



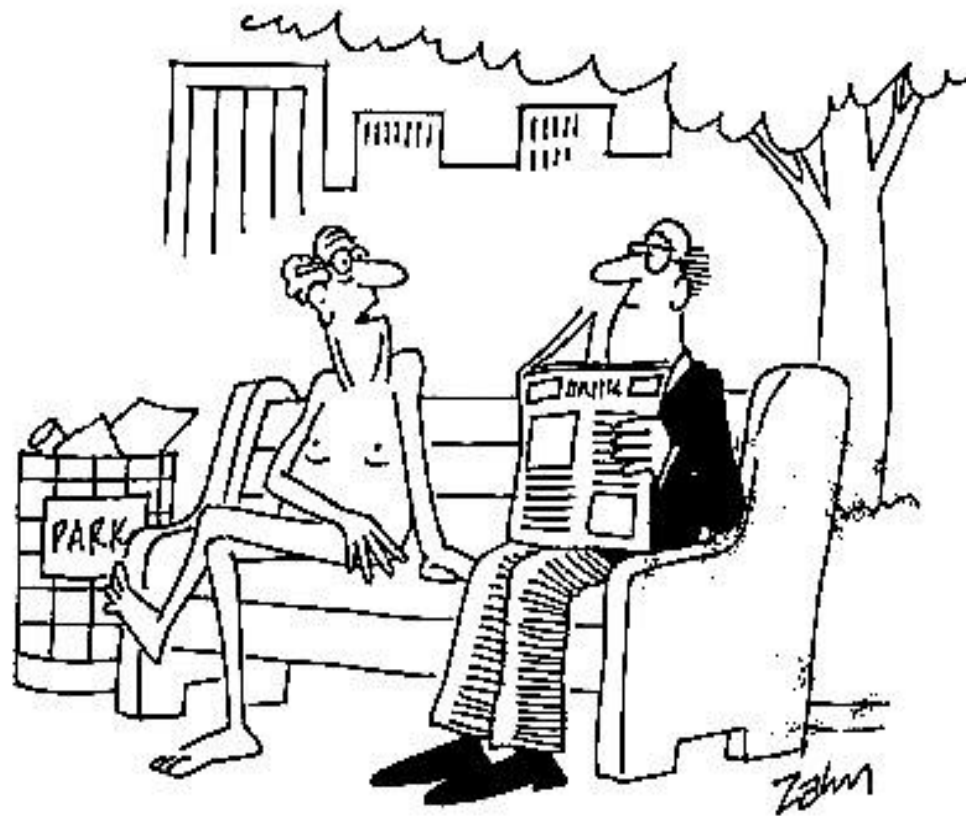
Improving the Mind with a Hop, Skip, and a Jump

Jing Chen

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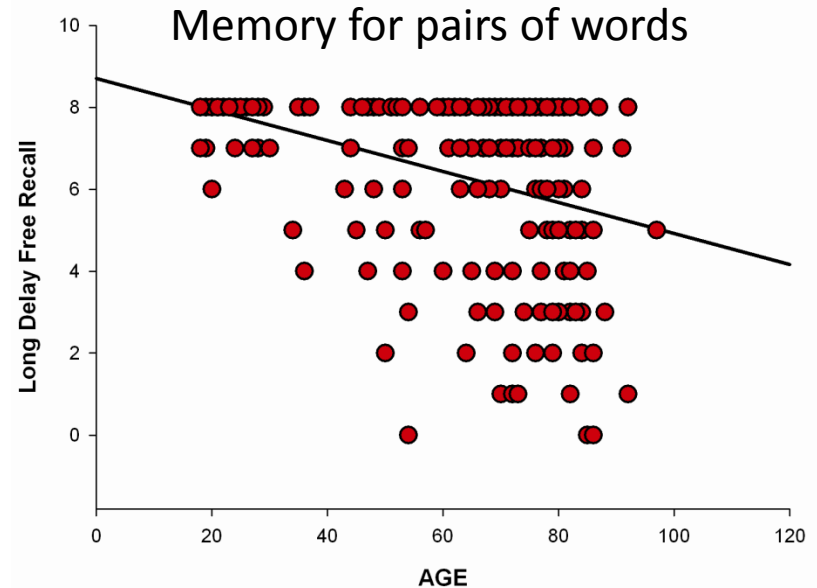
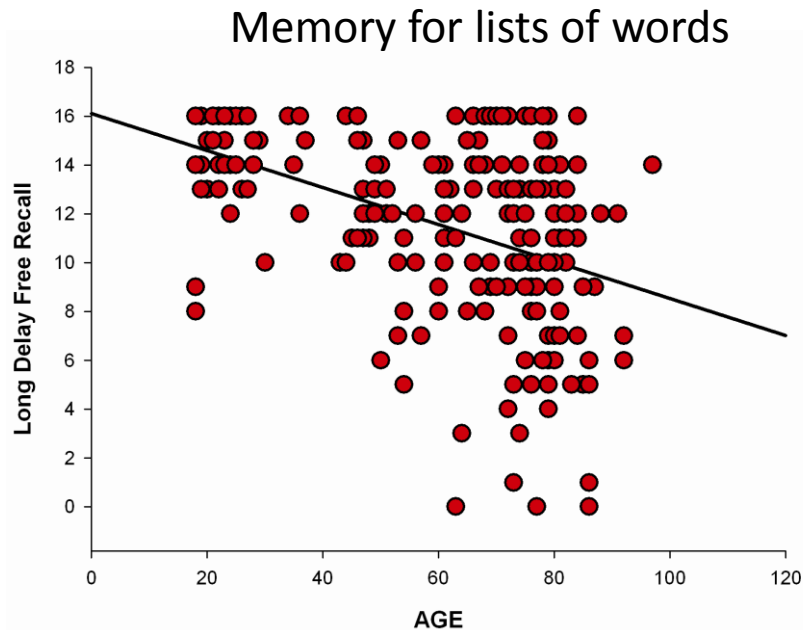
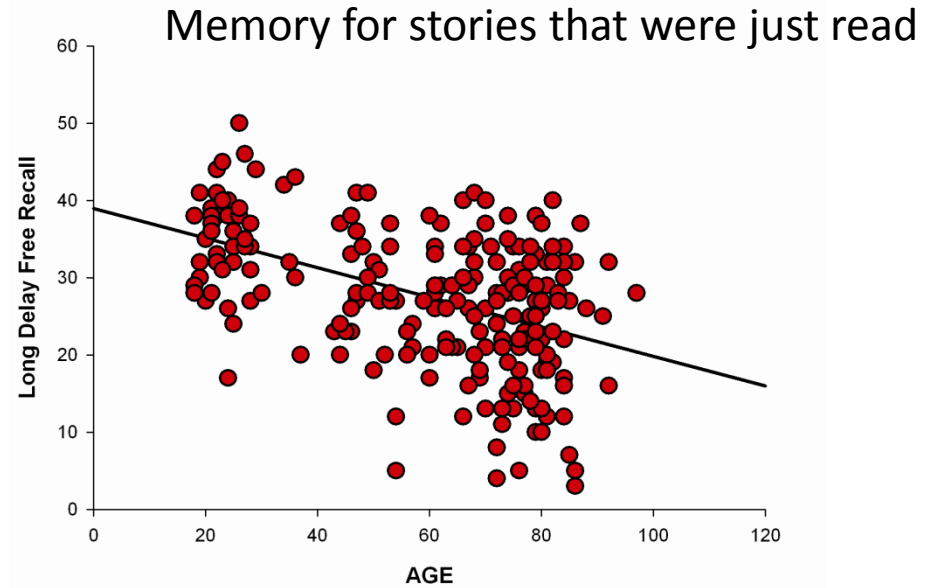
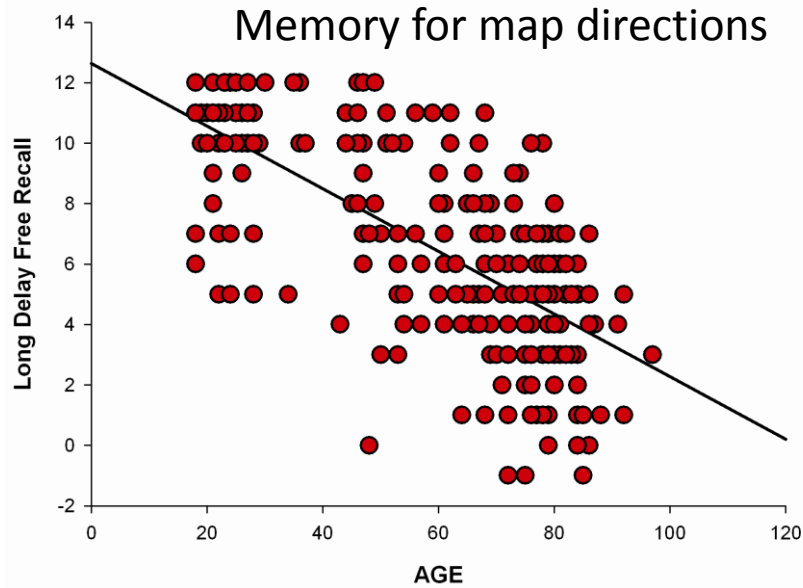
Part 1: What changes?



“Oh, getting old isn’t so bad, except for maybe a little forgetfulness.”

- Memory complaints are common among older adults (Galvin, 2005).
- Memory complaints is a major issue that are reported by those entering medical clinics for help (Galvin, 2005).

Age and Episodic Memory

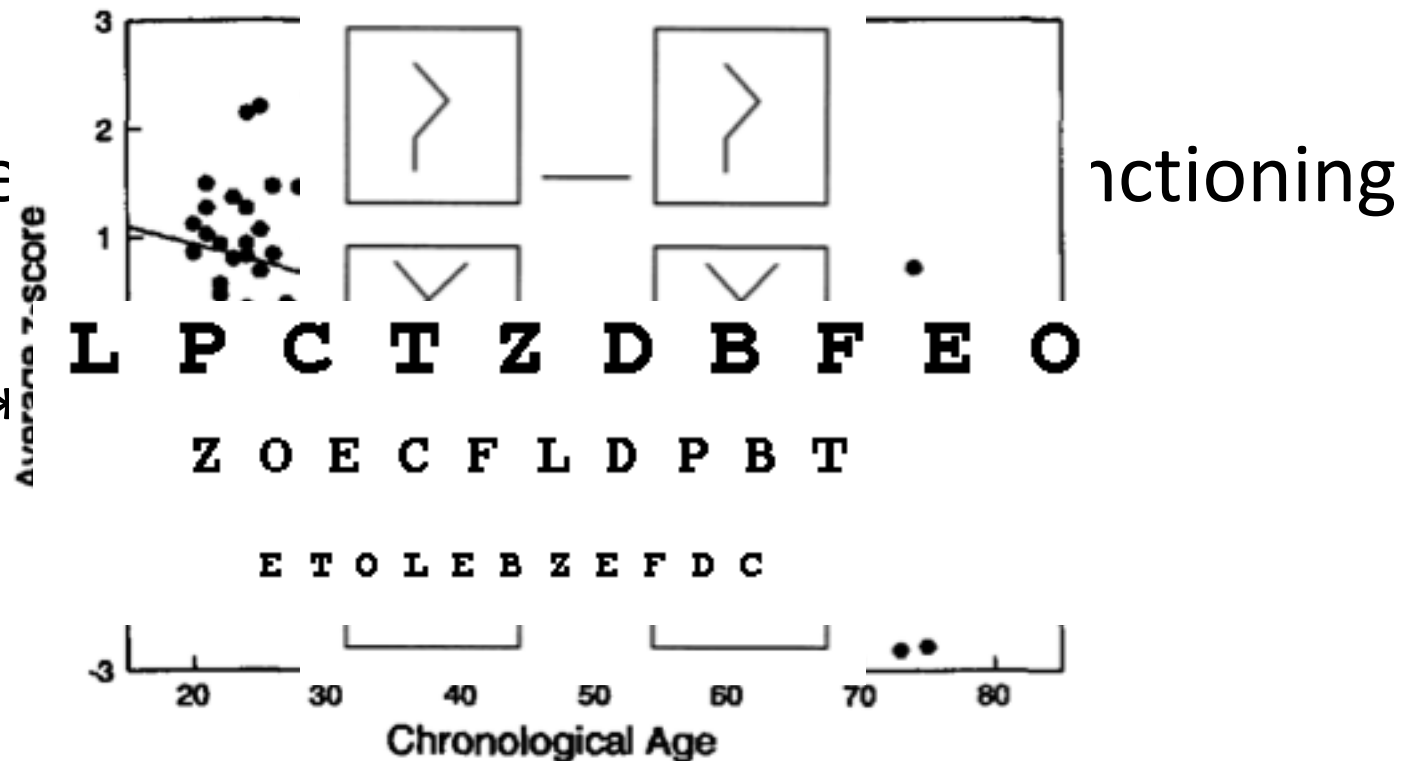


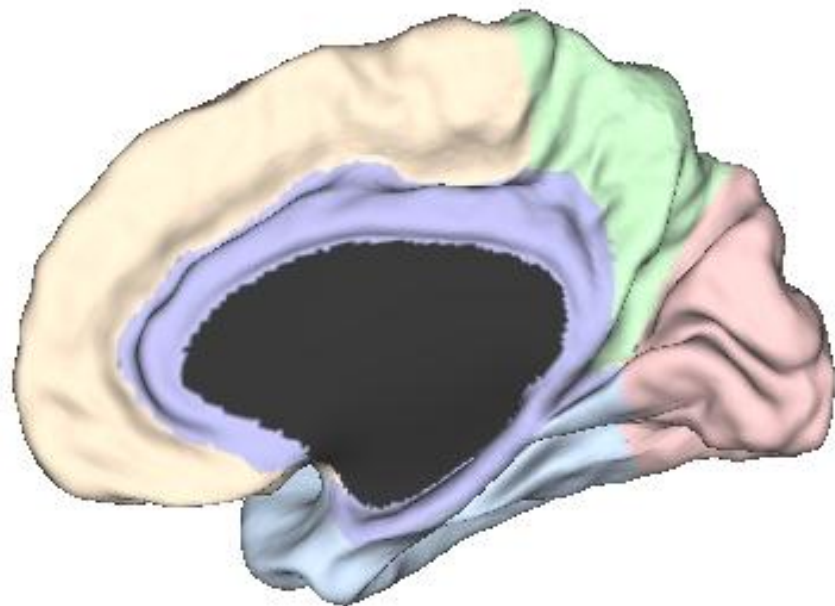
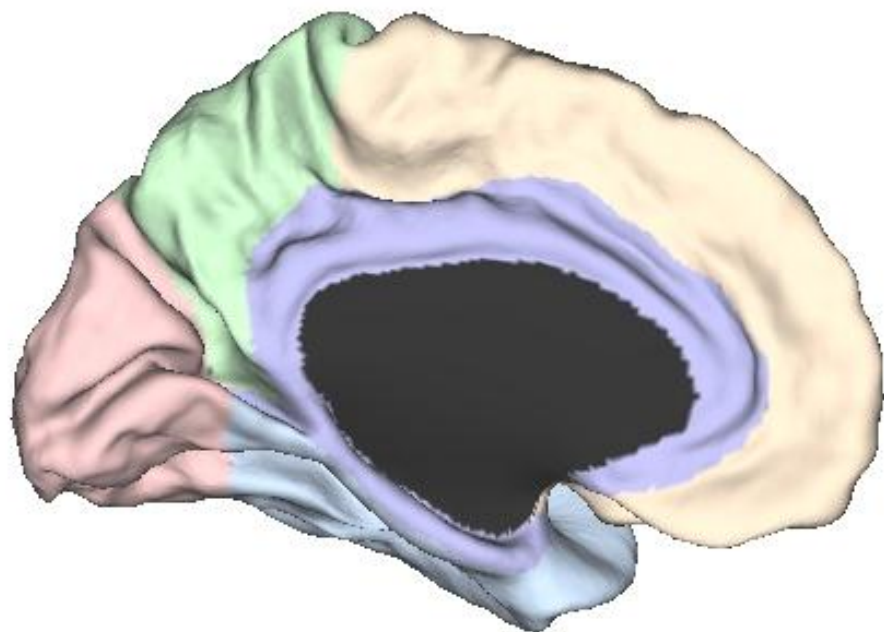
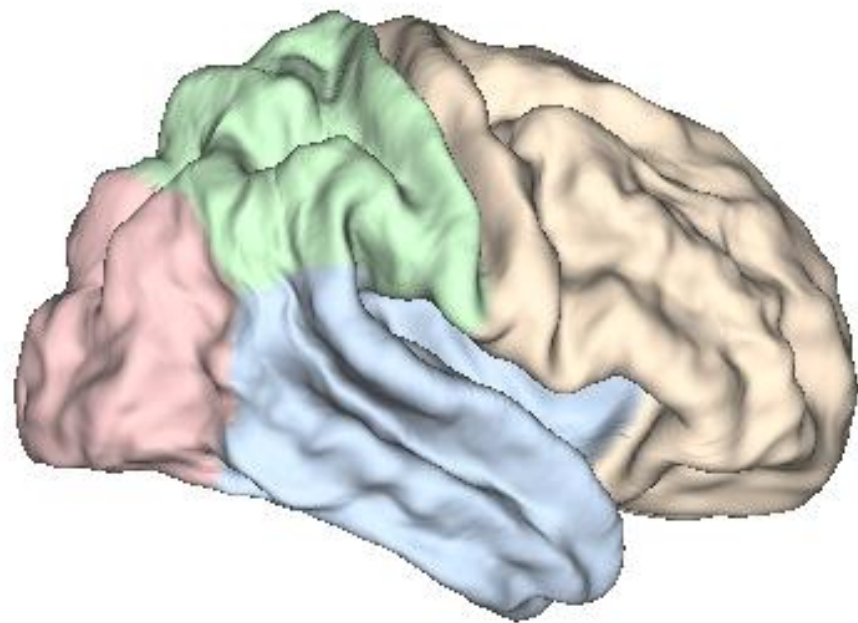
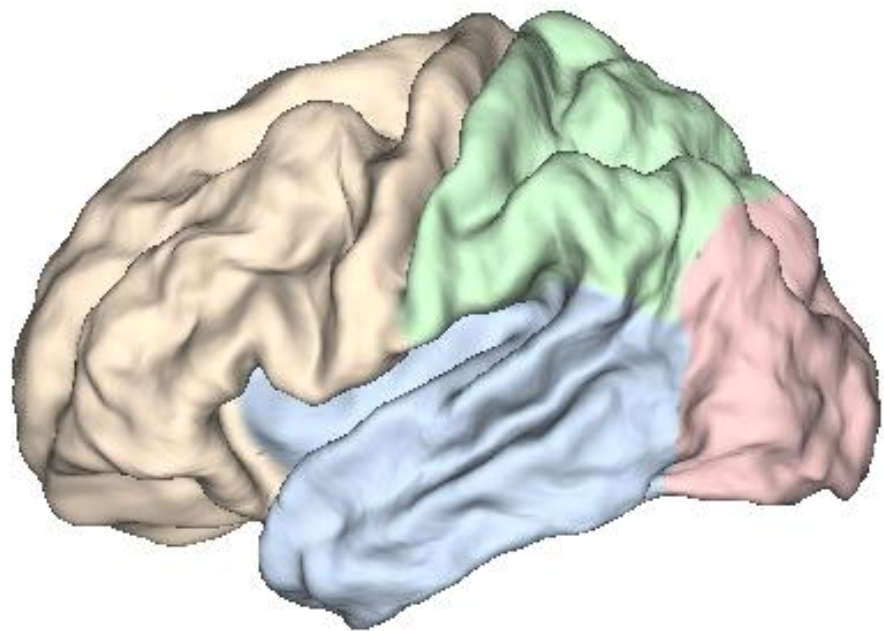
Why are there declines in memory with age?

- Reduced processing speed (Salthouse, 1996)
 - How quickly you can solve a problem, or make simple judgments.

• Older

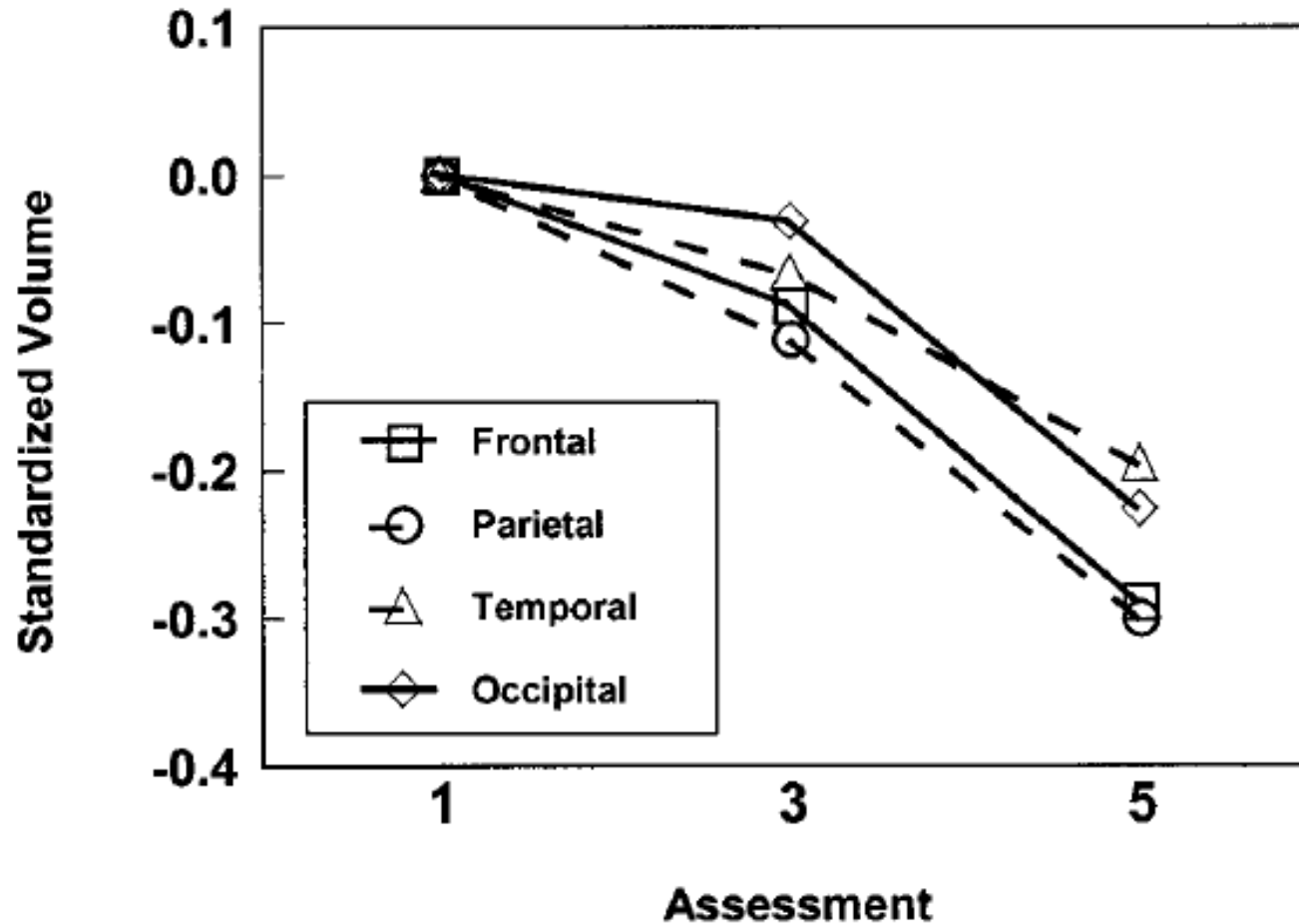
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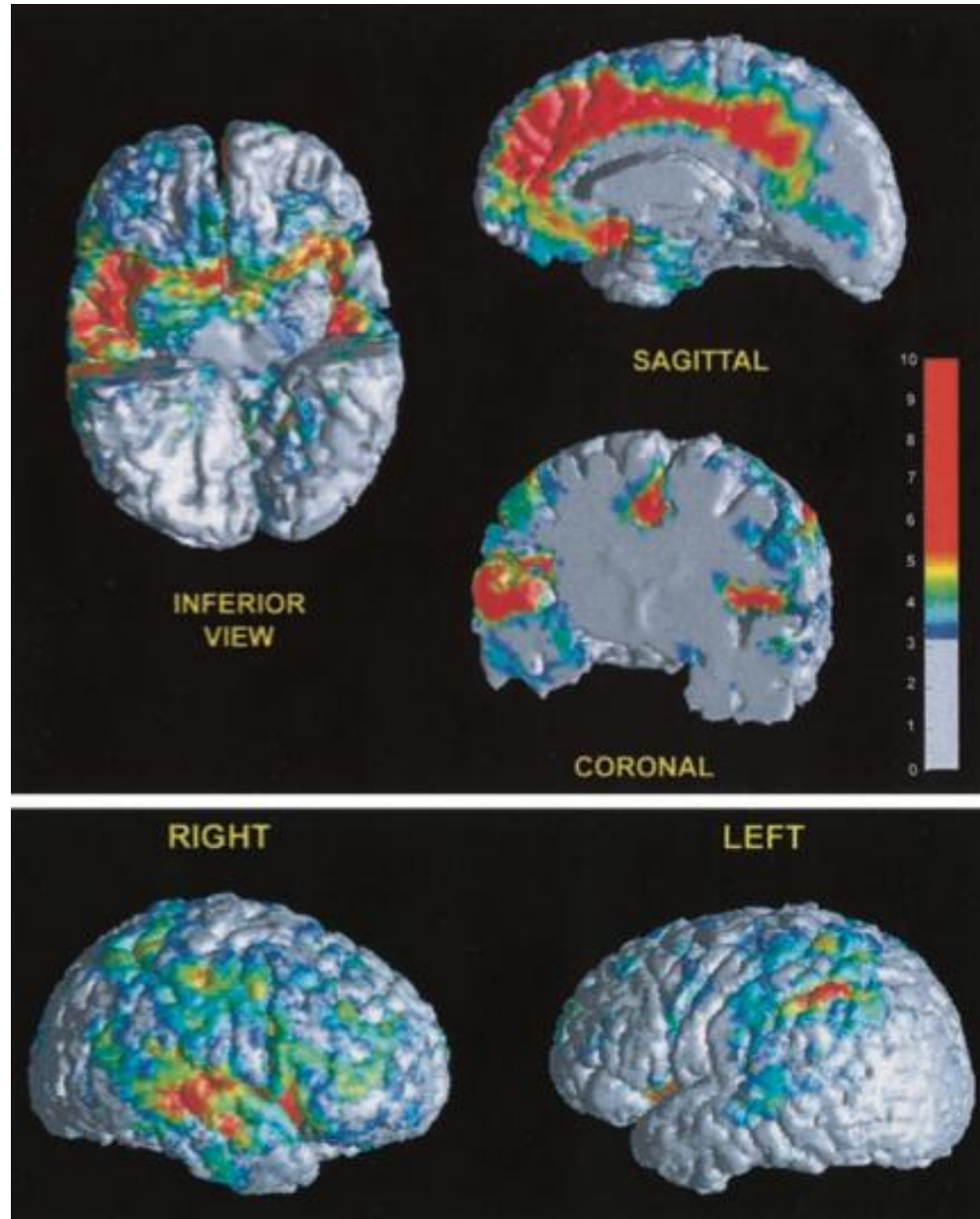


Resnick et al., 2003

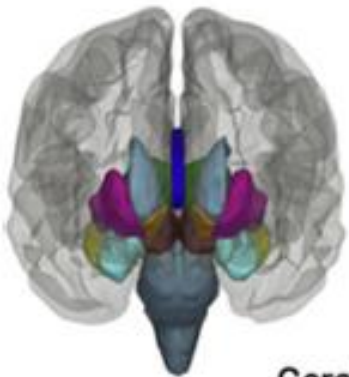
Different regions show different among of age-related changes



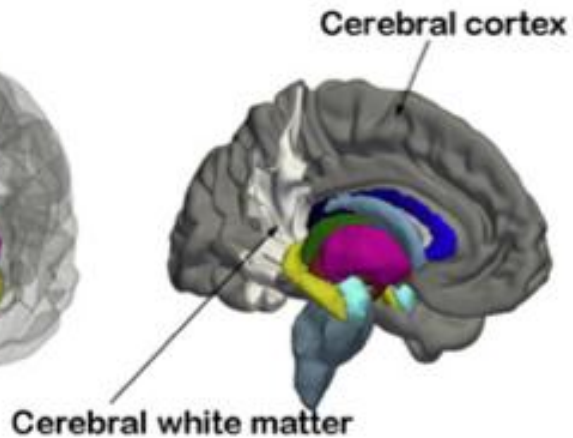
Resnick et al., 2003 – Loss of gray matters



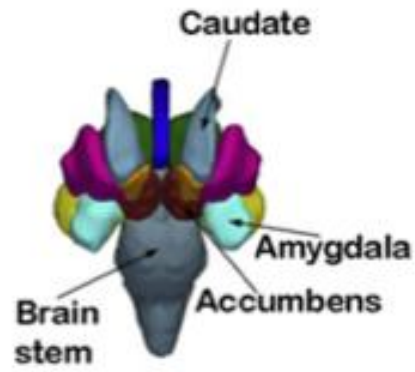
Glass brain



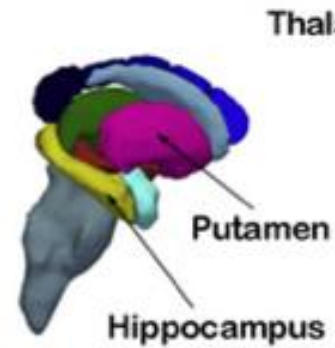
Left hemisphere



Subcortical structures



Anterior



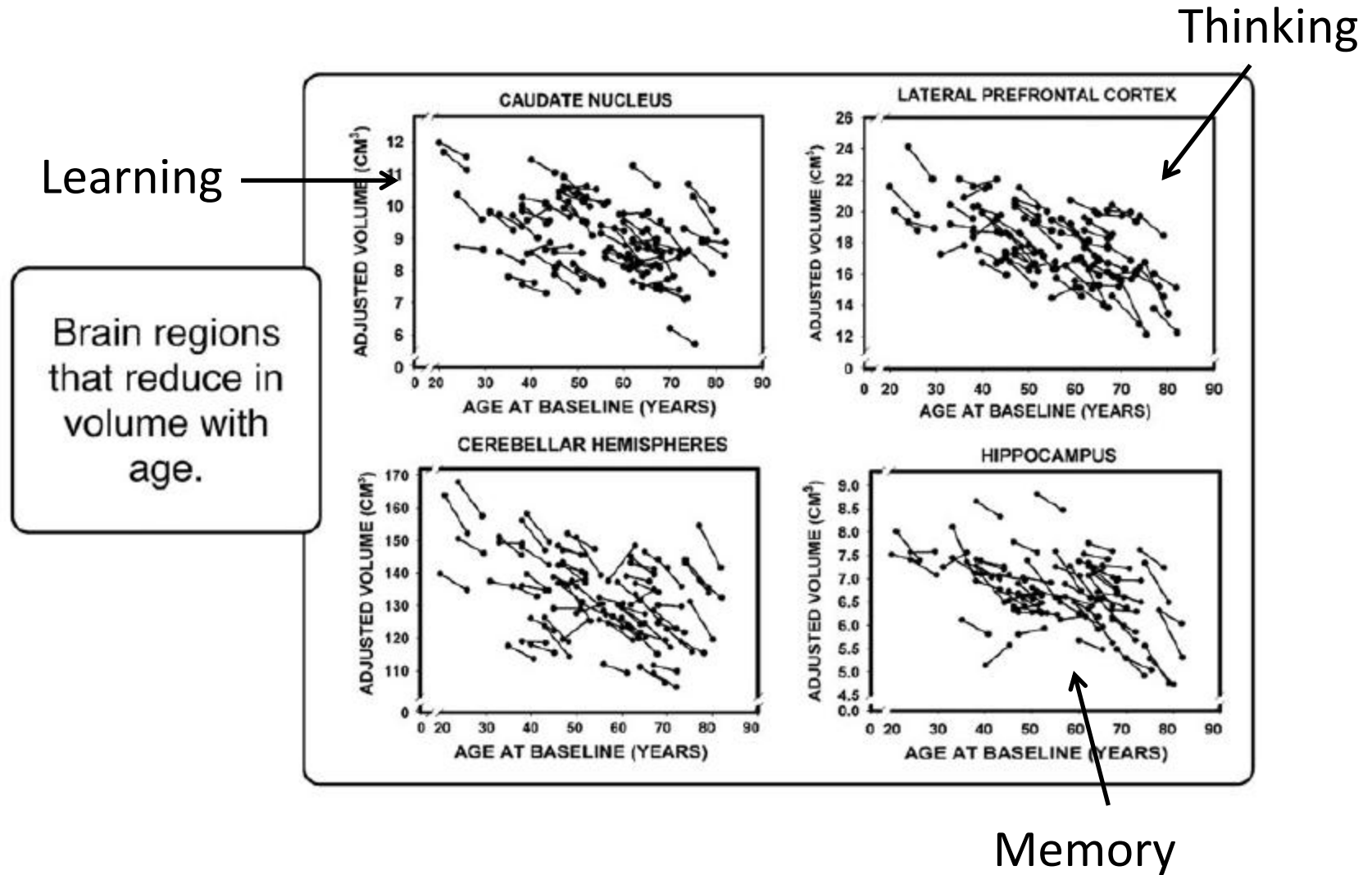
Lateral

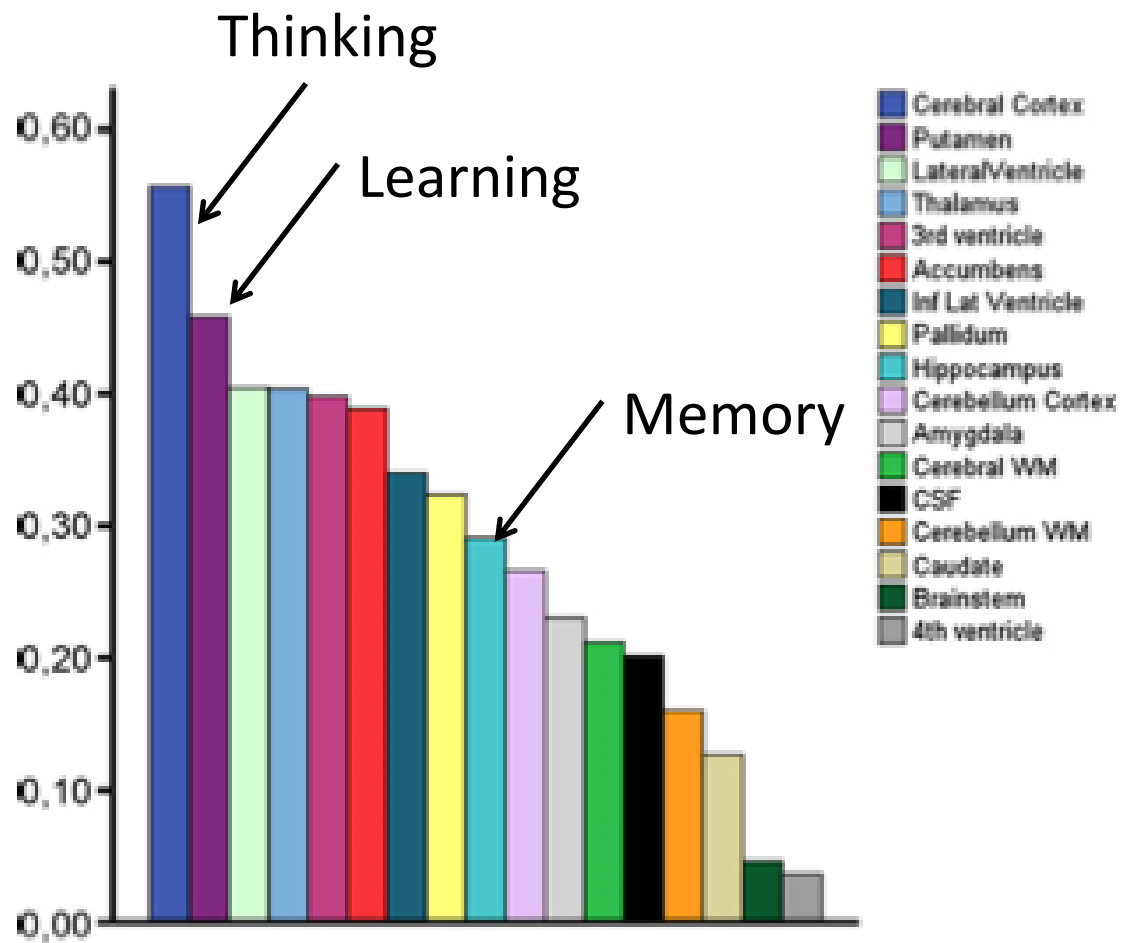


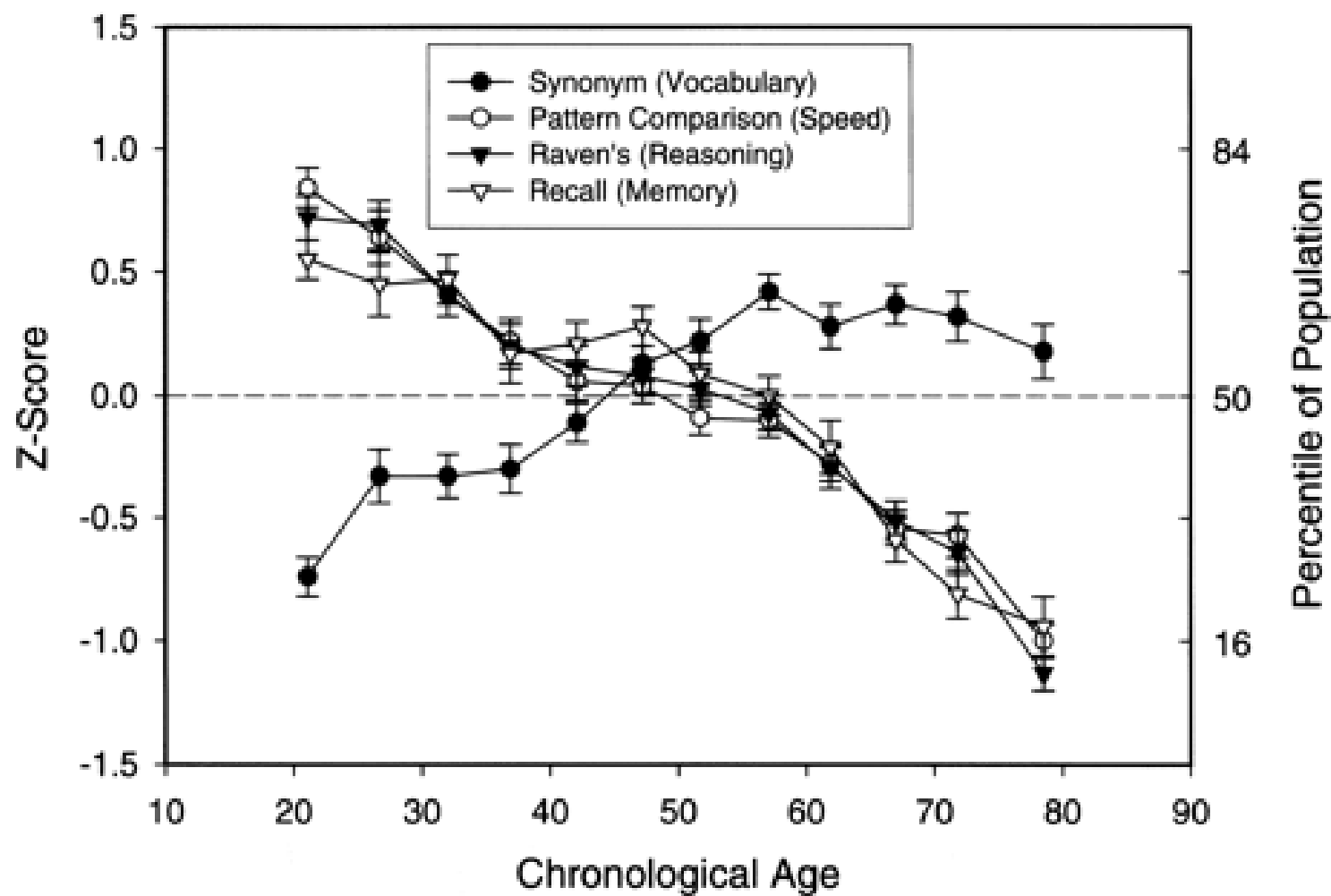
Posterior

Raz, et al., 2005

A 5-year study of healthy older adults (mean age 63.79)

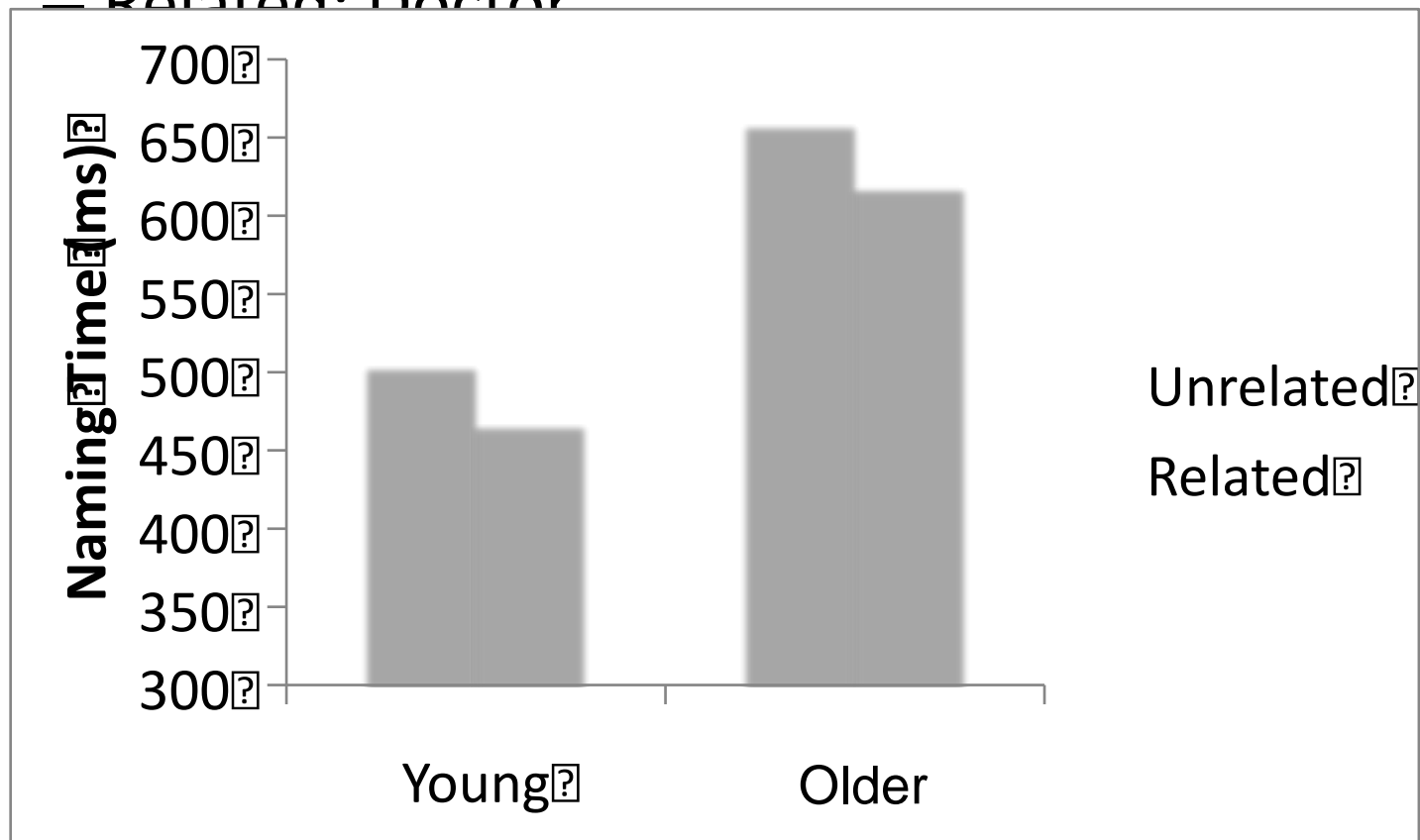






Implicit Memory - Semantic Priming

- Target word: Nurse
 - Unrelated: Butter
 - Related: Doctor

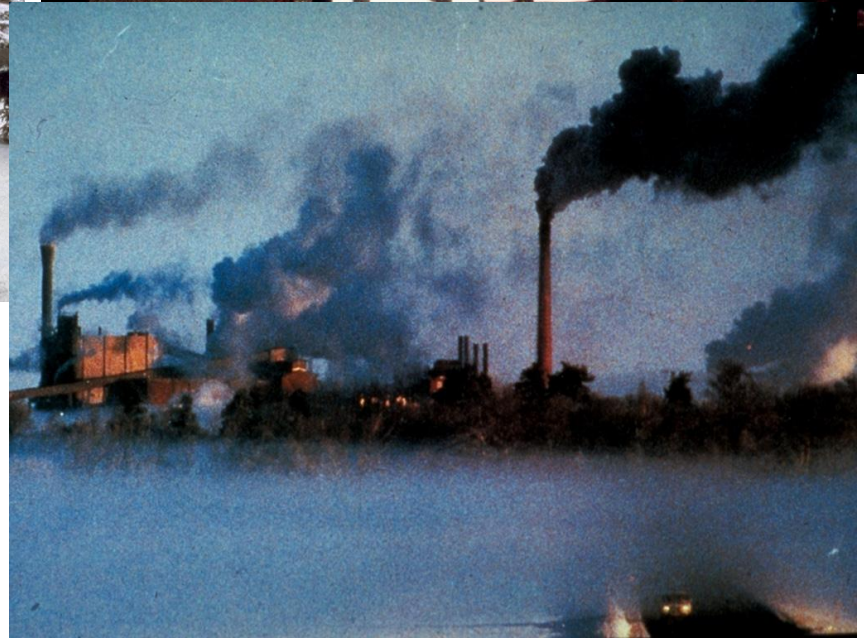


Data from Hutchison et al (2008)

Positive

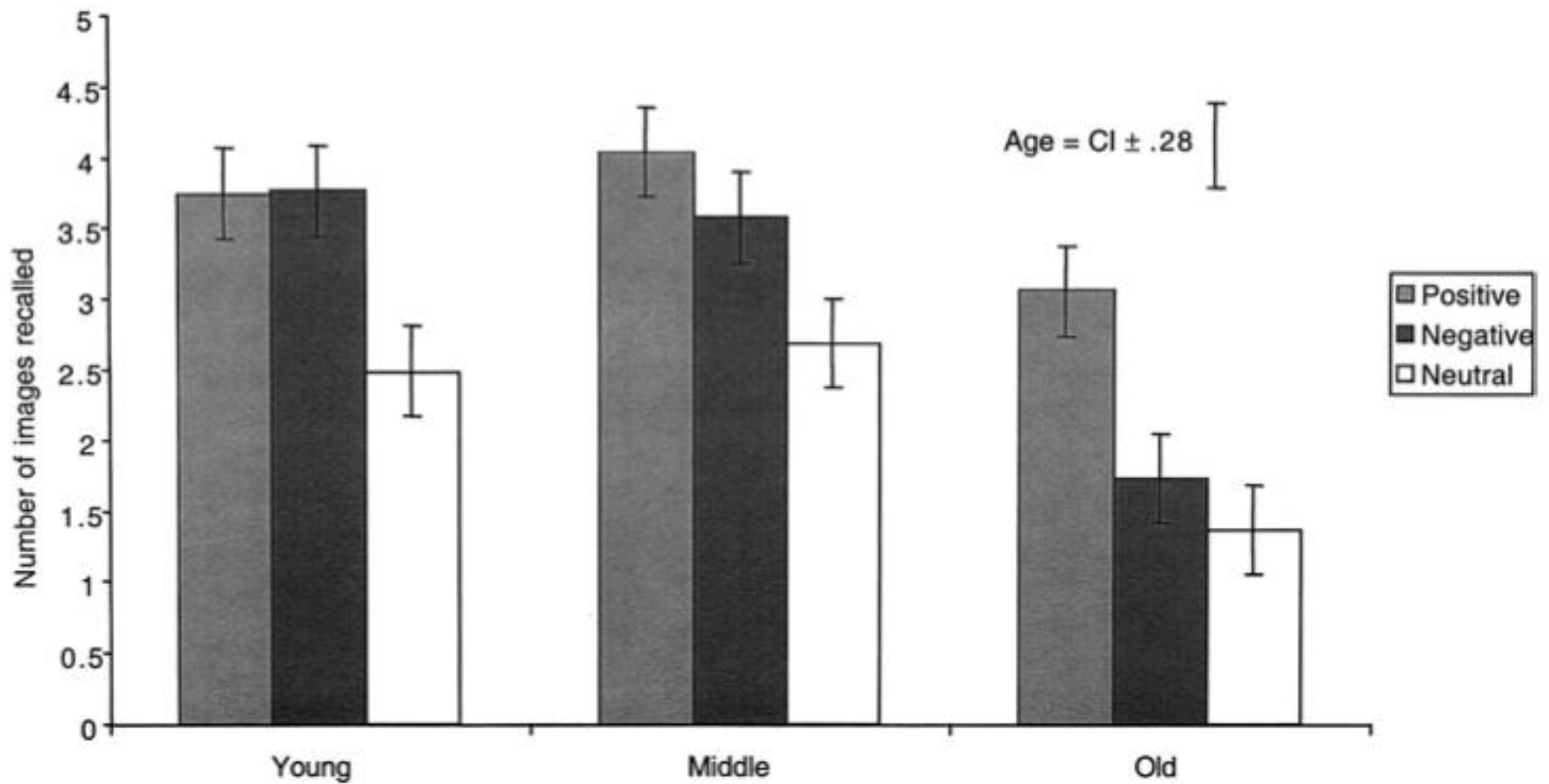


Negative

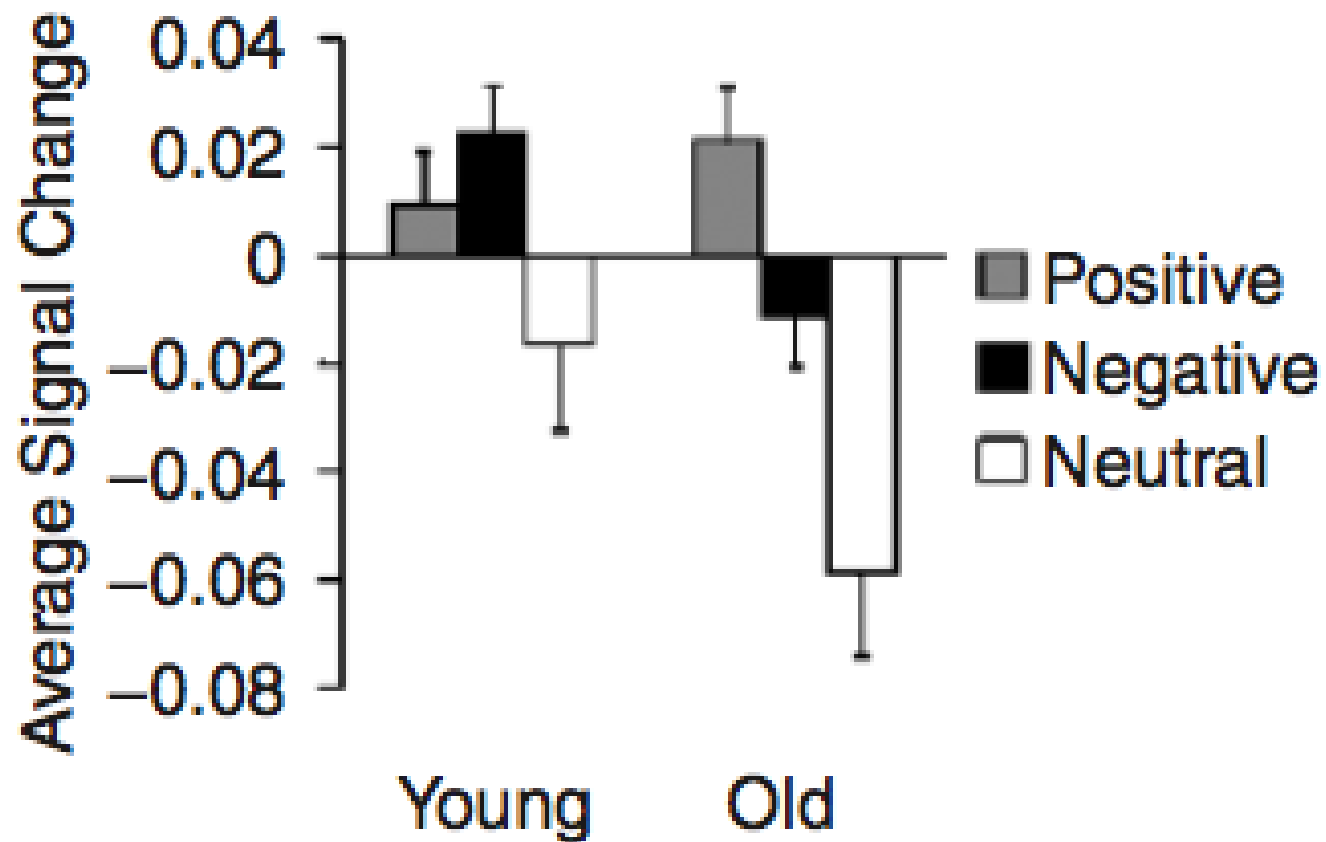


Neutral



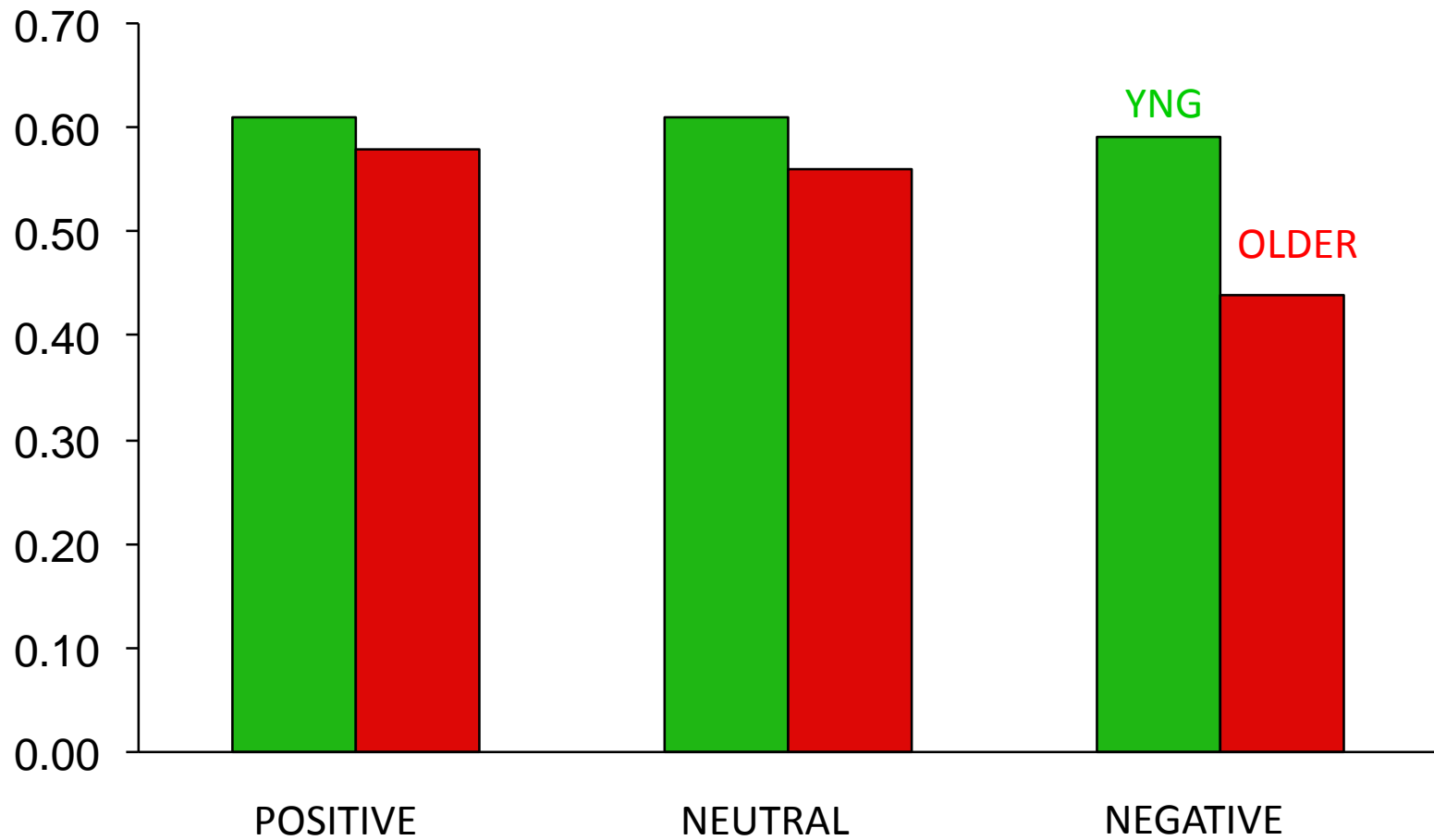


Charles, Mather & Carstensen
(2003)



Mather et al. (2004)

Stereotypes and Aging



Can we improve memory, thinking,
and even the brain itself?