

## COMPREHENSIVE EXAM READING LIST: COGNITIVE CONTROL & EXECUTIVE FUNCTION

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### **Current Committee Members**

*Susan Ravizza (chair), Erik Altmann, Zach Hambrick*

### **Journals**

Below is a list of journals you should monitor for content relevant articles. While we will not ask a question solely on the content of recent articles, we may ask questions that ask you to apply what you know from the content of the reading list below to a current issue or hot topic of recent articles.

- *Behavioral and Brain Sciences*
- *Cognition Cognitive Psychology*
- *JEP:General*
- *JEP:HPP*
- *JEP:LMC*
- *Journal of Cognitive Neuroscience*
- *Memory and Cognition*
- *Nature Neuroscience*
- *Psychological Research*
- *Psychological Science*
- *Trends in Cognitive Science*

### **References**

Below are two references that provide a good background that may be helpful when working through the readings.

- Baddeley, A. Working Memory, Thought, and Action.
- Gazzaniga, Ivry, & Mangun. Chapter 13, "Cognitive Control." In *Cognitive Neuroscience: The Biology of the Mind*.

### **Frontal lobe function in cognitive control**

1. Frith, C. D., Friston, K., Liddle, P. F., & Frackowiak, R. S. J. (1991). Willed Action and the Prefrontal Cortex in Man: A Study with PET. *Proceedings: Biological Sciences*, 244(1311), 241-246.
2. Miller, E. K., & Cohen, J. D. (2001). An integrative theory of prefrontal cortex function. *Annual Review of Neuroscience*, 24(1), 167-202.
3. Hazy, T.E., Frank, M.J., & O'Reilly, R.C. (2007). Toward an executive without a homunculus: Computational models of the prefrontal cortex/basal ganglia system. *Philosophical Transactions of the Royal Society - B*, 362, 1601-1613.

### **Hierarchical organization of cognitive control in the frontal lobe**

4. Badre, D., & D'Esposito, M. (2009). Is the rostro-caudal axis of the frontal lobe hierarchical? *Nature Reviews Neuroscience*, 10(9), 659-669.
5. Badre, D., Hoffman, J., Cooney, J.W., & D'Esposito, M. (2009). Hierarchical cognitive control deficits following damage to the human frontal lobe. *Nature Neuroscience*, 12, 515-522.
6. Koechlin, E., & Jubault, T. (2006). Broca's Area and the Hierarchical Organization of Human Behavior. *Neuron*, 50(6), 963-974.

## Working memory

### Antecedents of Working Memory

7. Miller (1956). The magical number seven, plus or minus two: Some limits on our capacity for processing information. *Psychological Review*, 63, 81-97.
8. Atkinson & Shiffrin (1971). The control of short-term memory. *Scientific American*, 225(2), 82-90.

### The Emergence of Working Memory

9. Baddeley & Hitch (1974). Working memory. In G. A. Bower (Ed.), *The psychology of learning and motivation* (vol. 8, pp. 47-89). New York, NY: Academic Press.

### Prominent Models of Working Memory

10. Baddeley & Logie (1999). Working memory: The multiple component model. In A. Miyake & P. Shah (Eds.), *Models of working memory: Mechanisms of active maintenance and executive control* (pp. 28-61). New York, NY: Cambridge University Press.
11. Baddeley (2000). The episodic buffer: A new component of working memory? *Trends in Cognitive Sciences*, 4, 417-423.
12. Cowan (1999). An embedded-process model of working memory. In A. Miyake & P. Shah (Eds.), *Models of working memory: Mechanisms of active maintenance and executive control* (pp. 62-101). New York, NY: Cambridge University Press.
13. Cowan, N. (in press). The magical mystery four: How is working memory capacity limited, and why? *Current Directions in Psychological Science*.
14. Engle, R. W., Kane, M. J., & Tuholski, S. W. (1999). Individual differences in working memory capacity and what they tell us about controlled attention, general fluid intelligence and functions of the prefrontal cortex. In Miyake, A. & Shah, P. (Eds.), *Models of Working Memory: Mechanisms of Active Maintenance and Executive Control* (pp.102-134). London: Cambridge Press.
15. Engle, R. W. (2002). Working memory capacity as executive attention. *Current Directions in Psychological Science*, 11, 19-23.

### Working Memory Span

16. Daneman & Carpenter (1980). Individual differences in working memory and reading. *Journal of Verbal Learning and Verbal Behavior*, 19, 450-466.
17. Kyllonen, P. C., & Christal, R. E. (1990). Reasoning ability is (little more than) working-memory capacity? *Intelligence*, 14, 389-433.
18. Kane, M. J., Hambrick, D. Z., Tuholski, S. W., Wilhelm, O., Payne, T. W., & Engle, R. W. (2004). The generality of working memory capacity: A latent variable approach to verbal and visuospatial memory span and reasoning. *Journal of Experimental Psychology: General*, 133, 189-217.
19. Ackerman, P. L., Beier, M. E., & Boyle, M. O. (2005). Working memory and intelligence: The same or different constructs? *Psychological Bulletin*, 131, 30-60.

### Developmental Differences - Childhood

20. Kail, R. V. (2007). Longitudinal evidence that increases in processing speed and working memory enhance children's reasoning. *Psychological Science*, 18, 312-313.
21. Bayliss, D. M., Jarrold, C., Baddeley, A. D., Gunn, D. M., & Leigh, E. (2005). Mapping the developmental constraints on working memory span performance. *Developmental Psychology*, 41, 579-597.

### Developmental Differences – Adulthood

22. May, C. P., Hasher, L., & Kane, M. J. (1999). The role of interference in memory span. *Memory and Cognition*, *27*, 759-767.
23. Salthouse, T. A., & Meinze, E. J. (1995). Aging, inhibition, working memory, and speed. *Journals of Gerontology: Psychological Sciences*, *50B*, 297-306.

### Working Memory and the Brain

24. O'Reilly, Braver, & Cohen (1999). A biologically-based computational model of working memory. In A. Miyake & P. Shah (Eds.), *Models of working memory: Mechanisms of active maintenance and executive control* (pp. 375-411). New York, NY: Cambridge University Press.
25. Kane, M.J., & Engle, R.W. (2002). The role of prefrontal cortex in working-memory capacity, executive attention, and general fluid intelligence: An individual-differences perspective. *Psychonomic Bulletin and Review*, *9*, 637-671.
26. Gray, J. R., Chabris, C. F., & Braver, T. S. (2003). Neural mechanisms of general fluid intelligence. *Nature Neuroscience*, *6*, 316-322.
27. Braver, T.S., & Barch, D.M. (2006). Extracting core components of cognitive control. *Trends in Cognitive Sciences*, *10*, 529-532.
28. McNab, F., & Klingberg, T. (2008). Prefrontal cortex and basal ganglia control access to working memory. *Nature Neuroscience*, *11*, 103-107.

### Monitoring functions/sequential processing

29. Kerns, J. G., Cohen, J. D., MacDonald, A. W., Cho, R. Y., Stenger, V. A., & Carter, C. S. (2004). Anterior Cingulate Conflict Monitoring and Adjustments in Control. *Science*, *303*(5660), 1023-1026.
30. Brown, J. W., & Braver, T. S. (2005). Learned Predictions of Error Likelihood in the Anterior Cingulate Cortex. *Science*, *307*(5712), 1118-1121.
31. Hommel, B., Müsseler, J., Aschersleben, G., & Prinz, W. (2001). The theory of event coding (TEC): A framework for perception and action planning. *Behavioral and Brain Sciences*, *24*(5), 849-937.
32. Botvinick, M. M., Braver, T. S., Barch, D. M., Carter, C. S., & Cohen, J. D. (2001). Conflict monitoring and cognitive control. *Psychological Review*, *108*(3), 624-652.
33. Cooper, R. P., & Shallice, T. (2006). Hierarchical schemas and goals in the control of sequential behavior. *Psychological Review*, *113*(4), 887-916.

### Task switching/Multi-tasking:

34. Rogers, R. D., & Monsell, S. (1995). Costs of a predictable switch between simple cognitive tasks. *Journal of Experimental Psychology: General*, *124*(2), 207-231.
35. Kiesel, A., Steinhauser, M., Wendt, M., Falkenstein, M., Jost, K., Philipp, A. M., & Koch, I. (2010). Control and interference in task switching-A review. *Psychological Bulletin*, *136*(5), 849-874.
36. Meiran, N. (1996). Reconfiguration of processing mode prior to task performance. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *22*, 1423-1442.
37. Yeung, N., Nystrom, L.E., Aronson, J.A., & Cohen, J.D. (2006). Between-task competition and cognitive control in task switching. *Journal of Neuroscience*, *26*, 1429-1438.
38. Aron, A.R., Monsell, S., Sahakian, B.J., & Robbins, T.W. (2004). A componential analysis of task-switching deficits associated with lesions of left and right frontal cortex. *Brain*, *127*, 1561-1573.
39. Salvucci, D. D., & Taatgen, N. A. (2008). Threaded cognition: An integrated theory of concurrent multitasking. *Psychological Review*, *115*(1), 101-130.
40. Strayer, D. L., Drews, F. A., & Johnston, W. A. (2003). Cell phone-induced failures of visual attention during simulated driving. *Journal of Experimental Psychology: Applied*, *9*(1), 23-32.

41. Pashler, H. (1994). Dual-task interference in simple tasks: Data and theory. *Psychological Bulletin*, *116*, 220-244.

### **Inhibition**

42. MacLeod, C. M., Dodd, M. D., Sheard, E. D., Wilson, D. E., & Bibi, U. (2003). In opposition to inhibition. In H. Ross (Ed.), *The psychology of learning and motivation* (Vol. 43, pp. 163-214).
43. Milliken, B., & Tipper, S. P. (1998). Attention and inhibition. In H. Pashler (Ed.), *Attention*. (pp. 191-221). Hove, England: Psychology Press/Erlbaum (UK) Taylor & Francis.
44. Wegner, D. M. (1994). Ironic processes of mental control. *Psychological Review*, *101*(1), 34-52.
45. Aron, A.R., Robbins, T.W., & Poldrack, R.A. (2004). Inhibition and the right inferior frontal cortex. *Trends in Cognitive Sciences*, *8*, 170-177.
46. Picton, T.W., Stuss, D.T., Alexander, M.P., Shallice, T., Binns, M.A., & Gillingham, S. (2007). Effects of focal frontal lesions on response inhibition. *Cerebral Cortex*, *17*, 826-838.