

MTAC – Santa Clara
Virtual presentation

13 March 2024

Musicians, the Brain, and Healthy Practicing

Lois Svard, DMA

More detailed information about the topics covered in the presentation as well as many other issues having to do with the brain and music can be found in my recent book, [The Musical Brain: what students, teachers, and performers need to know](#). See [“I’m back – with a new book”](#) for a description of the book as well as a discount coupon if you order from OUP. See below for a link to read a free chapter.

Further information about topics discussed in this presentation can also be found on my blog “The Musician’s Brain” at www.themusiciansbrain.com. Click on “The Musician’s Brain in the menu. Under “Categories” in the right-hand column, scroll down and click on **Neuroplasticity, Learning and memory, Memory, Practice, Music cognition, Sleep and Exercise**. There are many posts related to these topics.

And below are books, articles, videos and websites that I mentioned during the presentation, and some I didn’t mention but that may be of interest:

Videos

Flippy Cat. [Starry Night](#)

[Barry Douglas](#), winner of the 1986 Tchaikovsky Competition.

Nobuyuki Tsujii, blind pianist, winner of the 2009 Van Cliburn competition. [Chopin Etude in C Major, Op. 10](#)

Evelyn Glennie, profoundly deaf percussionist. TED 2003. Excellent discussion of how to listen with the entire body. [How to Truly Listen](#).

Articles

Allen, S. (2012). [Memory Stabilization and Enhancement Following Music Practice](#). *Psychology of Music*, 41(6), 794-803. This is the study at the University of Texas in

which students learned melodies at night, then went home to sleep and were tested in the morning.

Altenmüller, E. and Gruhn, W. 1997. [Music, the brain, and music learning](#). Chicago: GIA. A study concerning declarative and procedural teaching styles and how they activate different parts of the brain.

Cedernaes J. et. al. (2015). [Short Sleep Makes Declarative Memories Vulnerable to Stress in Humans](#). *Sleep*, 38(12), 1861-1868.

van Dongen, E.V., et. al. (2016). [Physical Exercise Performed Four Hours after Learning Improves Memory Retention and Increases Hippocampal Pattern Similarity during Retrieval](#). *Current Biology*, 26(13),1722-1727. We didn't have time to discuss exercise during the presentation, but it is invaluable for improving memory.

Parsons, L.M., et al. (2005). [The brain basis of piano performance](#), *Neuropsychologia*, 43(2):199-215. The image I showed of a pianist in a PET scanner playing the Bach Italian Concerto is from this study.

J. D. Wammes, M. E. Meade, and M. A. Fernandes, (2016). [The Drawing Effect: Evidence for Reliable and Robust Memory Benefits in Free Recall](#). *The Quarterly Journal of Experimental Psychology* 69 (9): 1752-76. This study concerns the benefits of drawing as a strategy for improving memory.

Books

Peter Brown, Henry Roediger, Mark McDaniel. 2014. [Make it Stick: the science of successful learning](#)

Benedict Carey. 2014. [How We Learn: the surprising truth about when, where, and why it happens](#)

Neither the Peter Brown nor Benedict Carey books are about music, but musicians can make use of the information. Both look at recent discoveries in cognitive psychology and other disciplines to show how much we think we know about learning is wrong. Both give techniques for more productive learning and memory.

Roger Chaffin, Gabriela Imreh, and Mary Crawford. 2012. [Practicing Perfection: Memory and Piano Performance](#). Part of a research series intended for both psychologists and musicians, this book details how an experienced pianist organizes practice, identifies stages in learning, characteristics of expert practice, and practice strategies.

Daniel Coyle. 2009. [The Talent Code: Greatness isn't Born, it's Grown. Here's How](#). This book is about extraordinary levels of talent, and how they occur. Coyle is really talking about the myelination of axons in the brain in plasticity, although he rarely mentions either term.

Kay S. Hooper. 2005. [Sensory Tune-ups: a guided journal of sensory experiences for performers of all ages.](#) The journal provides a guide for exploring and developing the kinesthetic, visual and auditory senses, to incorporate them more fully in learning and performing.

George Kochevitsky. 1967. [The Art of Piano Playing: a scientific approach.](#) Kochevitsky was the first to suggest that practicing at the piano is mainly practicing of the central nervous system – the brain and spinal cord. Science has advanced since the publication of this book, but his premise is right.

Daniel Levitin. 2006. [This is Your Brain on Music: the science of a human obsession.](#) The best-selling book about how we experience music and why it plays such a unique role in our lives.

Julie Jaffee Nagel. <http://julienagel.net/> Nagel has two degrees in piano from Juilliard and a PhD in psychology from the Univ. of Michigan. In her clinical practice, she works with musicians suffering from performance anxiety as well as other issues. Her book, [Managing Stage Fright: a guide for musicians and music teachers,](#) is an invaluable resource for teachers who want to know how to help their students address performance anxiety. You can also access her blog on performance anxiety through her website.

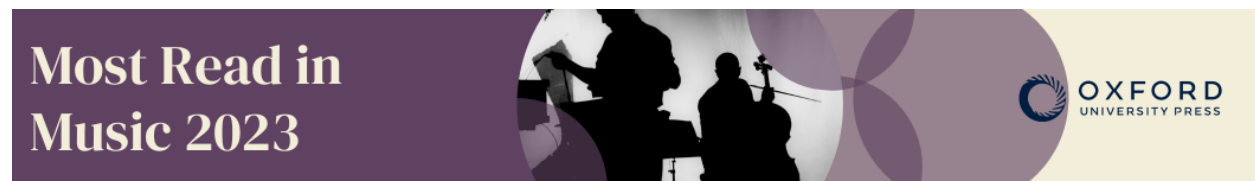
Richard Parncutt and Gary McPherson, Eds. 2002. [The Science & Psychology of Music Performance: Creative strategies for teaching and learning.](#) Each chapter is written by a scientist and a musician. Covers a variety of issues, from performance anxiety to brain mechanisms for music to issues having to do with various instruments.

Rebecca Shockley. 1997. [Mapping Music: for faster learning and secure memory.](#) Written for piano teachers and students, but the ideas apply to any musician.

Lois Svard. 2023. [The Musical Brain: what students, teachers, and performers need to know.](#) New York: Oxford University Press.

Matthew Walker. 2017. [Why We Sleep: Unlocking the Power of Sleep and Dreams.](#)

See also:



Collection: <https://academic.oup.com/pages/most-read-in-music-2023>

Includes Lois Svard *The Musical Brain*



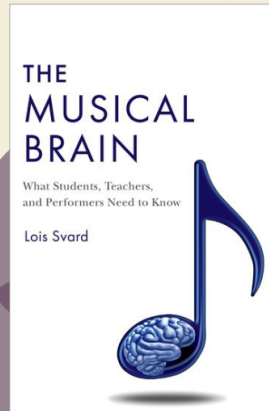
Does Music Really Make You Smarter?

From *The Musical Brain: What Students, Teachers, and Performers Need to Know*

by Lois Svard



READ FREE CHAPTER



Free Chapter (free until end of March): <https://academic.oup.com/book/45551/chapter/394681783>