



# Mental Fatigue, Rating of Perceived Extension and Physical Performance of Athletes

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## Editorial

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## Editorial

The use of smartphones before competitions or games has been increasingly common in athletes of different modalities. Often, athletes are observed on social networks or mobile games before starting official matches. This practice has been associated with a higher cognitive demand. So, a question can be asked: can the excessive use of activities with high cognitive demands affect the physical performance of professional athletes?

Scientific literature indicates that exposure to cognitively demanding tasks for a long period of time induces a feeling of tiredness and lack of energy, and this state is known as mental fatigue [1]. When individuals are submitted to this psychobiological state before physical exercise, it is reported that there is a reduction in exercise performance [2-4].

In this sense, Otani Kaya, et al. [5] found that individuals who underwent previous mental fatigue induced by 90 min of exposure to a cognitive task (Stroop Test) had a reduction in the exercise time in a protocol until exhaustion when compared to a control condition. However, the tests were conducted in hot environments, which potentiated the reduction of the ability to stay longer in the exercise.

Marcora, et al. [2] investigated the effects of mental fatigue induced by a prolonged cognitive task before exercise on cycling performance, showing that mental fatigue reduces subsequent exercise performance and increases subjective perceived exertion, even without an increase in stress of the locomotor muscles compared to a control condition that has not been previously exposed to mental fatigue.

It has recently been reported that mental fatigue increases the subjective perception of effort during long-term exercise [4,6] and it is pointed out that mental fatigue does not influence function neuromuscular, thus having no

impact on short-term exercise [4,7]. In this sense, a review conducted by Van Cutsem, et al. [8] suggests that the impact of mental fatigue on activities of longer duration is due to a greater perceived effort.

Bearing in mind that the rating of perceived extension is able to predict the tolerable duration of exercise [9] and that the effect of mental fatigue on performance in long-term exercise can be caused by long periods of exposure to cognitively demanding tasks, such as prolonged use of social networks or cell phone games, some strategies are suggested to minimize the deleterious effects of mental fatigue on athletes' physical performance: reduction of exposure time to cognitively demanding activities; taking breaks after long periods of exposure to the screen; avoid very long technical lectures before competitions; other strategies can be assessed by the technical team and the athlete himself, respecting individuality and promoting a mentally and emotionally healthy environment.

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