

# Abstract

Hum Psychopharmacol. 2010 Aug;25(6):448-61.

## Effects of a multi-vitamin/mineral supplement on cognitive function and fatigue during extended multi-tasking.

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**OBJECTIVES:** A significant minority of the population consume multi-vitamins/minerals for their putative health benefits, including potentially beneficial effects on cognitive performance, fatigue and mood. The current study investigated the effect of supplementation with a multi-vitamin/mineral on fatigue and cognitive function in healthy females.

**METHODS:** In this placebo-controlled, double blind, randomized, parallel groups trial the effect of a multi-vitamin/mineral (Supradyn) was assessed in 216 females aged 25-50 years. Participants attended the laboratory before and 9 weeks after commencing treatment. During both visits cognitive function and the modulation of task related mood/fatigue were assessed in two discrete 20-min assessment periods during which participants completed a four-module version of the Multi-Tasking Framework.

**RESULTS:** Those in the vitamin/mineral group exhibited an attenuation of the negative effects of extended task completion on mood/fatigue. Multi-tasking performance for this group was also improved in terms of accuracy across all tasks, and on two of the individual tasks (Mathematical Processing and Stroop) in terms of both faster and more accurate responses. Analysis of a subsection (N = 102) demonstrated significant reductions in homocysteine levels following the vitamins/mineral supplement.

**CONCLUSIONS:** These findings suggest that healthy members of the general population may benefit from augmented levels of vitamins/minerals via direct dietary supplementation.

PMID: 20737518