Netherlands Consortium for Healthy Ageing

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Cognitive functioning and regular voluntary exercise behavior

Nederlands Tweelingen Register

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Background

Does cognitive functioning benefit from regular exercise?

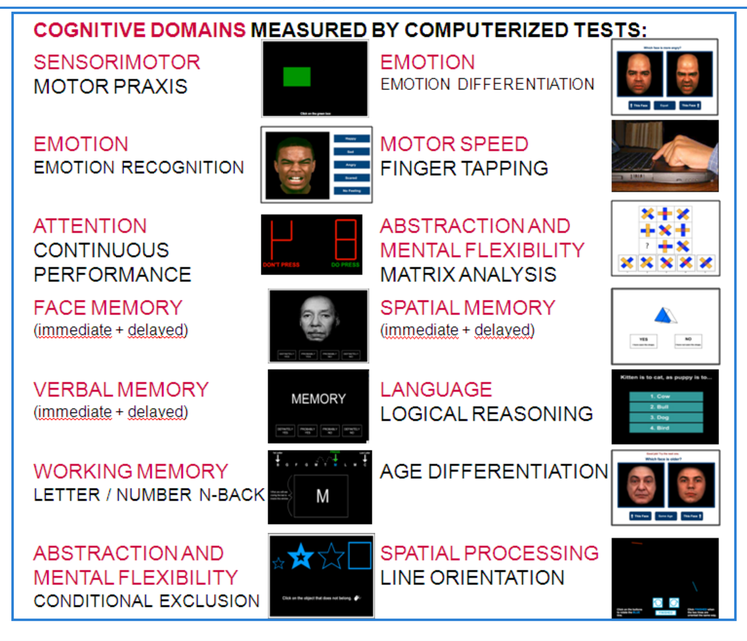
The answer is unclear, because empirical results are mixed. This is partly due to (1) differences in study design (observational or experimental), (2) the definition and reliability of measures of exercise behavior, (3) the composition of the sample, and (4) the cognitive domain tested.

Aim

Explore the association of reliable measure of voluntary regular leisure time exercise behavior and cognitive performance in various cognitive domains, while controlling for sex and age effects.

Methods

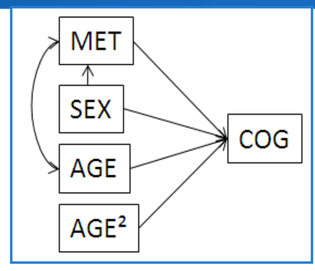
- 327 males and 449 females between 13 and 86 years old
- Weekly METhours (average energy expenditure per week)
- Computerized neurocognitive test battery



RESULTS

Univariate

Subjects who reported more leisure time exercise tended to perform faster and more accurate on the majority of tasks than those who were less active.

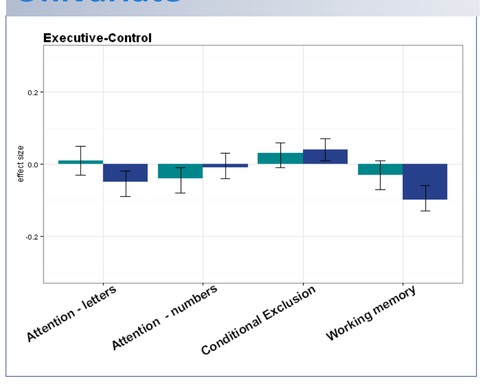


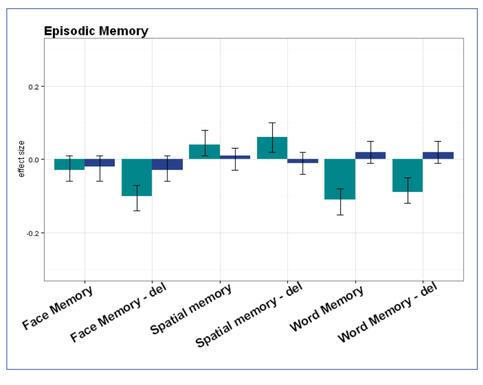
Multivariate

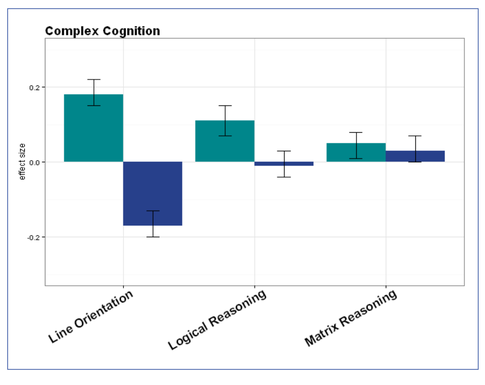
Associations between cognition an METhours are confounded by sex and age.

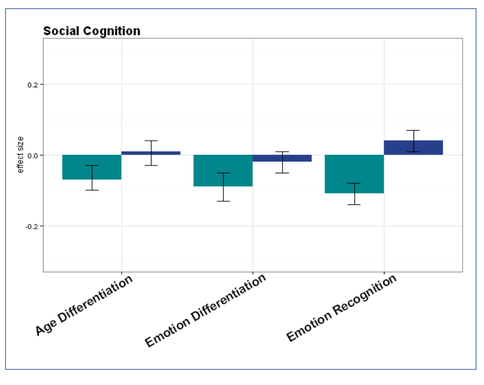
Accuracy on attention and word memory do still show a significant effect of METhours.

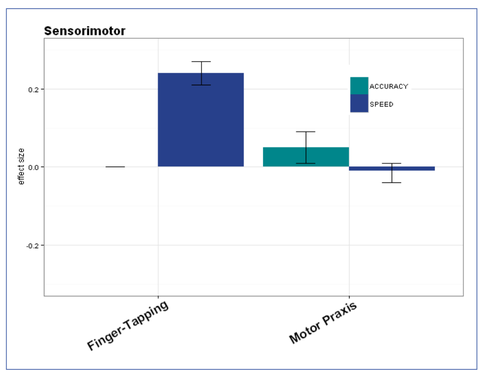
Univariate



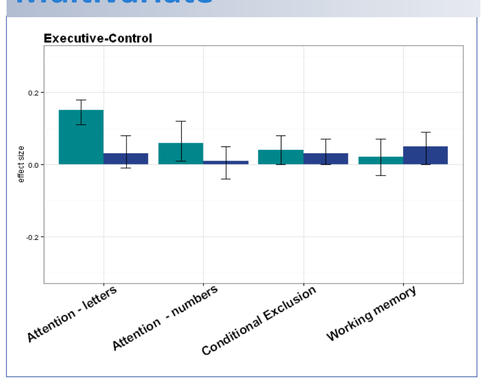


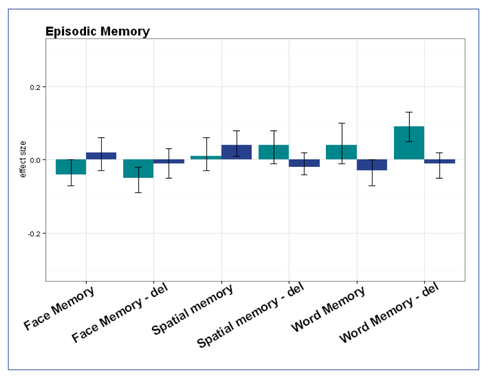


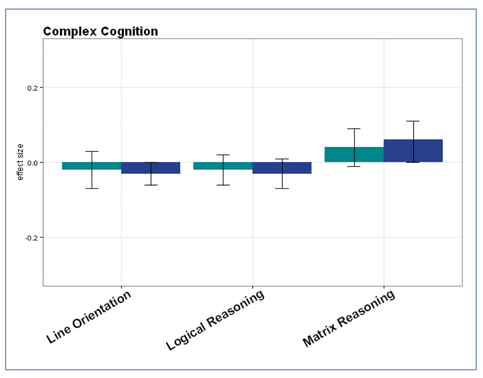


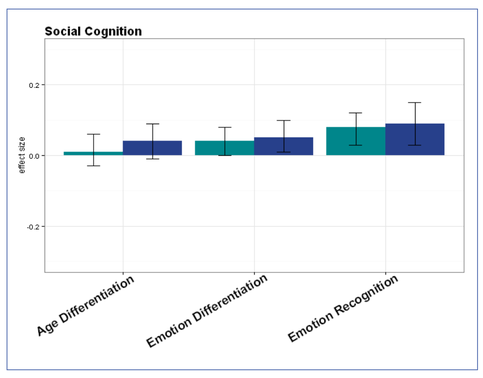


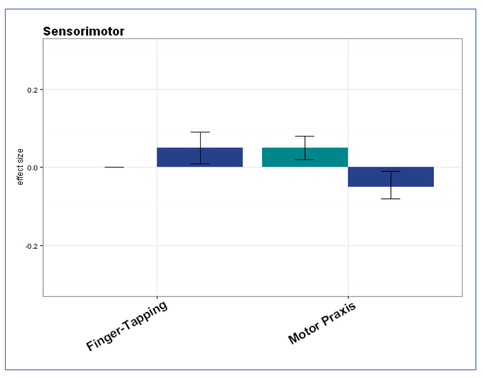
Multivariate











Our results suggest that in the base population the effects of voluntary regular leisure exercise behavior on cognitive function are limited, but do not preclude beneficial effects of exercise in clinical samples.