

H-126 Week 7: Memory

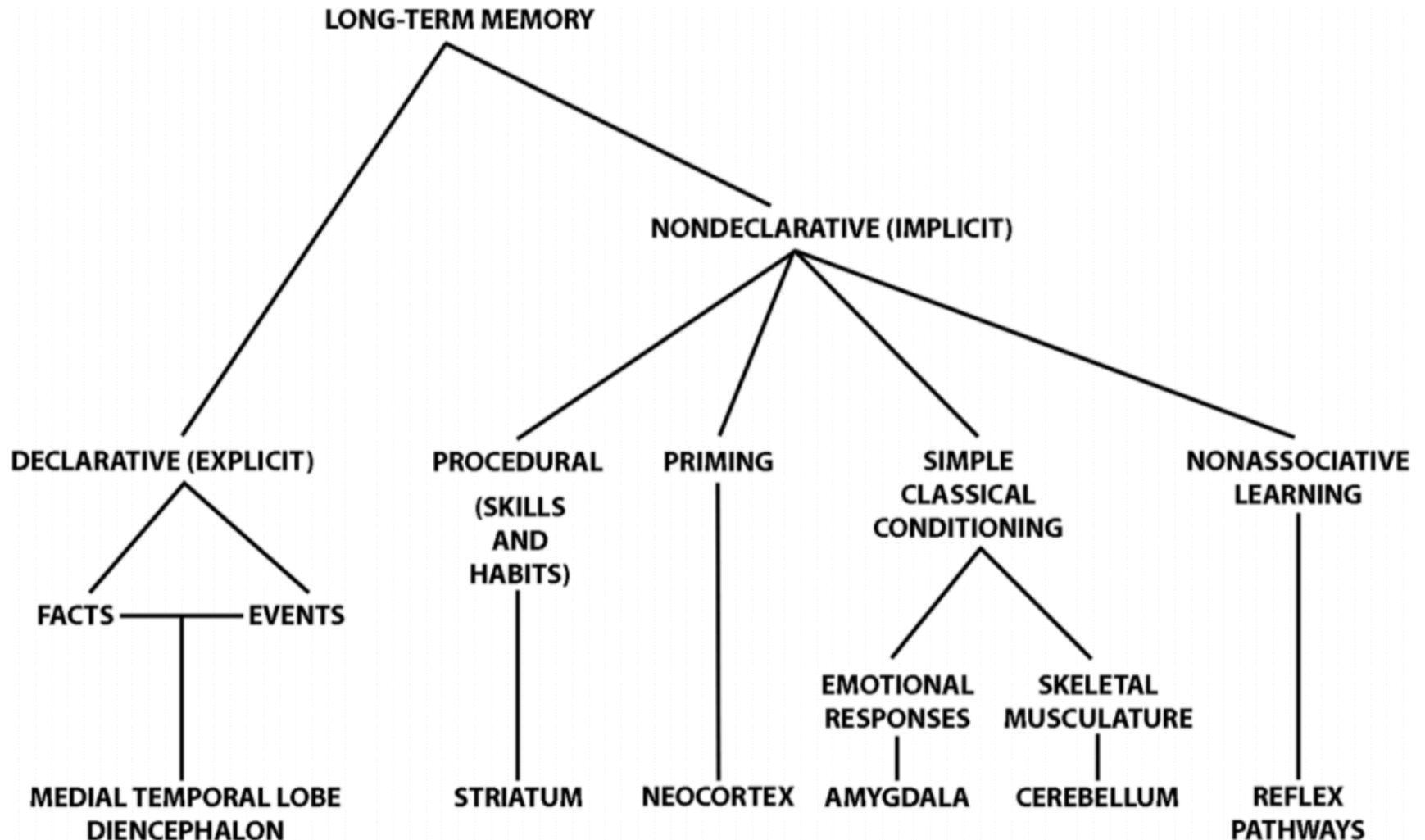
t day's Section



- Lecture Review (15 minutes)
- Small group activity (20 minutes)
- Neuromyths: Memory in the media (20 minutes)
- Questions (5 minutes)
 - for questions about the midterm, please email the TFs
 - Sara focused on Question 1
 - Rachel focused on Question 2
 - Lindsay focused on Question 3

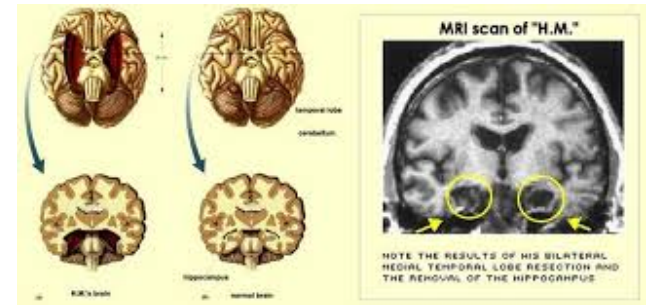
Lecture Review:

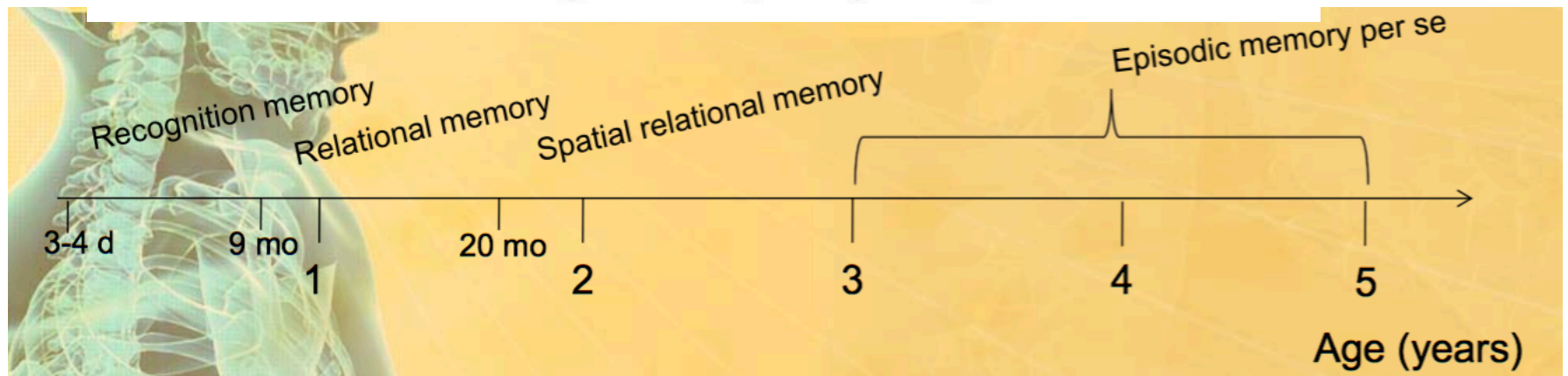
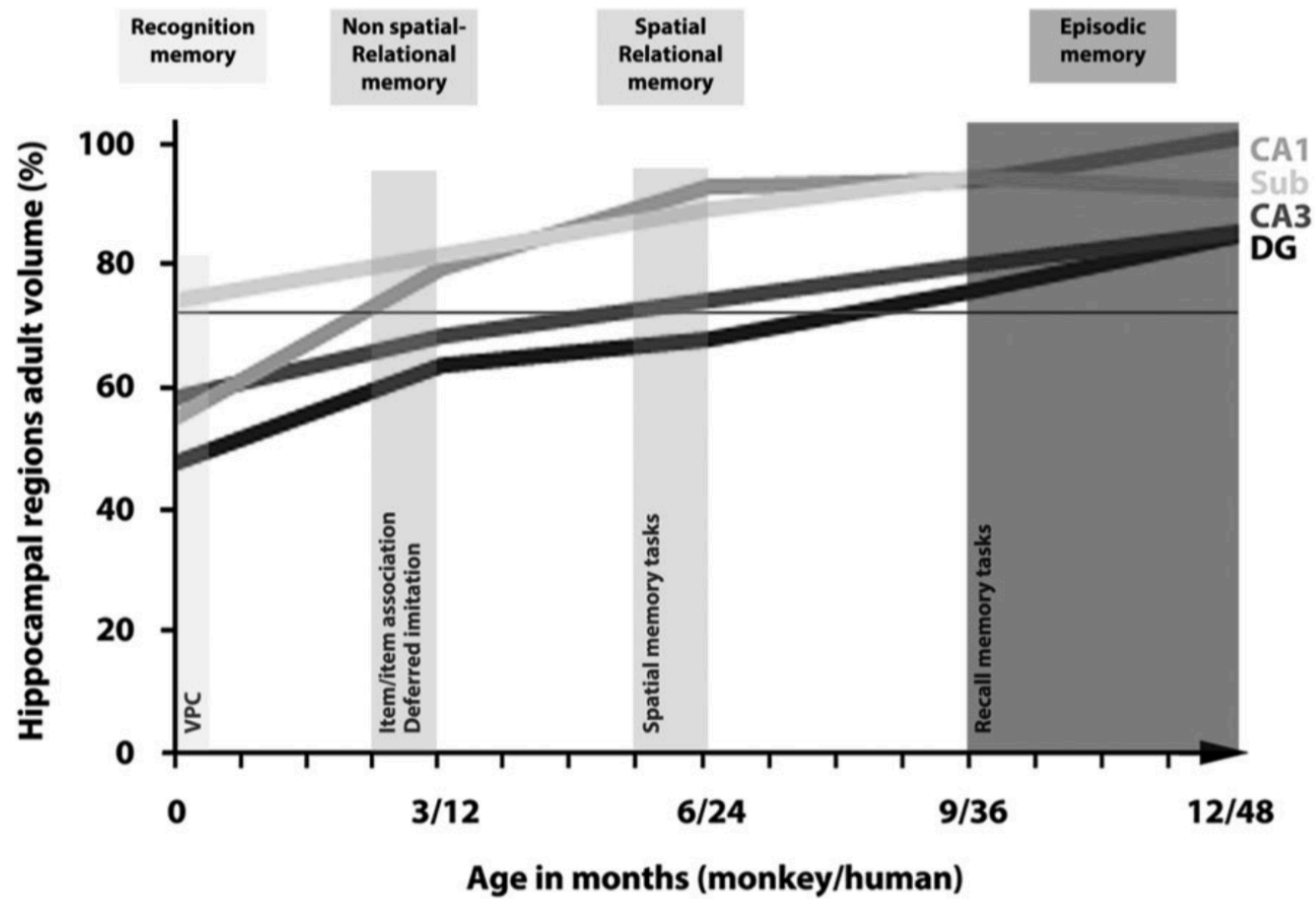
Memory Taxonomy



Lecture Review

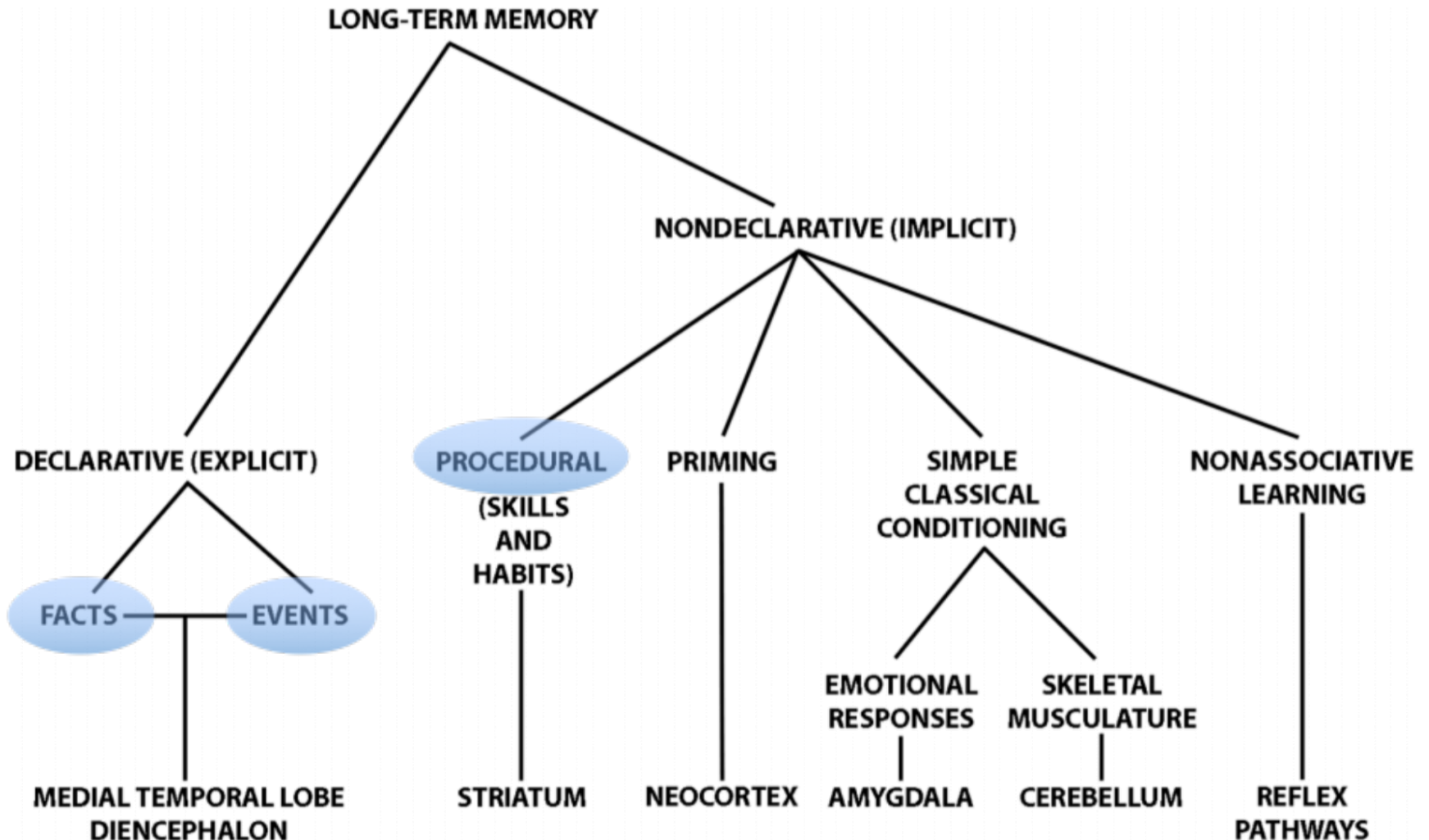
- Patients [H. M.](#) and [Clive Wearing](#)
 - What do these cases tell us about memory?
- What did we learn in lecture about memory development across the lifespan?
 - Specific findings?
 - Why can't you remember things that happened when you were 2 years old?
- What are some examples of memory impairments with prenatal or perinatal causes that we discussed in lecture?
- What is consolidation and how might it be relevant to education?





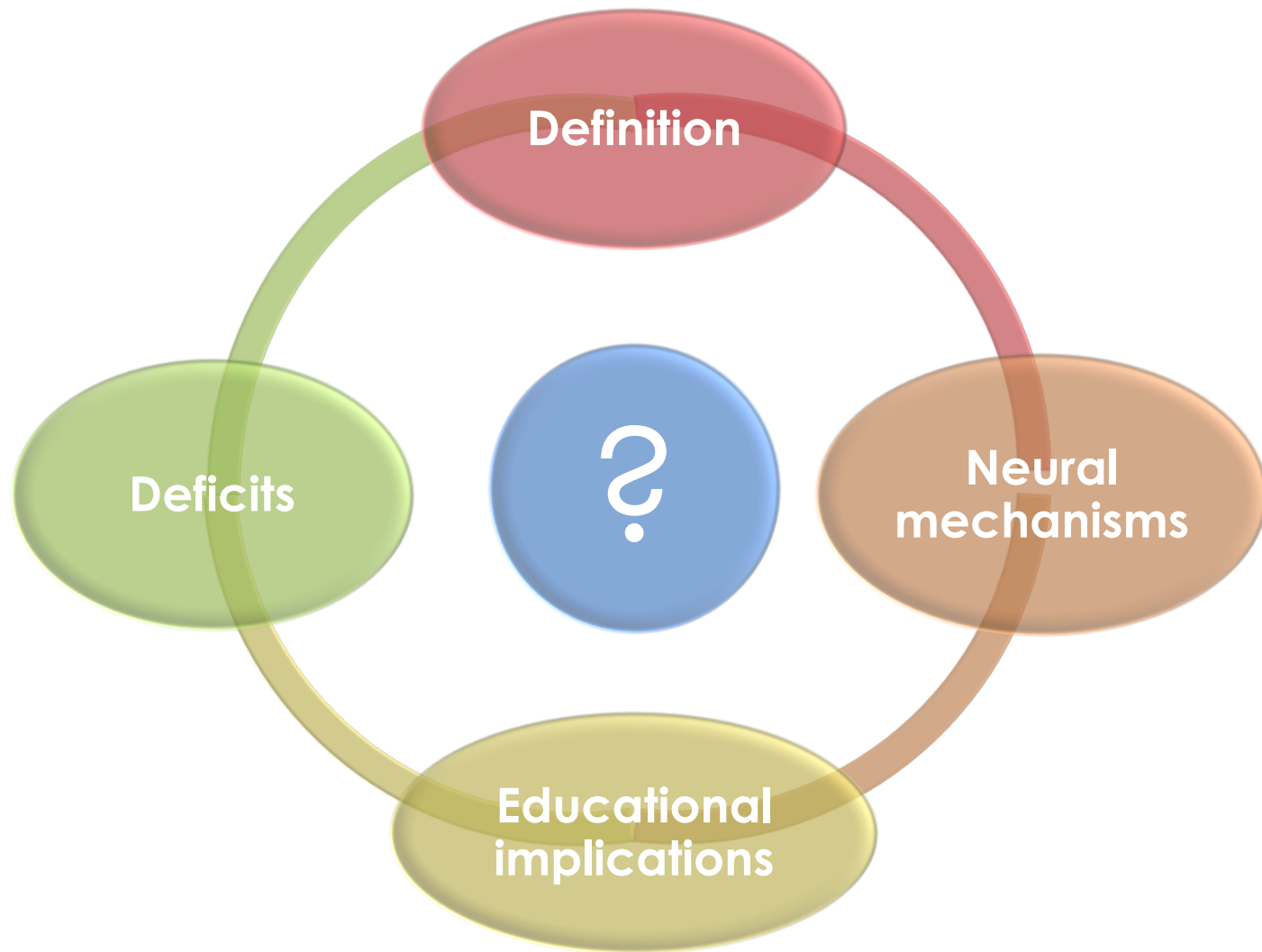
Lecture Review:

Memory Taxonomy



Small group activity:

semantic, episodic, and procedural memory



How accurate is *Inside Out*'s take on memory?



- Short clip [here](#)
- *What do you think?*
- Article discussing whether/how this film shows how memory actually works [here](#)

Neuromyths

- You only use 10% of your brain.
- Some people are right-brained & others are left-brained.
- Mirror neurons enable empathy, humanity.
- fMRI will be able to reveal the brain regions that make us who we are (e.g., happiness, personality...)



Neuromyths Challenge

- Take a few minutes for this quiz:
<https://testmybrain.org/launch/neuromyths.html>
- Relevance to educational neuroscience
- Macdonald, K., Germine, L., Anderson, A., Christodoulou, J., & McGrath, L.M. (2017). Dispelling the myth: Training in education or neuroscience decreases but does not eliminate beliefs in neuromyths. *Frontiers in Psychology*. DOI: [10.3389/fpsyg.2017.01314](https://doi.org/10.3389/fpsyg.2017.01314)
 - “These findings suggest that training in education and neuroscience can help reduce but does not eliminate belief in neuromyths.”
 - The two most commonly endorsed neuromyths across all groups were related to learning styles and dyslexia.

Questions?



References & Resources

H.M. video: <https://www.youtube.com/watch?v=gdzmNwTLakg>

Clive Wearing: <https://www.youtube.com/watch?v=Vwigmktix2Y>

Another neat story about memory loss and preserved musical skill:

- <http://www.hbo.com/alzheimers/memory-loss-tapes.html>
- The story of Woody (starts about 39 minutes in)

Principles from cog neuro represented in film:

- <http://www.neuropsychology.com/>

Debunking memory neuromyths that are portrayed in film:

- <http://www.psychologicalscience.org/index.php/publications/observer/2015/march-15/countering-neuromyths-in-the-movies-2.html>
- Baxendale, S. (2004). Memories aren't made of this: amnesia at the movies. *British Medical Journal*, 239(7480), 1480-1483.

If time...

Can Neuroimaging inform educational practice and policy in reading disorders?

- Can neuroscience inform a definition of dyslexia?
- Neurobiological support for existing theories?
- Can neuroimaging assist to determine the optimal window for intervention/Predicting intervention outcome?
- Can neuroimaging help to distinguishing genetic versus environmental factors that may inform interventions ?
- The knowledge about underlying mechanism may inform development of intervention strategies (especially in early childhood)
- Can neuroimaging help to characterize subtypes of reading disabilities?
- Can neuroimaging assist with determining school readiness?
- Which brain learns best under which circumstances?

(e.g. Ozernov-Palchik et al., 2016; Black et al., 2015)