

Concerns About (and Tips for) Speaking About Neuroscience



Many coaches and trainers are finding that they want to bring neuroscience into their practices, either as a way to enroll individuals or organizations or as a methodology in coaching or organizational work. Here's some important context and background, as well as a few tips for doing this credibly and well.

- 1. Neuroscience is a fairly new and evolving field.** The field itself was officially “born” in 1964, with the first freestanding department of neuroscience at the University of California, Irvine (Harvard followed a couple of years later). As technology develops and improves, and as we have more experimental data, things we once thought we “knew” about the brain are becoming more finely tuned and even changing in fundamental ways.

2. **Scientific experiments often have an agenda.** Sad to say, because we tend to think of science as the pursuit of pure knowledge and truth. But there are agendas we need to be aware of, and these agendas can create what is known as “the file drawer problem.” That is, research that does not validate what the researchers are looking for ends up in the file drawer. For example, if fifty studies say anti-depressants don’t work any better than placebos, with 10 saying they do, the fifty can end up shelved while the ten get published.
3. **There is a huge “replication issue” in science.** The scientific community knows this well, but it is not as well-known by the general population. That is, many new “discoveries” about the brain (and this is true in other areas of science as well) may or may not be able to be replicated by other researchers. And, distressingly, often they simply aren’t. Part of the issue with this is that it is *much* easier to get funded and published when you are the first to discover something, and harder (and much less sexy) to be the one who says, yeah, she was right or wrong, the brain does/doesn’t work that way. Also see point #2 about the agenda.
4. **The brain is a system.** It’s harder and much more complex to speak about the brain as a system than it is to say this or that area “does” this or that. However, as we learn more and more about how things work, this awareness is becoming more and more core to our understanding. Specific areas of the brain may or may not participate in certain responses, depending on the person and the circumstances.

THEREFORE what do we do?

1. **Use caveats and modifiers in your speech.** Practice saying things like:
 - There is *some* evidence for.....
 - This brain area may participate in.....
 - There are *some* studies indicating.....
 - This area *may* be activated when.....
2. **Be suspicious of people who don’t use modifiers when speaking about the brain.** Anyone who speaks in absolutes (for example, saying something like “the amygdala is **the** emotional center of the brain”) may not be up to date on the current research and thinking about the brain. If you have been accustomed to speaking this way, see point #1 above!
3. **If speaking about neuroscience is key in your practice, be sure to stay up to speed on current developments.** This means both doing your best to track what is happening in the neuroscience world (this is almost impossible, by the way, because it such an evolving field) and double-checking current research before you speak about or present a key concept.

Here are some generally accurate and accessible resources you can follow that will help you stay clued in:

- Neuroscience News (www.neurosciencenews.com)
- Scientific American MIND (www.scientificamerican.com)
- Mind Hacks (www.mindhacks.com)
- Discover Magazine Neuroskeptic (<https://www.discovermagazine.com/blog/neuroskeptic>)

Another excellent idea is to use the search engine Google Scholar (<https://scholar.google.com>) instead of your regular search engine. Google Scholar will pull up the actual research studies rather than popular articles. When exploring these studies, here are a few things to look for:

- How recent is the study? Generally (but not always) the more contemporary, the better.
- How many citations? This shows how reputable other researchers find this study. Of course, for newer research, this may be low, so again, this is not an absolute.
- What are the conclusions—what did the researchers find?
- If conclusion seems intuitively “off” given other things you know, who were the subjects, how was the research conducted? For example, lots of research is done on undergrads in universities. The brain is still developing at this age, so conclusions may be shaped by this fact without the researchers necessarily acknowledging it. Or the study may be been done on a very small sample or a certain population.

And finally, take everything with a grain of salt. Don't assume one study or expert's claim is THE truth in the area. It's often important for both credibility and true understanding to go layer deeper and search for both validating studies as well as if there is any refutation.