

VU Research Portal

Cognition and the Middle-Aged Brain

Klaassen, E.B.

2012

document version

Publisher's PDF, also known as Version of record

[Link to publication in VU Research Portal](#)

citation for published version (APA)

Klaassen, E. B. (2012). *Cognition and the Middle-Aged Brain: Functional MRI studies examining demand, fatigue and caffeine effects*. [PhD-Thesis – Research external, graduation internal, Vrije Universiteit Amsterdam].

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

E-mail address:

vuresearchportal.ub@vu.nl

Contents

Chapter 1	General introduction	9
Chapter 2	Working memory in middle-aged school teachers: Age-related brain activation changes and cognitive fatigue effects	17
Chapter 3	A functional MRI study in young and middle-aged school teachers: The effects of age and cognitive fatigue on the neural correlates of successful memory encoding	39
Chapter 4	The effects of sustained cognitive task performance on subsequent resting state functional connectivity in healthy young and middle-aged male schoolteachers	61
Chapter 5	Cortisol and induced cognitive fatigue: Effects on memory activation in male school teachers	81
Chapter 6	The effect of caffeine on working memory load-related brain activation in middle-aged males	103
Chapter 7	The neural correlates of memory encoding in young and middle-aged males: Age and performance dependent differences	127
Chapter 8	Concluding remarks	145
Summary / Samenvatting		155
Acknowledgements		165
CV and Publications		167