

# 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.*

### **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](mailto:vuresearchportal.ub@vu.nl)

# Contents

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