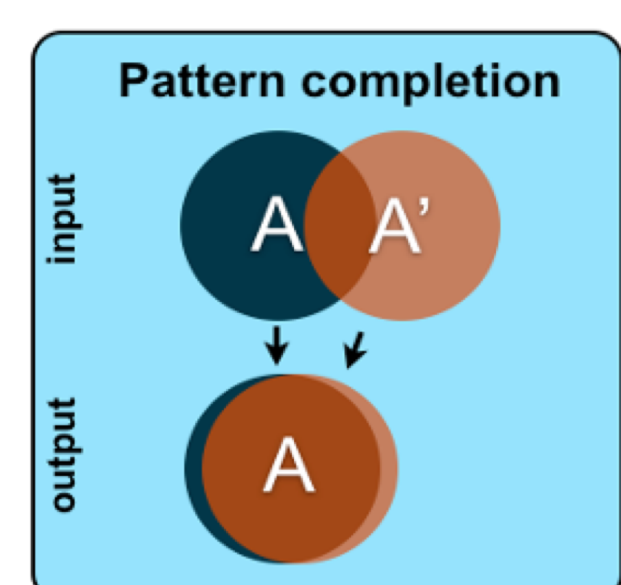
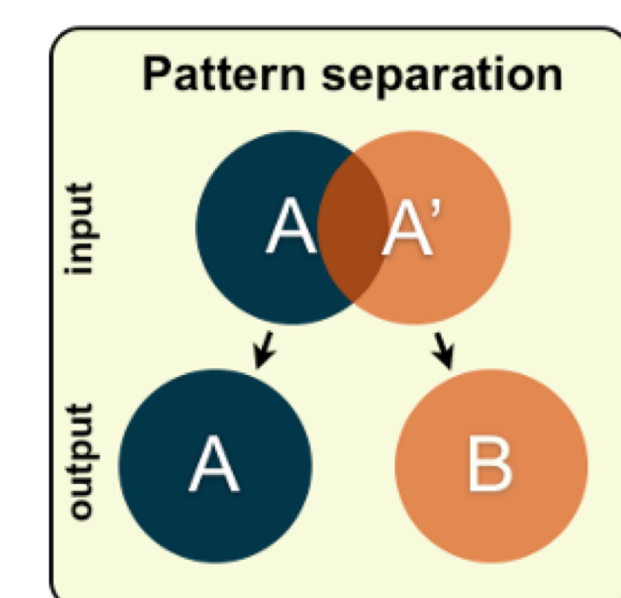
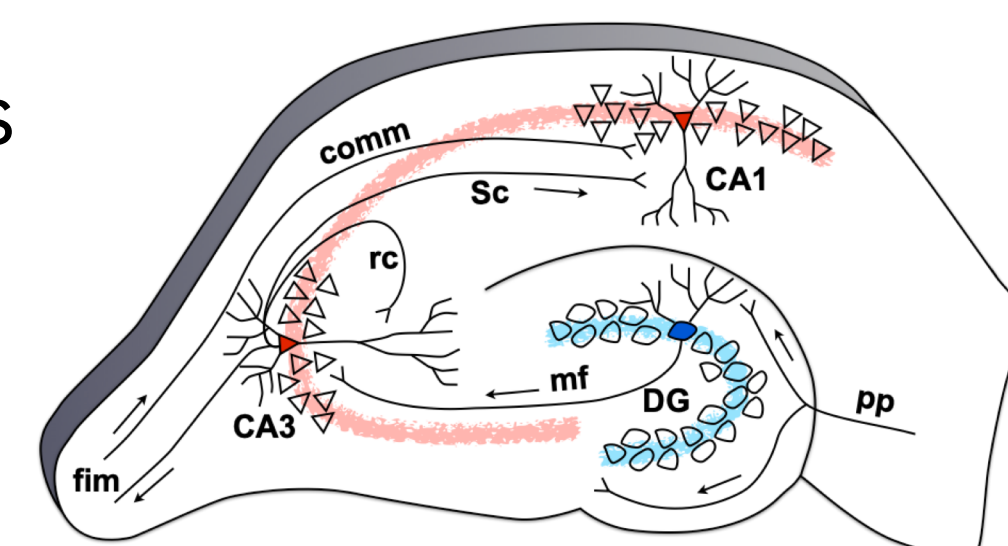


BACKGROUND

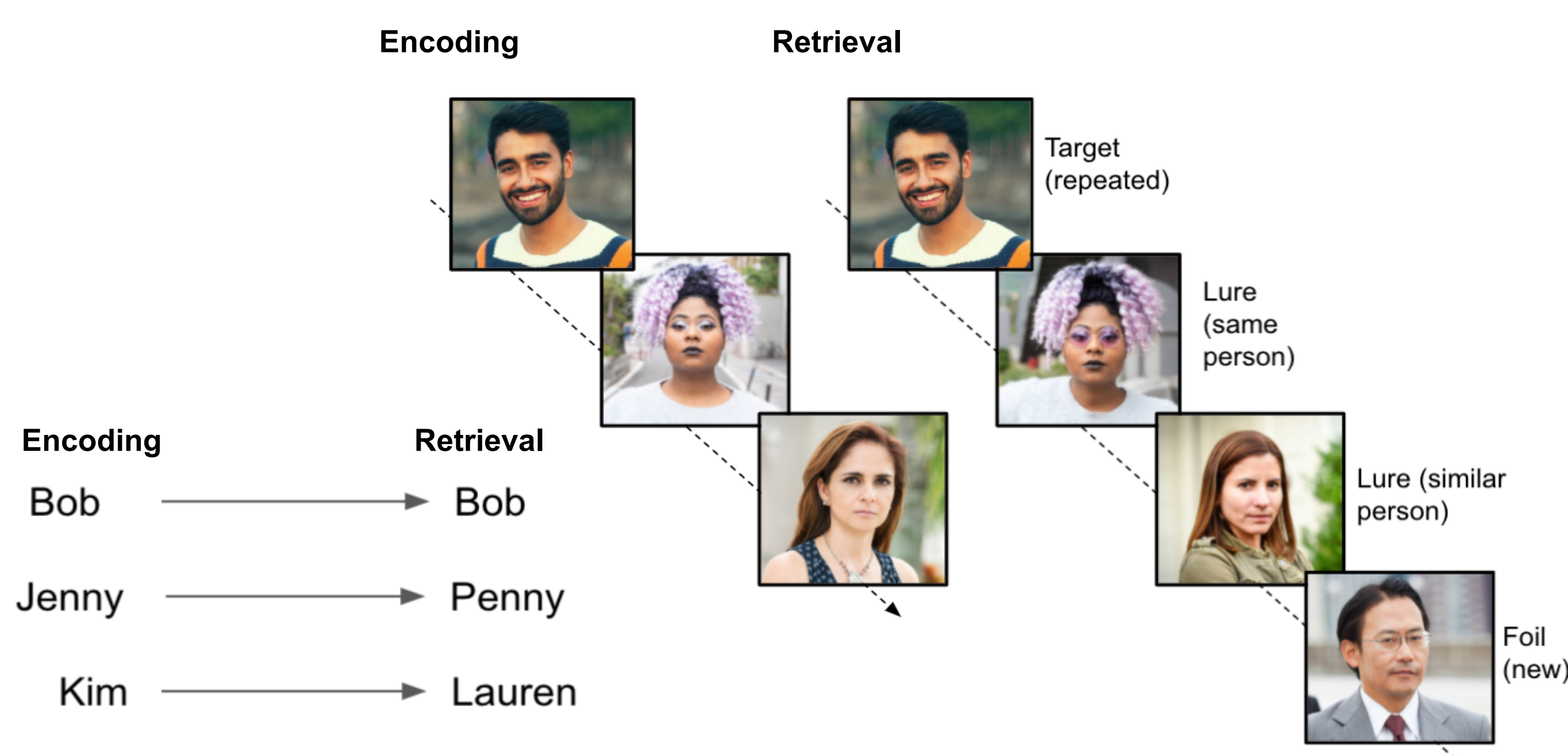
- Difficulty remembering faces and names is a common struggle for many people, especially with age¹.
- The hippocampus can perform two key computations: pattern separation (reducing interference across overlapping experiences) and pattern completion (previously stored experiences are retrieved with partial cues)².
- Older adults are more likely to generalize (i.e., gist memory) than to discriminate (i.e., detail memory) among similar inputs.
- We wanted to create a more ecologically valid face-name association task that included highly interfering face-name information as well as vary emotion, rate, gender of the faces.



Research Questions:

- How well can people discriminate between highly similar faces?
- How well can people remember face-name associations when tested with highly similar stimuli?

METHODS

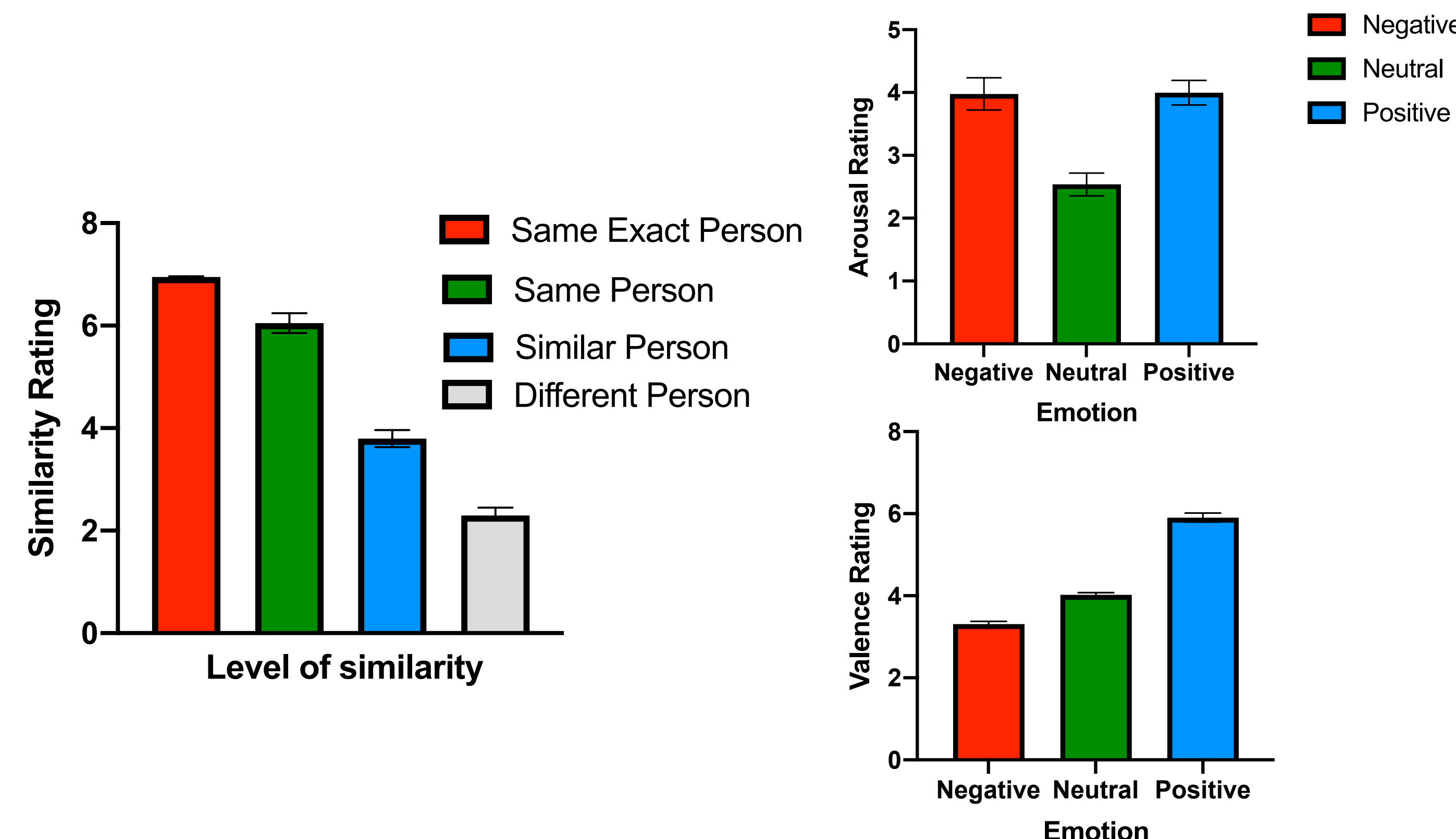


Memory Measures:

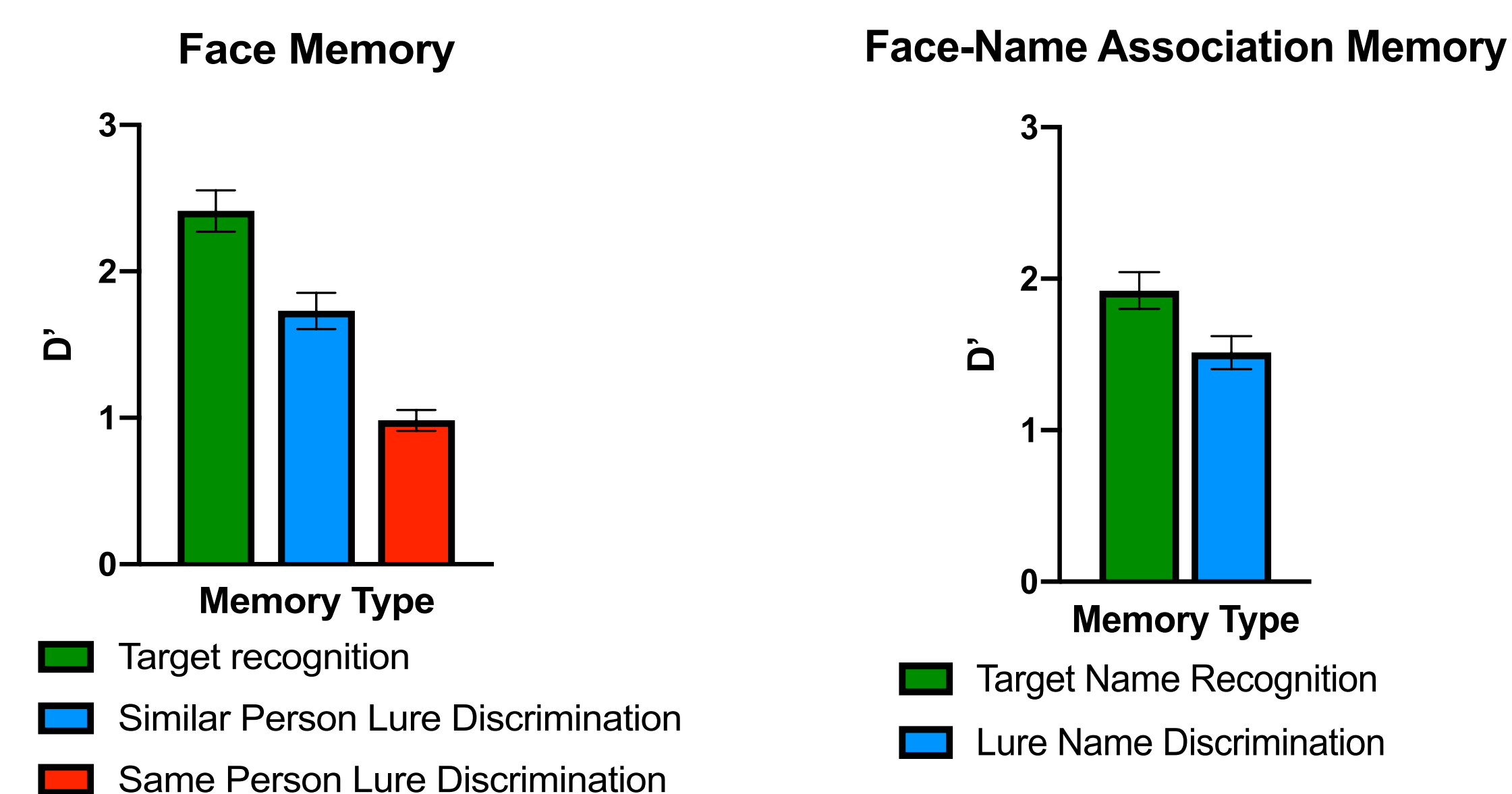
- Target recognition (D')**: measures gist memory
- Lure discrimination (LD)**: measures detail memory

Participant Demographics		Young	Aging
Groups		Young	Aging
Sample size		23	7
M : F		9 : 13	2 : 5
Variables		Mean SEM	Mean SEM
Age		23.3 3.9	77.6 6.2
Education		14.2 2.4	16.9 1.6

FACE STIMULI RATINGS

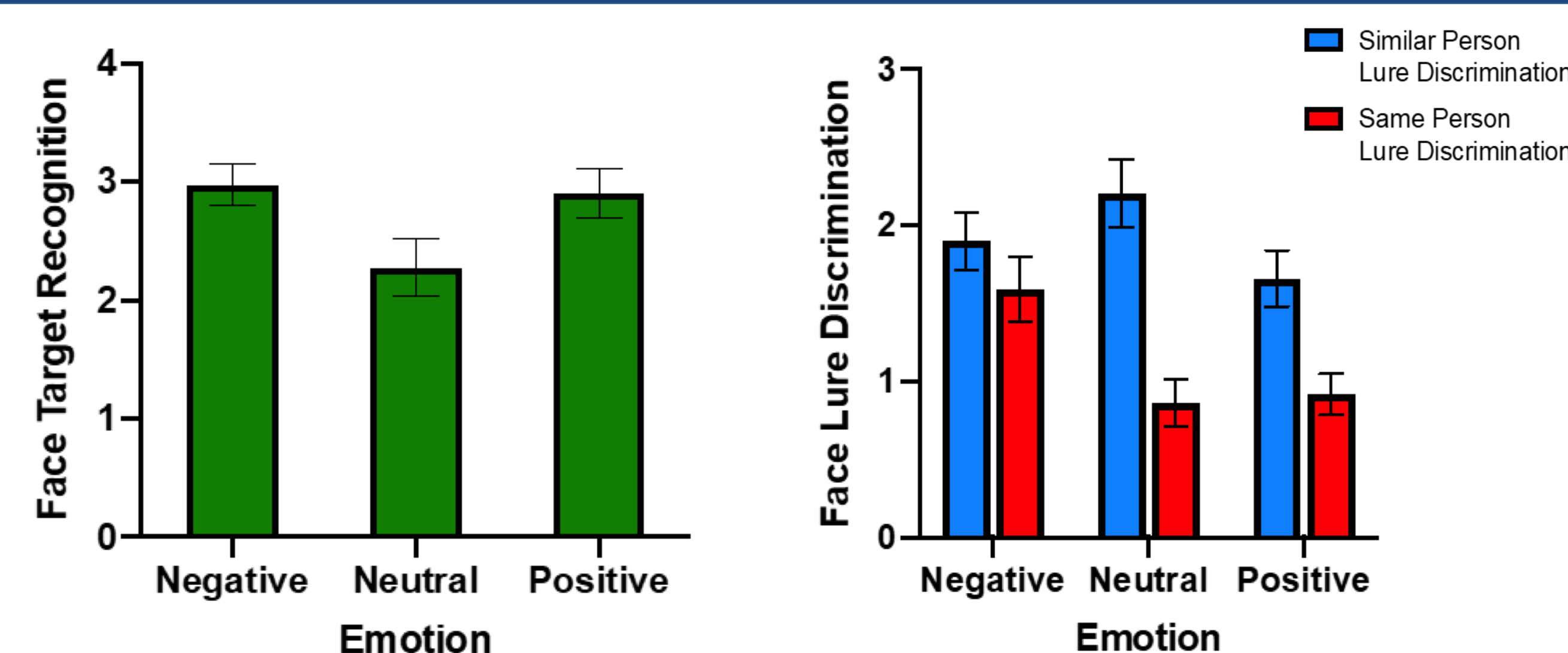


FACE-NAME ASSOCIATIVE MEMORY



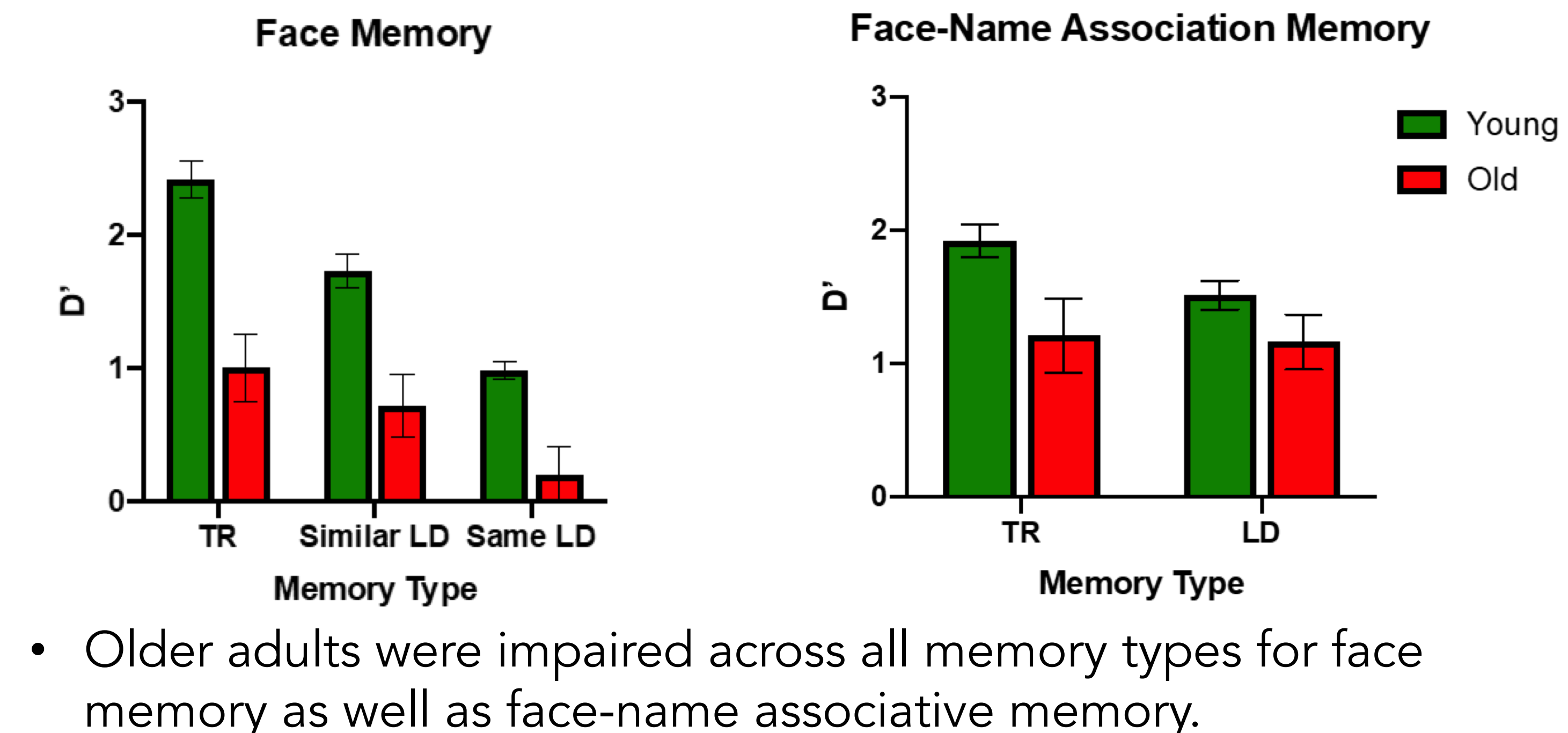
- Target recognition was enhanced compared to lure discrimination.
- Low similarity lures (similar person) were better remembered than high similarity lures (same person).

EMOTIONAL GIST VS DETAIL TRADE OFFS



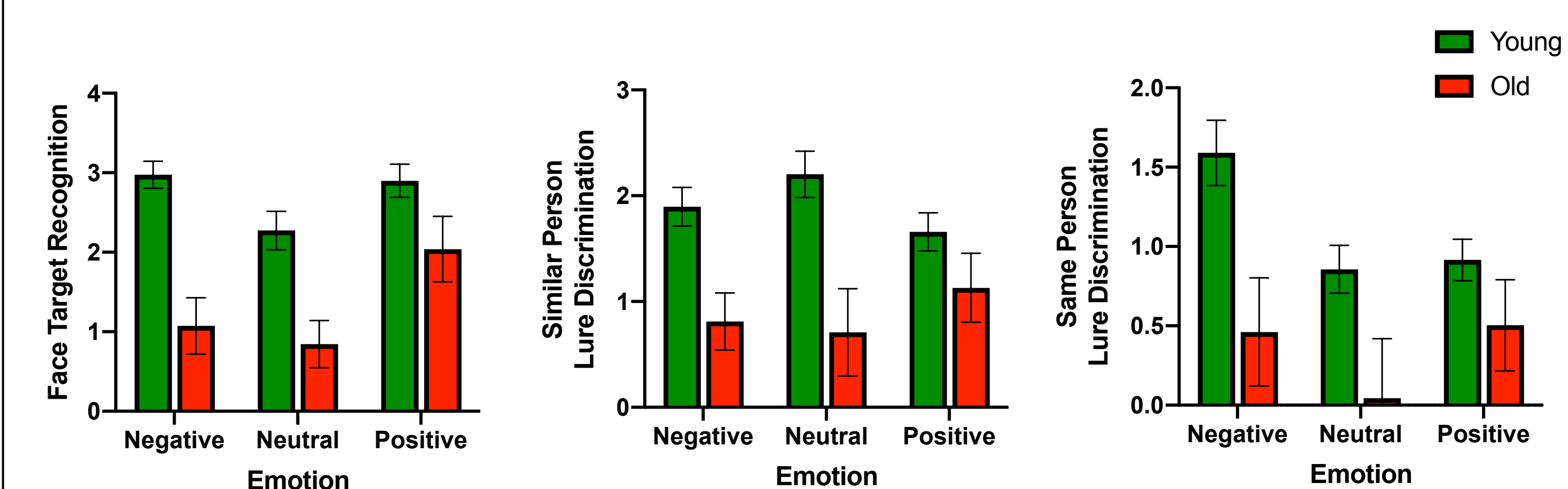
- Emotion enhanced target recognition performance.
- Emotion impaired similar person lures discrimination.
- For highly similar faces (same person), negative lure discrimination was enhanced.

FACE-NAME ASSOCIATIVE MEMORY IN AGING



- Older adults were impaired across all memory types for face memory as well as face-name associative memory.

POSITIVITY BIAS IN AGING



- Older adults were impaired overall across all memory measures.
- However, older adults showed enhanced target recognition for positive faces compared to negative and neutral faces.

SUMMARY

- We found that memory for faces was worse when faces had the most overlapping features (same person lures).
- Emotional expressions of the faces (either positive or negative) enhanced target recognition memory and impaired similar person lure discrimination, which is consistent with a gist vs detail trade off in emotional memory.
- However, negative expression may enhance memory for highly similar stimuli (same person lures).
- Aging was associated with worse memory overall, but showed a positivity bias which is consistent with previous findings.
- The inclusion of faces and names with overlapping features may provide a more sensitive measure for face-name associative memory as well as establish the underlying mechanisms that support face-name associative computations.

References:

- Rentz, D. M., et al., (2011). Face-name associative memory performance is related to amyloid burden in normal elderly. *Neuropsychologia*, 49(9), 2776–2783.
- Yassa MA & Stark CEL (2011) Pattern separation in the hippocampus. *Trends Neurosci.* 34(10):515-525.