

# Cognitive functioning and blood pressure as a function of age

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## Background

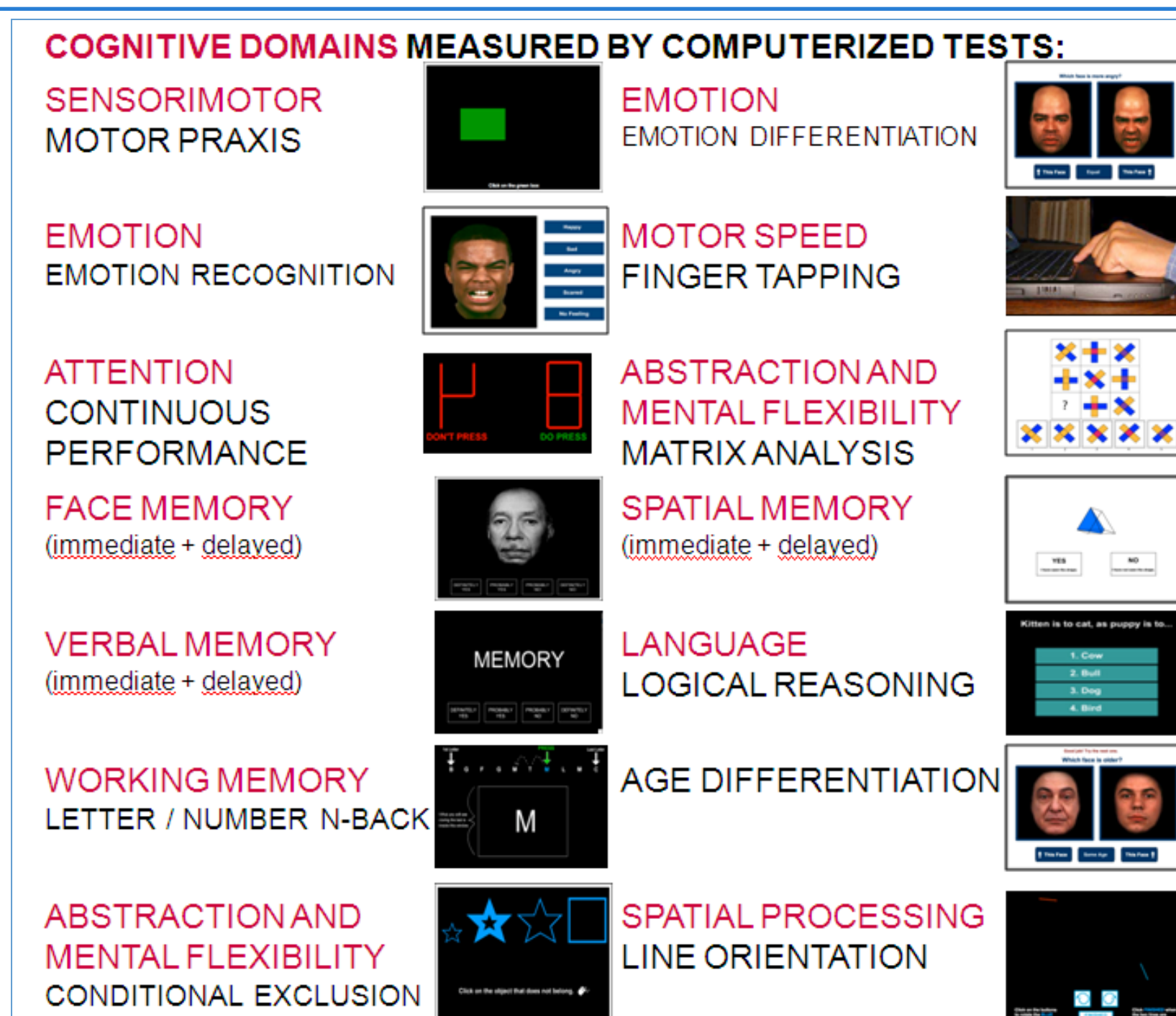
That hypertension has negative effects on physical health provides a motive to prescribe anti-hypertensives to people with high blood pressure. As blood pressure raises throughout age relatively many elderly take such medicine. Recently, it has been suggested anti-hypertensives enhance cognitive decline and thus threaten mental health. At the same time, the relationship between cognitive functioning and blood pressure is inconclusive and needs investigation.

## Aim

To investigate the age-dependencies of cognitive functioning and blood pressure across various well-defined (neuro)cognitive domains by means of multivariate modeling.

## Methods

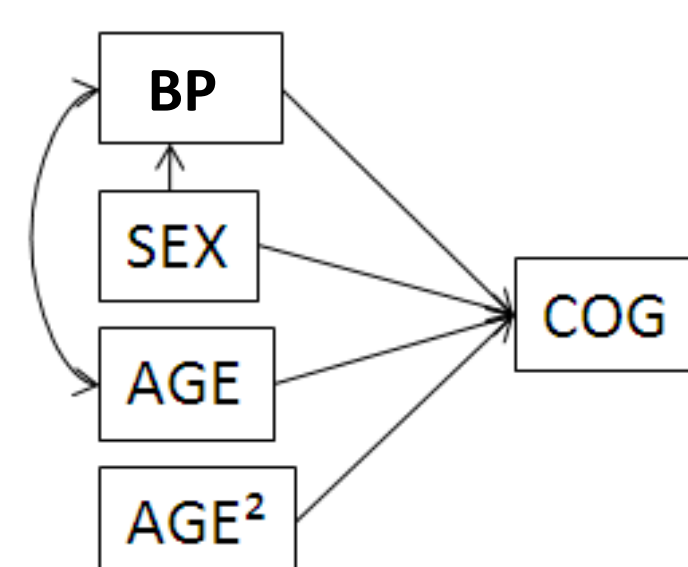
- 250 males and 347 females between 10 and 86 years old
- Diastolic and systolic blood pressure
- Computerized neurocognitive test battery



## RESULTS

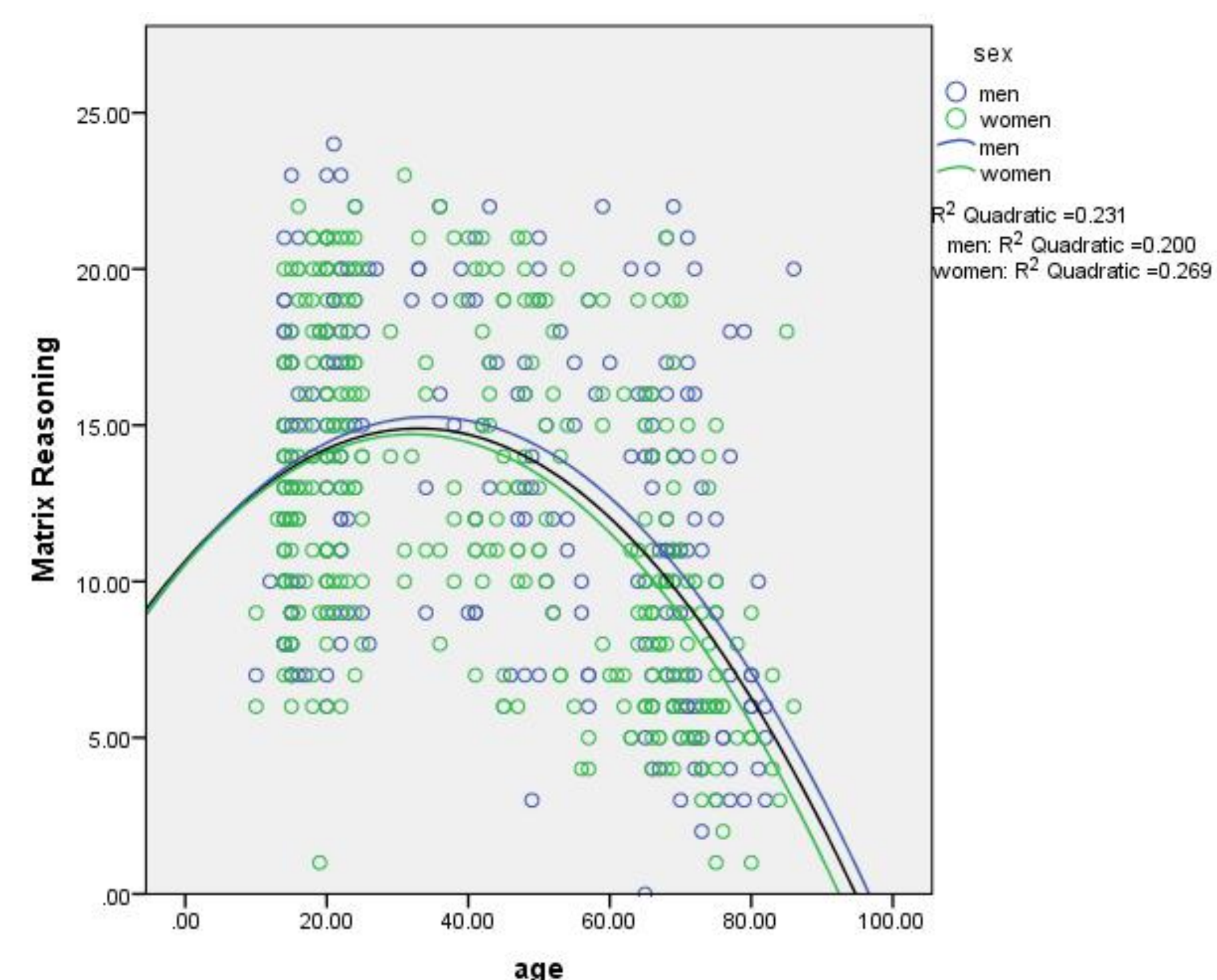
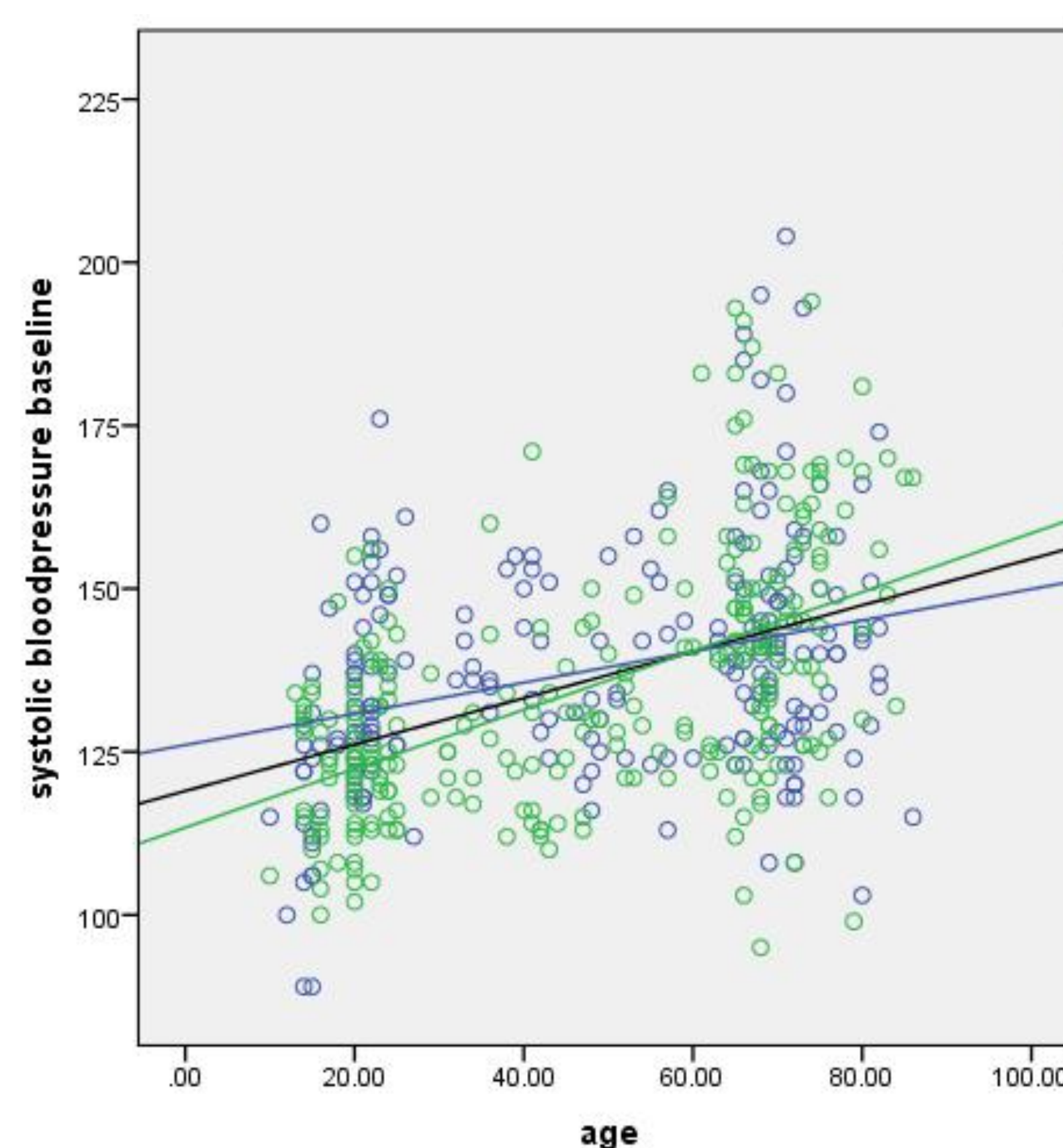
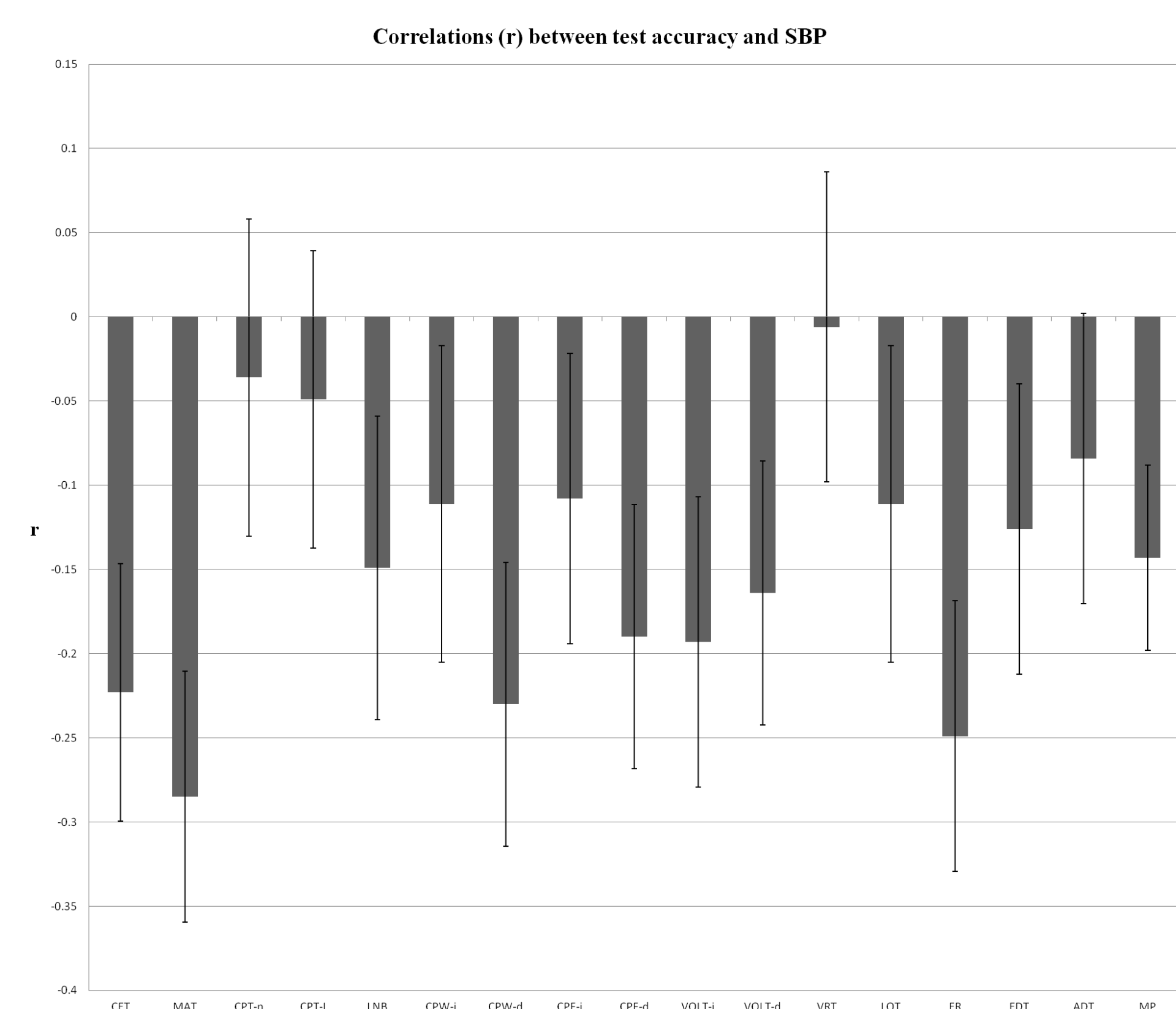
### Univariate

Subjects with relatively high levels of diastolic and/or systolic blood pressure tended to perform relatively poor on the majority of tasks (see below), but...



### Multivariate

...once sex and (linear and nonlinear) age effects were regressed out the correlations between blood pressure and cognitive performance approached 0. Evidence for an intrinsic relationship between blood pressure and cognitive functioning was thus absent.



Our results suggest that in the base population high blood pressure does not have negative consequences for cognitive functioning. Results from recent studies, showing that anti-hypertensives enhance cognitive decline, need to be taken seriously. Negative effects of anti-hypertensives on cognitive health should be weighted against their (limited) positive effects on physical health.