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Study Title: Athlete Race Cognition

The Theoretical and Applied Neuroscience Laboratory at the University of Victoria is looking for participants who are registered in a Coast Mountain Trail Running race of minimum 50km distance to take part in a study that investigates the effect of endurance running on cognition. More specifically, the main goal is to improve our understanding of how the brain adapts with the physiological depletion caused from prolonged exercise and to further examine its impact on cognitive functions such as learning, problem-solving, decision-making, and attention. Insights from this research may guide the development of improved recovery strategies following intensive exercise, applicable in sports or medical treatment scenarios.

Who Can Participate

Anyone between 19 and 65 may participate in this experiment as long as you meet the following inclusion criteria:

1. Participants must have good vision (corrective lenses and/or glasses are acceptable).
2. Participants must be free of neurological impairments such as epilepsy or a severe traumatic brain injury.
3. Participants must not have a pacemaker or heart conditions that would not be suitable for exercise.
4. Participants must be registered in Coast Mountain Trail Running race associated with this study.

In addition, we ask that participants do not consume alcohol for 24 hours before the experiment and refrain from consuming caffeine the same morning of the experiment.

Brief Study Design

The day before the race, participants will be sent a set of preliminary surveys over SurveyMonkey to create an athlete profile. On the day of the race, within two hours prior to the race beginning, participants will undergo a cognitive assessment on an iPad pro which will take approximately 20-25 minutes testing functions including attention, memory and decision-making abilities. During this, EEG and heart rate data will be collected with mobile recording devices. This assessment will be repeated immediately post-race, +1 hour, +4 hours, and +24 hours post-race. Participation in this study is entirely voluntary, and you may withdraw from the study at any time.

Please email krigolsonlab@gmail.com if you are interested in participating and more information will be provided.