



A Single Dose of Caffeine Ingestion Improves Physical and Cognitive Performance During A 1500-M Run Competition

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1. Round 1

1.1 Reviewer 1

Date: 04 October 2023

Reviewer:

The study utilizes a relatively small sample size of fifteen male recreational runners, which may not provide sufficient statistical power to generalize the findings. It's recommended to increase the sample size and include female participants to examine any potential gender differences in caffeine's effects.

The manuscript does not sufficiently detail how external variables such as diet, caffeine tolerance, and sleep quality were controlled. Since these factors can influence caffeine metabolism and its effects on performance, more rigorous control and documentation of these variables are necessary.

The absence of plasma caffeine concentration measurements is a notable limitation. Future iterations of this study should include these measurements to better understand the pharmacokinetics of caffeine in relation to its ergogenic and cognitive effects.

The study's participants are described as non-habitual caffeine consumers. It's important to assess and control for caffeine withdrawal and habituation effects, as these can influence the study's outcomes. A more detailed screening process for participants' caffeine consumption patterns is recommended.

Given the crossover study design, the statistical analysis should account for potential carryover effects. The manuscript should include an analysis or a statement explaining why carryover effects are not expected to impact the results.

Authors revised the manuscript and uploaded the updated document.

1.2 Reviewer 2

Date: 07 October 2023

Reviewer:

The manuscript would benefit from careful proofreading to correct minor typographical and grammatical errors. This will enhance the clarity and readability of the text.

Including graphical representations of the main findings, such as the performance times and cognitive test scores before and after caffeine/placebo ingestion, would provide a more immediate visual understanding of the results.

The discussion section could be expanded to provide more practical recommendations for athletes considering caffeine supplementation, including timing, dose optimization, and potential side effects.

A more thorough discussion of the study's limitations, including the homogeneity of the sample and the lack of female participants, would contextualize the findings and suggest directions for future research.

The manuscript should discuss its findings in the context of current dietary and supplementation guidelines for athletes, offering a comparison or suggestion for potential updates based on the study's outcomes.

Authors revised the manuscript and uploaded the updated document.

2. Revised

Editor's decision after revisions: Accepted.

Editor in Chief's decision: Accepted.