

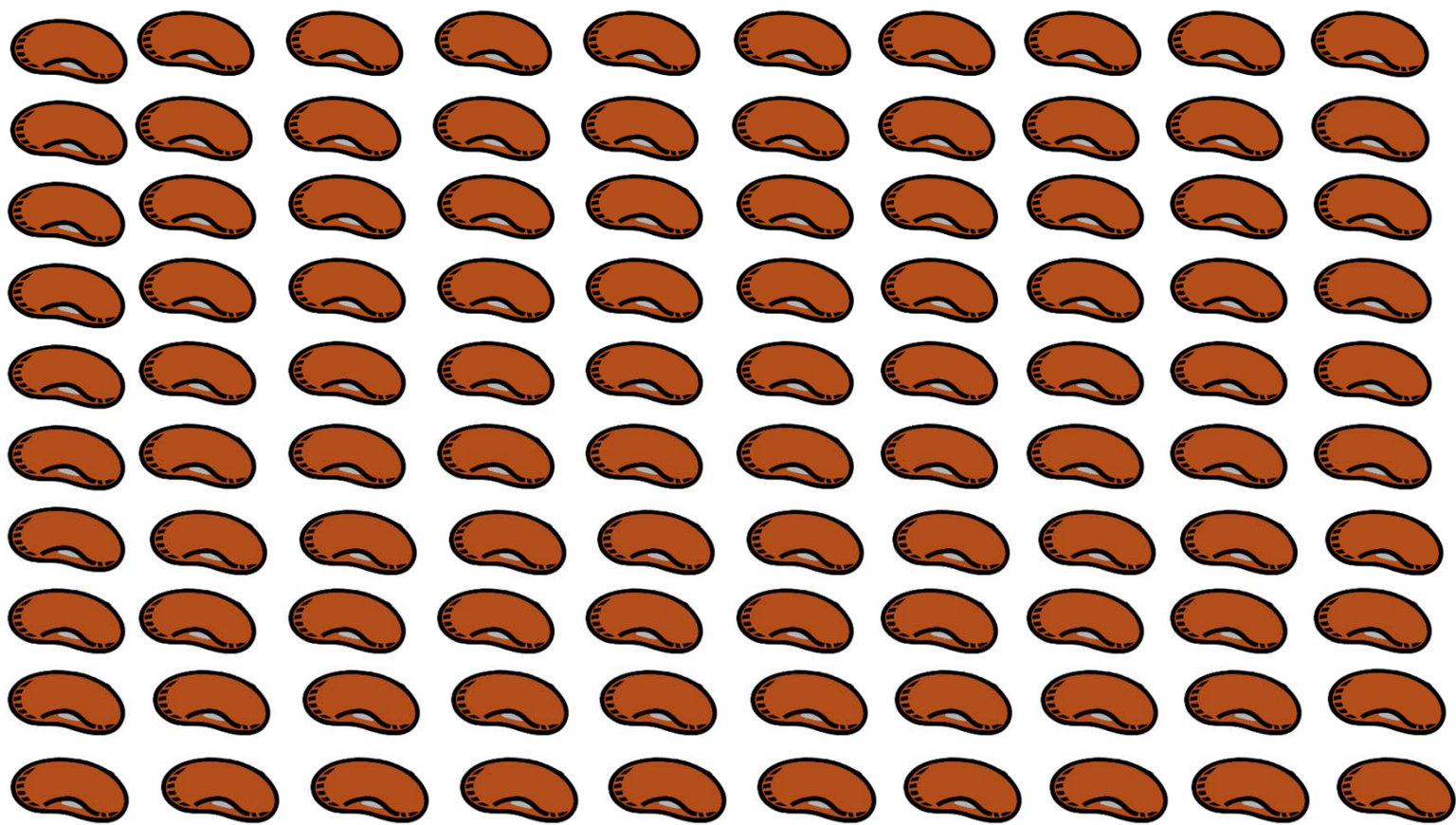
# **4-2: No need for genius envy – the imposter syndrome**

By Barbara Oakley, PhD

Make sure I'm not tense. Whip the wrists forward.  
Good plate coverage. Square stance. Focus on ball's  
delivery location. When coiling, move back before  
moving forward.  
Perform stride before  
the swing. Drive swing  
with legs and hips.

Yeah--that'll make me  
a good player...



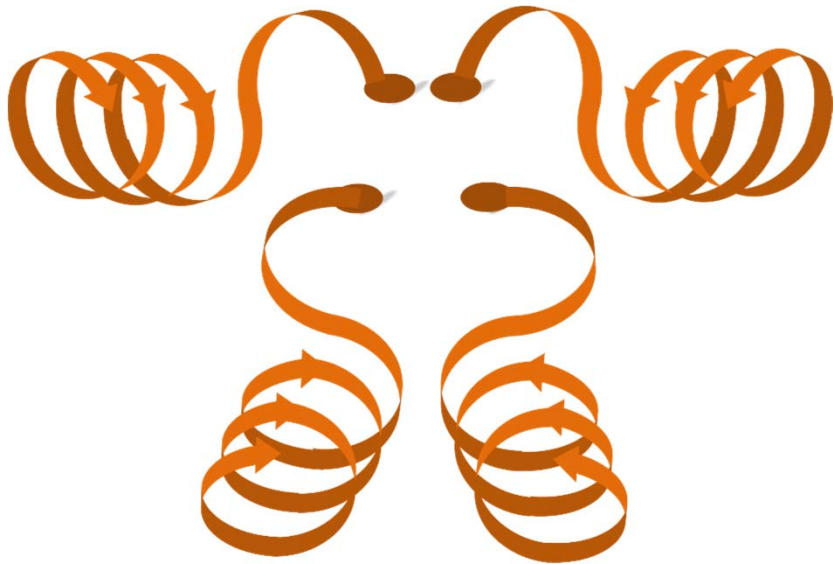




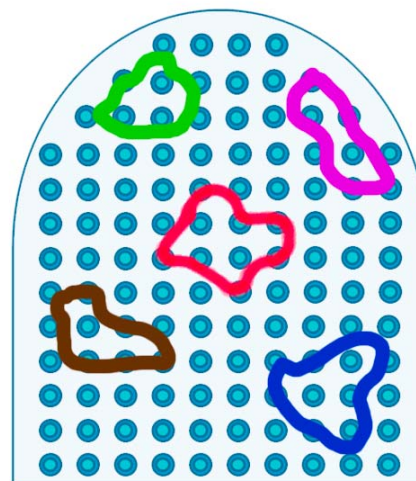
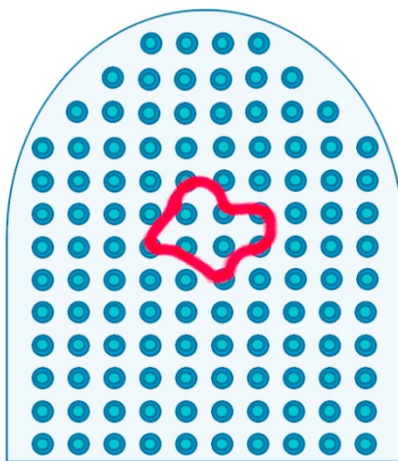
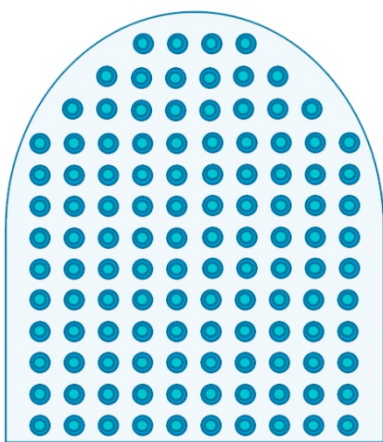
$$10^4 \times 10^5 = 10^9$$



## Einstellung

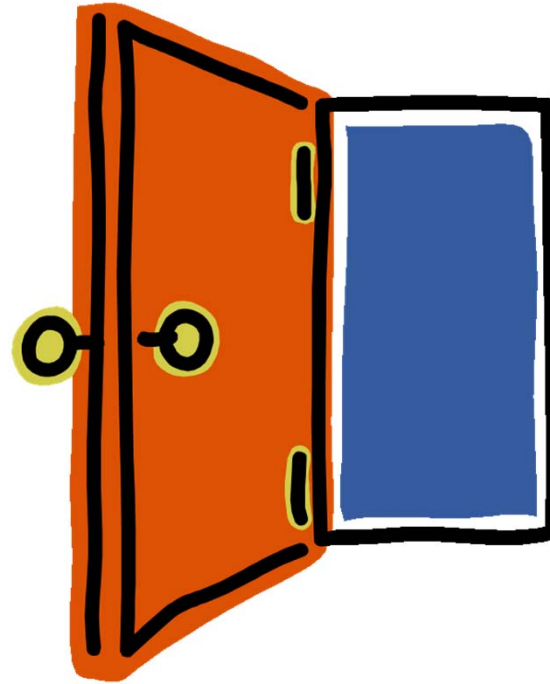
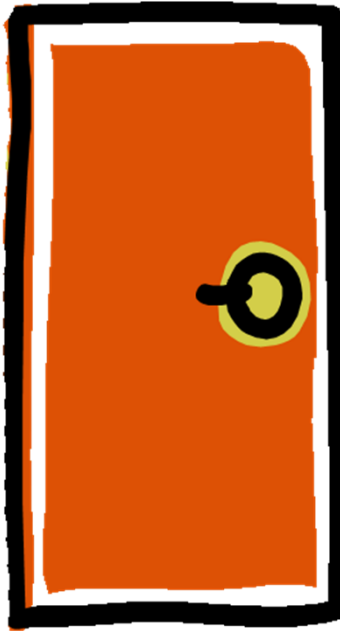








- Imposter syndrome



## Illustration credits

- Zombie baseball player, ©Kevin Mendez, 2014.
- Garry Kasparov 1980 Malta, by GFHund,  
[http://en.wikipedia.org/wiki/Garry\\_Kasparov#mediaviewer/File:Garry\\_Kasparov\\_1980\\_Malta.jpg](http://en.wikipedia.org/wiki/Garry_Kasparov#mediaviewer/File:Garry_Kasparov_1980_Malta.jpg)
- Neural chunked ribbons, ©Barbara Oakley, 2014.
- Neural pinball, ©Barbara Oakley, 2014.
- Clip art courtesy Microsoft Corporation.

### Relevant readings

- Amidzic, Ognjen, Hartmut J. Riehle, and Thomas Elbert. "Toward a Psychophysiology of Expertise." *Journal of Psychophysiology* 20, no. 4 (2006): 253-58.
- Beilock, Sian. *Choke*. NY: Free Press, 2010.
- Bilalic, M., P. McLeod, and F. Gobet. "Inflexibility of Experts--Reality or Myth? Quantifying the Einstellung Effect in Chess Masters." [In eng]. *Cognitive Psychology* 56, no. 2 (Mar 2008): 73-102.
- Bilalić, Merim , Robert Langner, Michael Erb, and Wolfgang Grodd. "Mechanisms and Neural Basis of Object and Pattern Recognition: A Study with Chess Experts." *Journal of Experimental Psychology: General* 139, no. 4 (2010): 728-42.
- Bilalić, Merim , P. McLeod, and F. Gobet. "Why Good Thoughts Block Better Ones: The Mechanism of the Pernicious Einstellung (Set) Effect." *Cognition* 108, no. 3 (Sep 2008): 652-61.
- Bilalić, Merim, A. Kiesel, C. Pohl, M. Erb, and W. Grodd. "It Takes Two—Skilled Recognition of Objects Engages Lateral Areas in Both Hemispheres." [In eng]. *PLoS ONE* 6, no. 1 (2011): e16202.
- Bilalić, Merim, Peter McLeod, and Fernand Gobet. "Does Chess Need Intelligence? — a Study with Young Chess Players." *Intelligence* 35, no. 5 (2007): 457-70.
- Carson, Shelley H, Jordan B Peterson, and Daniel M Higgins. "Decreased Latent Inhibition Is Associated with Increased Creative Achievement in High-Functioning Individuals." *Journal of Personality and Social Psychology* 85, no. 3 (2003): 499-506.
- Chase, W.G., and H.A. Simon. "Perception in Chess." *Cognitive Psychology* 4, no. 1 (1973): 55-81.
- Ericsson, Karl Anders. *Development of Professional Expertise*. NY: Cambridge University Press, 2009.
- Felder, R. "Impostors Everywhere." *Chemical Engineering Education* 22, no. 4 (1988): 168-69.
- Gobet, F., and N. Charness, eds. *Chess and Games*. edited by K. Anders Ericsson, Neil Charness, Paul Feltovich and Robert R. Hoffman, Cambridge Handbook on Expertise and Expert Performance: Cambridge University Press, 2006.
- Gobet, F., and G. Clarkson. "Chunks in Expert Memory: Evidence for the Magical Number Four... or Is It Two?". *Memory* 12, no. 6 (2004): 732-47.
- Gobet, F., P.C.R. Lane, S. Croker, P.C.H. Cheng, G. Jones, I. Oliver, and J.M. Pine. "Chunking Mechanisms in Human Learning." *Trends in Cognitive Sciences* 5, no. 6 (2001): 236-43.
- Gobet, Fernand. "Chunking Models of Expertise: Implications for Education." *Applied Cognitive Psychology* 19, no. 2 (2005): 183-204.
- Guida, A., F. Gobet, H. Tardieu, and S. Nicolas. "How Chunks, Long-Term Working Memory and Templates Offer a Cognitive Explanation for Neuroimaging Data on Expertise Acquisition: A Two-Stage Framework." *Brain and Cognition* 79, no. 3 (Aug 2012): 221-44.
- Klein, G. *Sources of Power*. Cambridge, MA: MIT Press, 1999.
- Klein, HA, and GA Klein. "Perceptual/Cognitive Analysis of Proficient Cardio-Pulmonary Resuscitation (Cpr) Performance." Paper presented at the Midwestern Psychological Association Conference, Detroit, MI, 1981.
- Linhares, Alexandre, and Anna Elizabeth T. A. Freitas. "Questioning Chase and Simon's (1973) "Perception in Chess": The "Experience Recognition" Hypothesis." *New ideas in psychology* 28, no. 1 (2010): 64-78.
- Partnoy, F. *Wait*. NY: PublicAffairs, 2012.
- Simon, H.A., and W.G. Chase. "Skill in Chess: Experiments with Chess-Playing Tasks and Computer Simulation of Skilled Performance Throw Light on Some Human Perceptual and Memory Processes." *American Scientist* 61, no. 4 (1973): 394-403.
- White, H.A., and P. Shah. "Uninhibited Imaginations: Creativity in Adults with Attention-Deficit/Hyperactivity Disorder." *Personality and Individual Differences* 40, no. 6 (2006): 1121-31.
- White, Holly A, and Priti Shah. "Creative Style and Achievement in Adults with Attention-Deficit/Hyperactivity Disorder." *Personality and Individual Differences* 50, no. 5 (2011): 673-77.