



This article appeared in a journal published by Elsevier. The attached copy is furnished to the author for internal non-commercial research and education use, including for instruction at the authors institution and sharing with colleagues.

Other uses, including reproduction and distribution, or selling or licensing copies, or posting to personal, institutional or third party websites are prohibited.

In most cases authors are permitted to post their version of the article (e.g. in Word or Tex form) to their personal website or institutional repository. Authors requiring further information regarding Elsevier's archiving and manuscript policies are encouraged to visit:

<http://www.elsevier.com/copyright>



Contents lists available at ScienceDirect

Neuroscience Letters

journal homepage: [www.elsevier.com/locate/neulet](http://www.elsevier.com/locate/neulet)



Neuroscience Letters 442 (2008) 110–114  
Contents lists available at ScienceDirect  
Neuroscience Letters  
journal homepage: [www.elsevier.com/locate/neulet](http://www.elsevier.com/locate/neulet)

Department of Psychology, Peking University, 5 Yiheyuan Road, Beijing, 100871, PR China  
Laboratory of Neuropsychology, The University of Hong Kong, Hong Kong, PR China  
Laboratory of Cognitive Affective Neuroscience, The University of Hong Kong, Hong Kong, PR China

ARTICLE INFO

ABSTRACT

Article history:

Received 1 July 2007  
Received in revised form 17 February 2008  
Accepted 3 March 2008

Keywords:

Working memory  
Attention  
Executive function  
Frontoparietal cortex

Working memory is a central component of executive function and is essential for many higher-level cognitive tasks. The present study investigated the role of the frontoparietal cortex in working memory using a double dissociation design. Two groups of subjects were compared: one group with a lesion in the frontoparietal cortex and another group with a lesion in the dorsolateral prefrontal cortex. Both groups performed a working memory task. The results showed that the frontoparietal cortex is involved in the maintenance of information in working memory, while the dorsolateral prefrontal cortex is involved in the manipulation of information. These findings provide further evidence for the role of the frontoparietal cortex in working memory and the dorsolateral prefrontal cortex in executive function.

© 2008 Elsevier B.V. All rights reserved.

Working memory is a central component of executive function and is essential for many higher-level cognitive tasks. The present study investigated the role of the frontoparietal cortex in working memory using a double dissociation design. Two groups of subjects were compared: one group with a lesion in the frontoparietal cortex and another group with a lesion in the dorsolateral prefrontal cortex. Both groups performed a working memory task. The results showed that the frontoparietal cortex is involved in the maintenance of information in working memory, while the dorsolateral prefrontal cortex is involved in the manipulation of information. These findings provide further evidence for the role of the frontoparietal cortex in working memory and the dorsolateral prefrontal cortex in executive function.

Working memory is a central component of executive function and is essential for many higher-level cognitive tasks. The present study investigated the role of the frontoparietal cortex in working memory using a double dissociation design. Two groups of subjects were compared: one group with a lesion in the frontoparietal cortex and another group with a lesion in the dorsolateral prefrontal cortex. Both groups performed a working memory task. The results showed that the frontoparietal cortex is involved in the maintenance of information in working memory, while the dorsolateral prefrontal cortex is involved in the manipulation of information. These findings provide further evidence for the role of the frontoparietal cortex in working memory and the dorsolateral prefrontal cortex in executive function.

Working memory is a central component of executive function and is essential for many higher-level cognitive tasks. The present study investigated the role of the frontoparietal cortex in working memory using a double dissociation design. Two groups of subjects were compared: one group with a lesion in the frontoparietal cortex and another group with a lesion in the dorsolateral prefrontal cortex. Both groups performed a working memory task. The results showed that the frontoparietal cortex is involved in the maintenance of information in working memory, while the dorsolateral prefrontal cortex is involved in the manipulation of information. These findings provide further evidence for the role of the frontoparietal cortex in working memory and the dorsolateral prefrontal cortex in executive function.

Working memory is a central component of executive function and is essential for many higher-level cognitive tasks. The present study investigated the role of the frontoparietal cortex in working memory using a double dissociation design. Two groups of subjects were compared: one group with a lesion in the frontoparietal cortex and another group with a lesion in the dorsolateral prefrontal cortex. Both groups performed a working memory task. The results showed that the frontoparietal cortex is involved in the maintenance of information in working memory, while the dorsolateral prefrontal cortex is involved in the manipulation of information. These findings provide further evidence for the role of the frontoparietal cortex in working memory and the dorsolateral prefrontal cortex in executive function.

0304-3940/\$ - see front matter © 2008 Elsevier B.V. All rights reserved.

\* Corresponding author. Tel.: +86 10 2690 7413; fax: +86 10 2690 7411.  
E-mail address: [qiyu@pku.edu.cn](mailto:qiyu@pku.edu.cn) (Q. Yu).







... /3, 10 ...  
 ... /2 ...  
 ... /11, 1 ...  
 ... /13, 1 ...  
 ... /2, 1 ...  
 ... /4, 20 22 ...  
 ... /2 ...  
 ... /1 ...  
 ... /12 ...  
 ... /2 ...

... (0. (t) 0.01 0.1(, 200) 2.1 31, 3( ... 13, ... (200 1 22. .1 31 22, ... / (s) 13. t1 ... (, 200  
 ... 0. 1 (t) 33 ...  
 ... 1 2, 2.(t21. 0 ... 1/ ... 1 2 ... (t)20( ) ... 213( )23(, -1 2 ... 1 1 2 ... -(( ) ,ts .1 2 ... 2. .1 2 ...

- /1 ... (2003) 30.
- /20 ... (2000) 221.
- /21 ... (2003) 13.
- /22 ... (2003) 1.
- /23 ... (2003) 23(1) 202.
- /2 ... (2002) 311–322.
- /2 ... (2002) 1.
- /2 ... (2002) 21–210.
- /2 ... (2002) 32–320.
- /2 ... (2002) 23–20.