core coaching qualification courses were the main site for exposure to 60% of brain-based ideas examined (i.e., goal setting; learning styles; direct instruction; guided discovery; demonstration; and action type approach). A multiple regression to predict belief in neuromyths and demographic variables, including the number of general assertions about the brain that participants knew to be correct. The percentage of assertions participants knew were correct statistically significantly predicted belief in neuromyths. The multiple regression to predict belief in neuromyths and situations that might be improved by an understanding of the brain were not statistically significant. A belief in neuromyths did not predict whether participants used learning-based brain ideas in their practice.

This study highlighted that coaches could find it difficult to distinguish between scientific and pseudoscientific information on learning and the brain. This, in turn, might lead to undesirable outcomes for both coaching practice and participant learning.