

COMPREHENSIVE EXAM READING LIST: SKILL ACQUISITION & EXPERTISE

Current Committee Members

Zach Hambrick (chair), Kimberly Fenn, Karl Healey

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*
- *Journal of Expertise*

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.
6. Logan, G. D. (2018). Automatic control: How experts act without thinking. *Psychological Review*, 125, 453-485.

Knowledge-Based Theories

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

Psychometric Theories

12. Fleishman, E. A. (1972). On the relation between abilities, learning, and human performance. *American Psychologist*, *27*, 1017-1032.
13. Ackerman, P. L. (1988). Determinants of individual differences during skill acquisition: Cognitive abilities and information processing. *Journal of Experimental Psychology: General*, *117*, 288-318.
14. Ackerman, P. L., & Beier, M. E. (2018). Methods for studying the structure of expertise: Psychometric approaches. In K. A. Ericsson et al. (Eds.), *The Cambridge Handbook of Expertise and Expert Performance* (2nd Ed.). New York: Cambridge.

Training and Practice

15. 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.
16. Anderson, J., Fincham, J., & Douglass, S. (1999). Practice and retention: A unifying analysis. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *25*, 1120–1136.

Transfer of Training and Knowledge

17. Singley, M. K., & Anderson, J. R. (1989). The transfer of cognitive skill. Cambridge, MA: Harvard Press. (Chapters 1-2)
18. 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.
19. Gick, M. L., & Holyoak, K. J., (1980). Analogical problem solving. *Cognitive Psychology*, *12*, 306-355.
20. Ford, J. K. (1997). Transfer of training: An updated review and analysis. *Performance Improvement Quarterly*, *10*, 22-41.

Training Working Memory and Attention

21. Melby-Lervåg, M., Redick, T. S., & Hulme, C. (2016). Working memory training does not improve performance on measures of intelligence or other measures of “far transfer”: Evidence from a meta-analytic review. *Perspectives on Psychological Science*, *11*, 512-534.
22. Simons, D., et al. (2016). Does “brain training” work? *Psychological Science in the Public Interest*.
23. Redick, T. S., Shipstead, Z., Harrison, T. L., Hicks, K. L., Fried, D., Hambrick, D. Z., Kane, M. J., & Engle, R. W. (2013). No evidence of intelligence improvement after working memory training: A randomized, placebo-controlled study. *Journal of Experimental Psychology: General*, *142*, 359.
24. Jaeggi, S. M., Buschkeuhl, M., Jonides, J., & Perrig, W. J. (2008). Improving fluid intelligence with training on working memory. *Proceedings of the National Academy of Sciences*, *105*, 6829-6833.

Skill Consolidation

25. Pan, S.C. & Rickard, T.C. (2015). Sleep and Motor Learning: Is There Room for Consolidation? *Psychological Bulletin* *141*(4). 812-834.
26. King, B.R., Saucier, P., Albouy, G., Fogel, S.M., Rumpf, J-J., Klann, J., Buccino, G., Binkofski,

F., Classen, J., Karni, A., Doyen, J. (2017). Cerebral Activation During Initial Motor Learning Forecasts Subsequent Sleep-Facilitated Memory Consolidation in Older Adults. *Cerebral Cortex*, 27(2), 1588-1601.

When Skill Breaks Down

Divided Attention and Multitasking

27. Norman, D. A., & Bobrow, D. J. (1975). On data-limited and resource-limited processes. *Cognitive Psychology*, 7, 44-64.
28. Wickens, C. D. (1980). The structure of attentional resources. In R. S. Nickerson (Ed.), *Attention and Performance VIII*. (pp. 239-257). Hillsdale, NJ: Erlbaum.
29. Navon, D. (1984). Resources—a theoretical soupstone? *Psychological Review*, 91, 216-234.
30. 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.
31. 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.
32. Watson, J.M., & Strayer, D.L. (2010). Supertaskers: Profiles in extraordinary multi-tasking ability. *Psychonomic Bulletin & Review*, 17, 475-489.
33. Koch, I., Poljac, E., Müller, H., & Kiesel, A. (2018). Cognitive structure, flexibility, and plasticity in human multitasking—An integrative review of dual-task and task-switching research. *Psychological Bulletin*, 144(6), 557-583.

Choking Under Pressure

34. Carr, T. H. (2015). Strengths and weaknesses of reflection as a guide to action: Pressure assails performance in multiple ways. *Phenomenology and the Cognitive Sciences*, 14, 227-252.
35. DeCaro, M. S., Thomas, R. D., Albert, N. B. (2011). Choking under pressure: Multiple routes to skill failure. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 140, 390-406.
36. 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.
37. 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

38. 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.
39. Olesen, P. J., Westerberg, H., & Klingberg, T. (2004). Increased prefrontal and parietal activity after training of working memory. *Nature Neuroscience*, 7, 75-79.
40. 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

41. 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.
42. Bilalic, M. (2018). The double take of expertise: Neural expansion is associated with outstanding performance. *Current Directions in Psychological Science*, 27, 462-469.

Expert Performance

Deliberate Practice View

43. 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.
44. Gobet, F., & Campitelli, G. (2007). The role of domain-specific practice, handedness and starting age in chess. *Developmental Psychology*, 43, 159-172.
45. Hambrick, D. Z., Oswald, F. L., Altmann, E. M., Meinz, E. J., Gobet, F., Campitelli, G. (2014). Deliberate practice: Is that all it takes to become an expert? *Intelligence*, 45, 34-45.
46. Ericsson, K. A. (2014). Expert performance is special and cannot be extrapolated from studies of individual differences in the normal population: A response to criticisms. *Intelligence*, 45, 81-103.
47. Hambrick, D. Z., Macnamara, B. N., Campitelli, G., Ullén, F., Mosing, M. A. (2016). Beyond born versus made: A new look at expertise. *Psychology of Learning and Motivation*, 64, 1-55.

Giftedness/Talent

48. McCabe, K. O., Lubinski, D., & Benbow, C. P. (2019). Who shines the brightest? A 25-year longitudinal study of elite STEM graduate students. *Journal of Personality and Social Psychology*.
49. Howe, M. J., Davidson, J. W., & Sloboda, J. A. (1998). Innate talents: reality or myth? *Behavioral and Brain Sciences*, 21, 399-407. (And Comments)
50. Lubinski, D., Benbow, C. P., Webb, R. M., & Bleske-Rechek, A. (2006). Tracking exceptional human capital over two decades. *Psychological Science*, 17, 194-199.
51. Simonton, D. K. (1999). Talent and its development: An emergenic and epigenetic model. *Psychological Review*, 106, 435-457.

Skill and Aging

Adulthood

52. Salthouse, T. A. (1984). Effects of age and skill in typing. *Journal of Experimental Psychology: General*, 13, 345-371.
53. 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.
54. Backman, L., & Dixon, R. A. (1992). Psychological compensation: A theoretical framework. *Psychological Bulletin*, 112, 259-283.
55. 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.

56. Lustig, C., Hasher, L., & Zacks, R. T. (2007). Inhibitory deficit theory: Recent developments in a "new view". In D. S. Gorfein & C. M. MacLeod (Eds.), *The place of inhibition in cognition* (pp. 145-162). Washington, DC: American Psychological Association.

Childhood

57. Gobbo, C., & Chi, M. (1986). How knowledge is structured and used by expert and novice children.

Cognitive Development, 1, 221-237.

58. Chi, M. T. H. (1983). Network representation of a child's dinosaur knowledge. *Developmental Psychology*, 19, 29-39.

59. 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.

60. Klingberg, T., Fernell, E., Olesen, P., Johnson, M., Gustafsson, P., Dahlström, K., Gillberg, C.G., Forssberg, 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.