

## COMPREHENSIVE EXAM READING LIST: SKILL ACQUISITION & EXPERTISE

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### **Current Committee Members**

*D. Zach Hambrick (chair), Kimberly Fenn, Thomas Carr*

### **Journals**

The following list consists of journal outlets where high-quality papers on skill acquisition and expertise tend to appear. If you are interested in the topic you may want to monitor these outlets for current findings in this area.

- *Applied Cognitive Psychology*
- *Cognition*
- *Cognitive Psychology*
- *JEP: Applied*
- *JEP: General*
- *JEP: Human Performance and Perception*
- *JEP: Learning, Memory, and Cognition*
- *Learning and Memory*
- *Memory & Cognition*
- *Psychological Science*

### **Theories of Skill Acquisition**

#### **Automaticity-Based Theories**

1. Bryan, W. L., & Harter, N (1897). Studies in the physiology and psychology of the telegraphic language. *Psychological Review*, 4, 27-53.
2. Fitts, P. M., & Posner, M. I. (1967). *Human performance*. Belmont, CA: Brooks/Cole. (Chapters 1-3).
3. Anderson, J. R. (1982). Acquisition of cognitive skill. *Psychological Review*, 89, 369-406.
4. Schneider, W., & Shiffrin, R. M. (1977). Controlled and automatic human information processing: 2. Perceptual learning, automatic attending, and a general theory. *Psychological Review*, 84, 127-190.
5. Logan, G. (2002). An instance theory of attention and memory. *Psychological Review*, 109, 376-400.

#### **Knowledge-Based Theories**

6. Crossman, E. R. F. W. (1959). A theory of the acquisition of speed skill. *Ergonomics*, 2, 153-166.
7. Gibson, E. (1963). Perceptual learning. *Annual Review of Psychology*, 14, 29-56.
8. Chase, W., & Simon, H. (1973). Perception in chess. *Cognitive Psychology*, 4, 55-81.
9. Ericsson, K. A., & Kintsch, W. (1995). Long-term working memory. *Psychological Review*, 102, 211-245.
10. Gobet, F. (1998). Expert memory: A comparison of four theories. *Cognition*, 66, 115-152.

#### **Psychometric Theories**

11. Fleishman, E. A. (1972). On the relation between abilities, learning, and human performance. *American Psychologist*, 27, 1017-1032.
12. Ackerman, P. L. (1988). Determinants of individual differences during skill acquisition: Cognitive abilities and information processing. *Journal of Experimental Psychology: General*, 117, 288-318.

## Training and Practice

13. Newell, A., & Rosenbloom, P. S. (1981). Mechanisms of skill acquisition and the power law of practice. In J. R. Anderson (Ed.), *Cognitive skills and their acquisition* (pp. 1-55). Hillsdale, NJ: Lawrence Erlbaum.

### **Transfer of Training and Knowledge**

14. Singley, M. K., & Anderson, J. R. (1989). The transfer of cognitive skill. Cambridge, MA: Harvard Press. (Chapters 1-2)
15. Koh, K., & Meyer, D. E. (1991). Function learning: Induction of continuous stimulus-response relations. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *17*, 811-836.
16. Gick, M. L., & Holyoak, K. J., (1980). Analogical problem solving. *Cognitive Psychology*, *12*, 306-355.
17. Ford, J. K. (1997). Transfer of training: An updated review and analysis. *Performance Improvement Quarterly*, *10*, 22-41.

### **Training Working Memory and Attention**

18. Jaeggi, S., Buschkuhl, M., Jonides, J., Perrig, W. (2008). Improving fluid intelligence with training on working memory. *Proceedings of the National Academy of Sciences*, *105*, 6829-6833.
19. Green, C. S., & Bavelier, D. (2003). Action video game modifies visual selective attention. *Nature*, *423*, 534-537.
20. Shipstead, Z., Redick, T. S., & Engle, R. W. (2010). Does working memory training generalize? *Psychologica Belgica*, *50*, 245-276.
21. Klingberg T (2010). Training and plasticity of working memory. *Trends in Cognitive Science*, *14*, 317-324.

### **Skill Consolidation**

22. Fenn, K. M., Nusbaum, H. C., & Margoliash, D. (2003). Consolidation during sleep of perceptual learning of spoken language. *Nature*, *425*, 614-616.
23. Brawn, T. P., Fenn, K. M., Margoliash, D., & Nusbaum, H. C. (2008). Consolidation of sensorimotor learning during sleep. *Learning & Memory* *15*, 815-819.

## When Skill Breaks Down

### **Divided Attention and Multitasking**

24. Norman, D. A., & Bobrow, D. J. (1975). On data-limited and resource-limited processes. *Cognitive Psychology*, *7*, 44-64.
25. Wickens, C. D. (1980). The structure of attentional resources. In R. S. Nickerson (Ed.), *Attention and Performance VIII*. (pp. 239-257). Hillsdale, NJ: Erlbaum.
26. Navon, D. (1984). Resources—a theoretical soupstone? *Psychological Review*, *91*, 216-234.
27. Meyer, D. E., & Keiras, D. E. (1997). A computational theory of executive cognitive processes and multiple-task performance: Part 1. Basic mechanisms. *Psychological Review*, *104*, 3-65.
28. 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*, 23-23.
29. Watson, J.M., & Strayer, D.L. (in press). Supertaskers: Profiles in extraordinary multi-tasking ability. *Psychonomic Bulletin & Review*.

**Choking Under Pressure**

30. Beilock, S. L., & Carr, T. H. (2005). When high-powered people fail: Working memory and "choking under pressure" in math. *Psychological Science, 16*, 101-105.
31. Beilock, S. L., & Carr, T. H. (2001). On the fragility of skilled performance: What governs choking under pressure? *Journal of Experimental Psychology: General, 130*, 701-725.

**Neural Correlates of Skill Acquisition**

32. Petersen, S. E., Mier, H., Fiez, J. A., & Raichle, M. E. (1998). The effects of practice on the functional anatomy of task performance. *Proceedings of the National Academy of Sciences, 95*, 853-860.
33. Olesen, P. J., Westerberg, H., & Klingberg, T. (2004). Increased prefrontal and parietal activity after training of working memory. *Nature Neuroscience, 7*, 75-79.
34. Maguire, E. A., Gadian, D. G., Johnsrude, I. S., Good, C. D., Ashburner, J., Frackowiak, R. S., Frith, C. D. (2000). Navigation-related structural change in the hippocampi of taxi drivers. *Proceedings of the National Academy of Sciences, 97*, 4398-4403
35. Elbert, T., Pantev, C., Wienbruch, C., Rockstroh, B., & Taub, E. (1995). Increased cortical representation of the fingers of the left hand in string players. *Science, 270*, 305-307.

**Expert Performance****Deliberate Practice View**

36. Ericsson, K. A., Krampe, R. Th., & Tesch-Roemer, C. (1993). The role of deliberate practice in the acquisition of expert performance. *Psychological Review, 100*, 363-406.
37. Gobet, F., & Campitelli, G. (2007). The role of domain-specific practice, handedness and starting age in chess. *Developmental Psychology, 43*, 159-172.
38. Meinz, E. J., & Hambrick, D. Z. (2010). Deliberate practice is necessary but not sufficient to account for individual differences in piano sight-reading: The role of working memory capacity. *Psychological Science, 21*, 914-919.

**Talent View**

39. Howe, M. J., Davidson, J. W., & Sloboda, J. A. (1998). Innate talents: reality or myth? *Behavioral and Brain Sciences, 21*, 399-407. (And Comments)
40. Lubinski, D., Benbow, C. P., Webb, R. M., & Bleske-Rechek, A. (2006). Tracking exceptional human capital over two decades. *Psychological Science, 17*, 194-199.
41. Simonton, D. K. (1999). Talent and its development: An emergenic and epigenetic model. *Psychological Review, 106*, 435-457.

**Skill and Aging****Adulthood**

42. Salthouse, T. A. (1984). Effects of age and skill in typing. *Journal of Experimental Psychology: General, 13*, 345-371.
43. Krampe, R. T., & Ericsson (1996). Maintaining excellence. Deliberate practice and elite performance in younger and older pianists. *Journal of Experimental Psychology: General, 125*, 331-359.
44. Backman, L., & Dixon, R. A. (1992). Psychological compensation: A theoretical framework. *Psychological Bulletin, 112*, 259-283.

45. Li, S.-C., Schmiedek, F., Huxhold, O., Röcke, C., Smith, J., & Lindenberger, U. (2008). Working memory plasticity in old age: Practice gain, transfer, and maintenance. *Psychology and Aging, 23*, 731-742.
46. Hasher, L., Zacks, R. T., & May, C. P. (1999). Inhibitory control, circadian arousal, and age. In D. Gopher & A. Koriat (Eds.), *Attention & Performance, XVII, Cognitive Regulation of Performance: Interaction of Theory and Application* (pp. 653-675). Cambridge, MA: MIT Press.

### **Childhood**

47. Gobbo, C., & Chi, M. (1986). How knowledge is structured and used by expert and novice children. *Cognitive Development, 1*, 221-237.
48. Chi, M. T. H. (1983). Network representation of a child's dinosaur knowledge. *Developmental Psychology, 19*, 29-39.
49. Thorell, L. B., Lindqvist, S., Bergman, S., Bohlin, G., & Klingberg, T. (2009). Training and transfer effects of executive functions in preschool children. *Developmental Science, 12*, 106-113.
50. Klingberg, T., Fernell, E., Olesen, P., Johnson, M., Gustafsson, P., Dahlström, K., Gillberg, C.G., Forsberg, H., Westerberg, H. (2005). Computerized training of working memory in children with ADHD – a randomized, controlled trial. *Journal of the American Academy of Child and Adolescent Psychiatry, 44*, 177-186.