



5-1-2015

Own-age bias in face-name associations: Evidence from memory and visual attention in younger and older adults

K. E. Dillon

Carla M. Strickland-Hughes
University of the Pacific, cstricklandhughes@pacific.edu

Robin Lea West
University of Florida, Gainesville

Natalie C. Ebner
University of Florida, Gainesville, natalie.ebner@ufl.edu

Follow this and additional works at: <https://scholarlycommons.pacific.edu/cop-facpres>

 Part of the [Psychology Commons](#)

Recommended Citation

Dillon, K. E., Strickland-Hughes, C. M., West, R. L., & Ebner, N. C. (2015). Own-age bias in face-name associations: Evidence from memory and visual attention in younger and older adults. Paper presented at Association for Psychological Science Annual Convention in New York, NY.

<https://scholarlycommons.pacific.edu/cop-facpres/928>

This Poster is brought to you for free and open access by the All Faculty Scholarship at Scholarly Commons. It has been accepted for inclusion in College of the Pacific Faculty Presentations by an authorized administrator of Scholarly Commons. For more information, please contact mgibney@pacific.edu.

Own-Age Bias in Face-Name Associations: Evidence from Visual Attention and Memory in Younger and Older Adults

Kaitlyn Dillon¹, Carla M. Strickland-Hughes¹, Robin L. West¹, & Natalie C. Ebner¹

¹Department of Psychology, University of Florida



Introduction

Face-name associative (FNA) memory

- Ability to successfully remember face-name pairs is an important social skill *Naveh-Benjamin et al., 2004*
- Declines with age, possibly due to age-related deficits in associative memory *Naveh-Benjamin et al., 2009*

Own-age bias (OAB)

- Better face recognition for own- than other-age faces in younger & older adults *Rhodes & Anastasi, 2012*
- Increased attention to and more favorable evaluation of one's own-age group compared to other age groups *Ebner, 2008; Ebner & Johnson, 2009; Hackel et al., 2013*
- Longer and more frequent looking at encoding of own-age compared to other-age faces *He et al., 2011; Slessor et al., 2010; Firestone et al., 2007*

OAB not yet examined for name memory and visual attention during encoding and testing

Research Aims

AIM 1. To determine the extent to which younger (YA) and older (OA) adults show an OAB in a face-name associative memory paradigm for **(1A)** name memory overall and **(1B)** separately for name recognition and name recall.

AIM 2. To determine the extent to which YA and OA show an OAB in visual attention during **(2A)** encoding of face-name pairs, **(2B)** name recognition testing, and **(2C)** name recall testing.

Methods

Participants

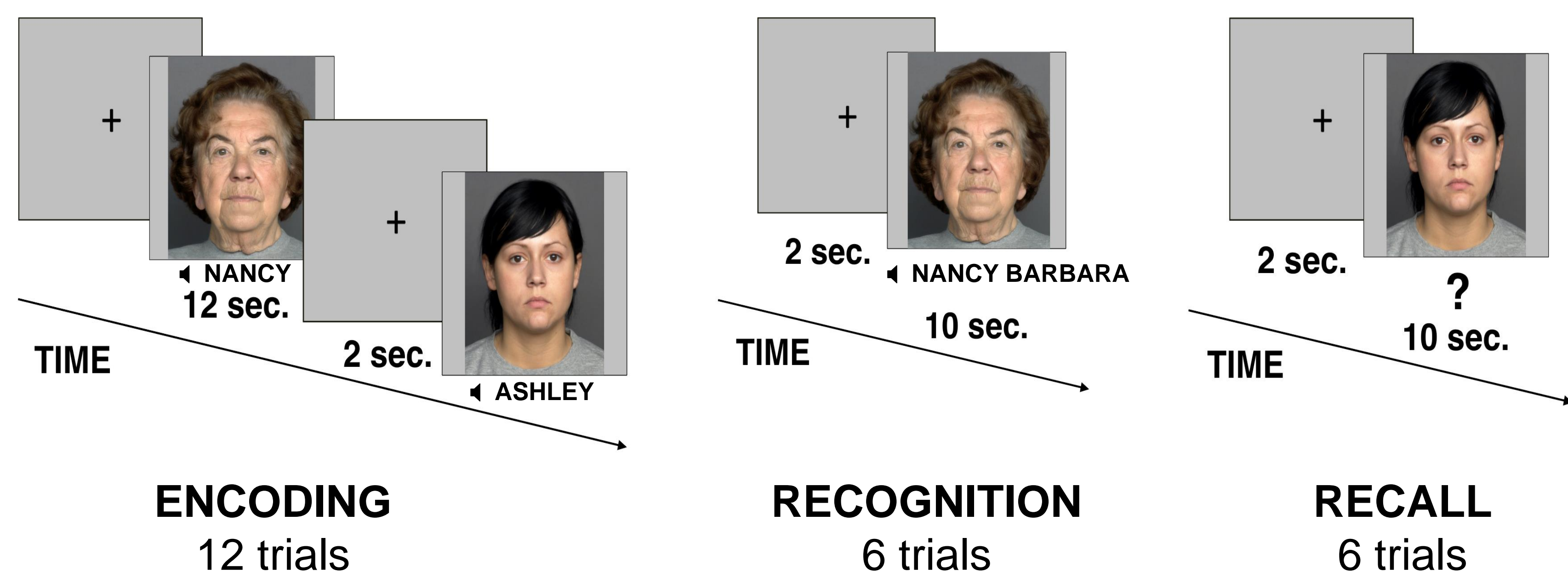
- Healthy, well-educated, community-dwelling, Caucasian, English-speaking
- 90 YA ($M = 19.2$, $SD = 1.31$, 71% female) and 84 OA ($M = 73.4$, $SD = 3.48$, 70% female)

FNA task

- High-frequency first names paired with neutrally-expressive faces *Ebner et al., 2010, SSA, 2012*
- Presented in four same gender, different age (younger, older) blocks of twelve pairs
- Name recognition and name recall tested for half of the pairs in each block
- Presentation order counterbalanced for testing type, gender, face age, and names

Visual Attention

- Recorded using Eyelink 1000 eye-tracking camera during encoding & testing
- Fixation count.** Per face mean number fixations (focused gaze at 1° visual angle for ≥ 100 ms)
- Looking time.** Time spent fixating per face (ms)
- Normalized pupil size.** Pupil size adjusted for individual variance $\frac{(Pupil_{Mean} - Pupil_{Min})}{(Pupil_{Max} - Pupil_{Min})} \times 100$



Design

2 x 2 Mixed-Model Design

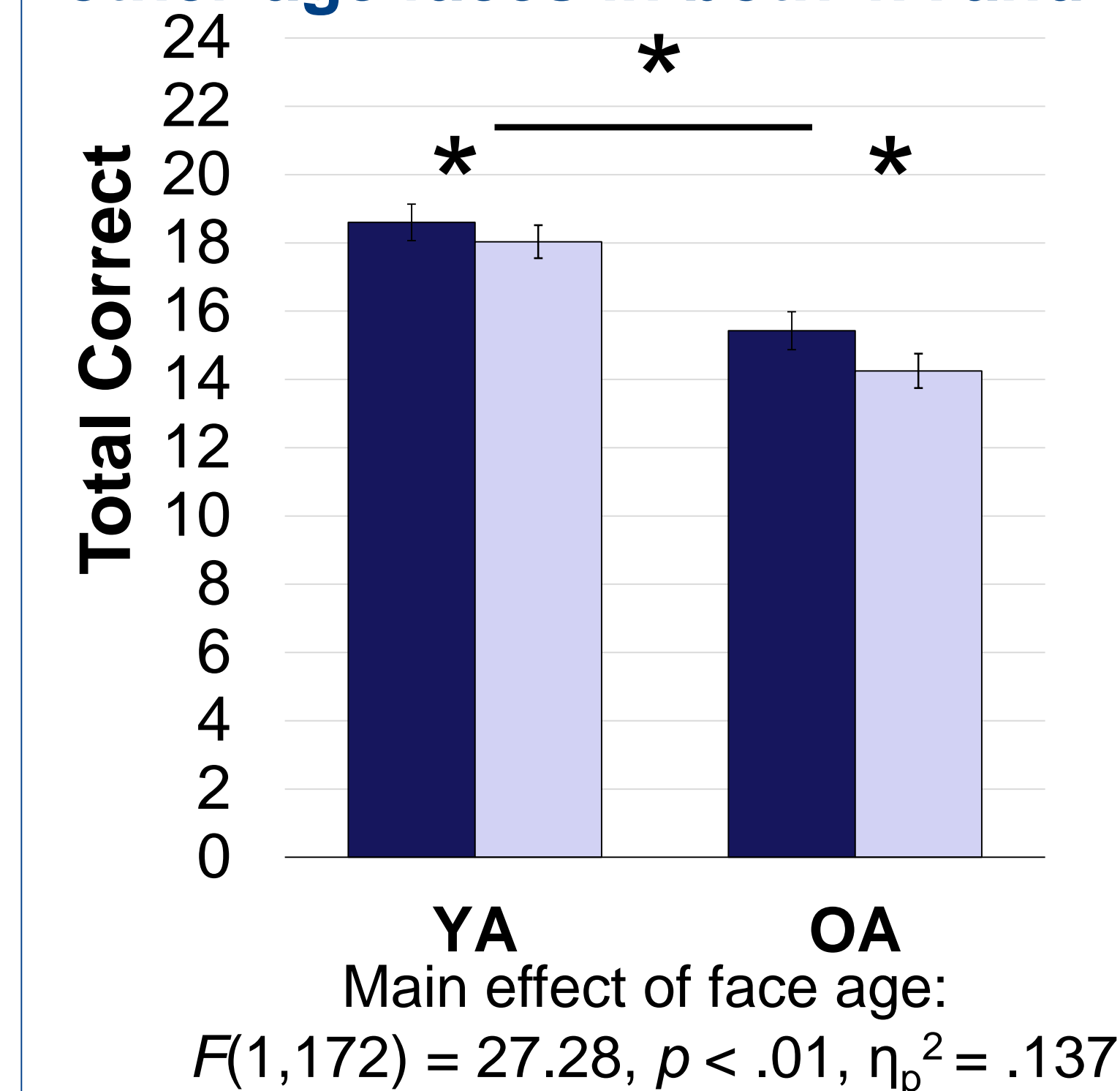
- Repeated measures ANOVAs
- 2 ages (between: YA, OA)
- 2 face ages (within: own, other)

Figure Information

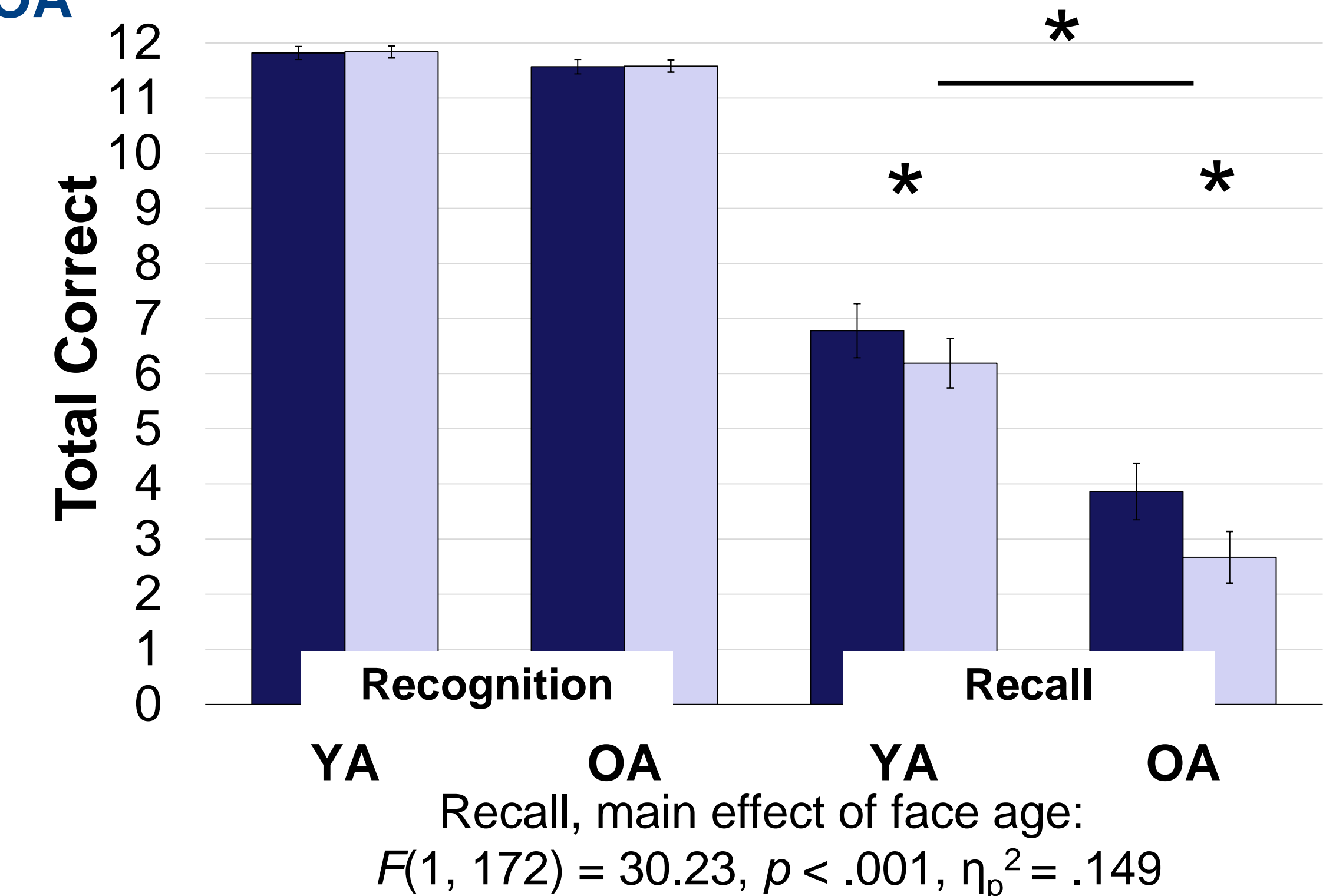
- Legend**
Own-Age Faces (dark blue bar), Other-Age Faces (light blue bar)
- Error bars = 95% confidence intervals
 - * $p < .05$

Aim 1 Results

1A. Better memory for own- versus other-age faces in both YA and OA



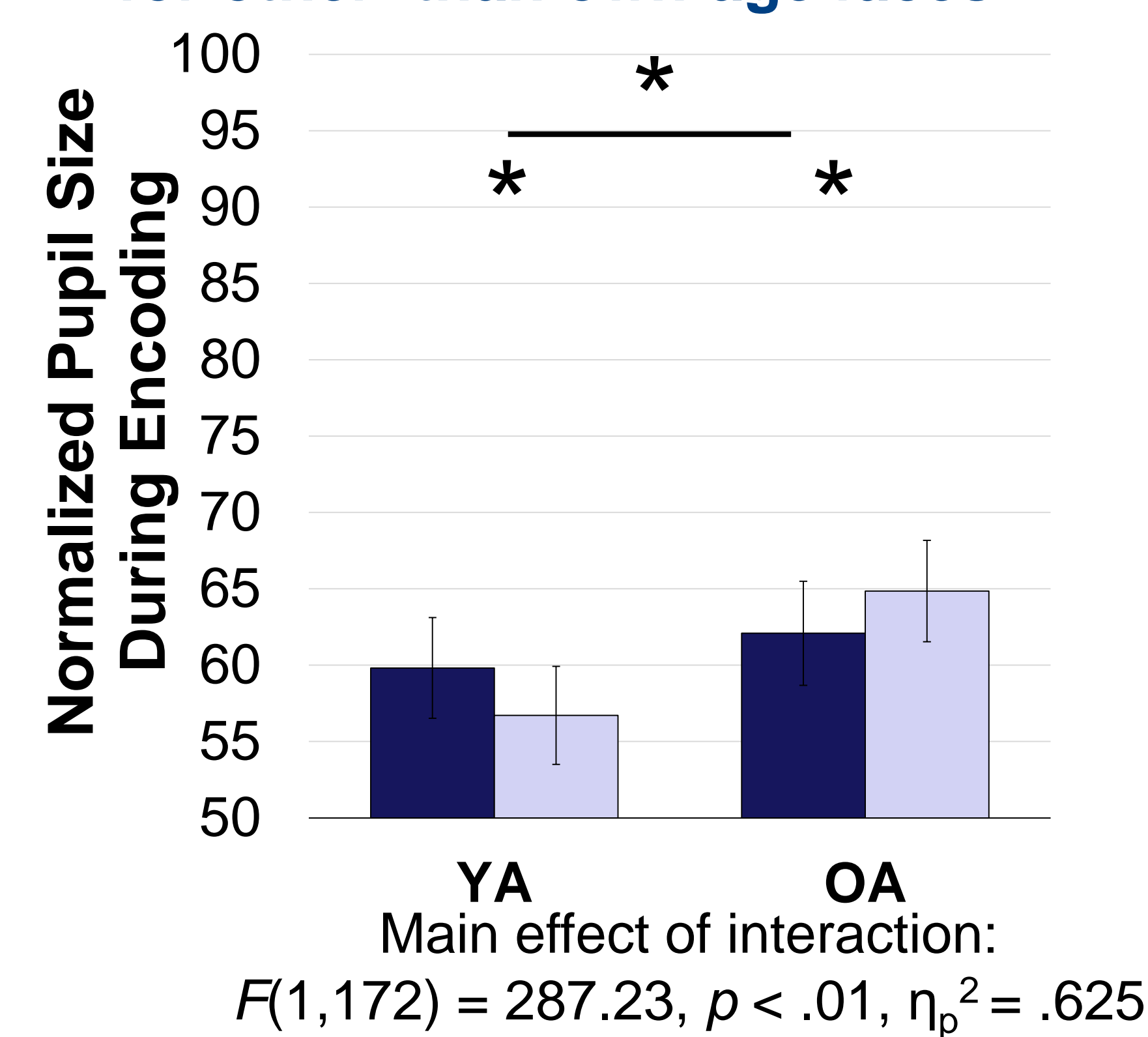
1B. OAB for name recall, but not recognition



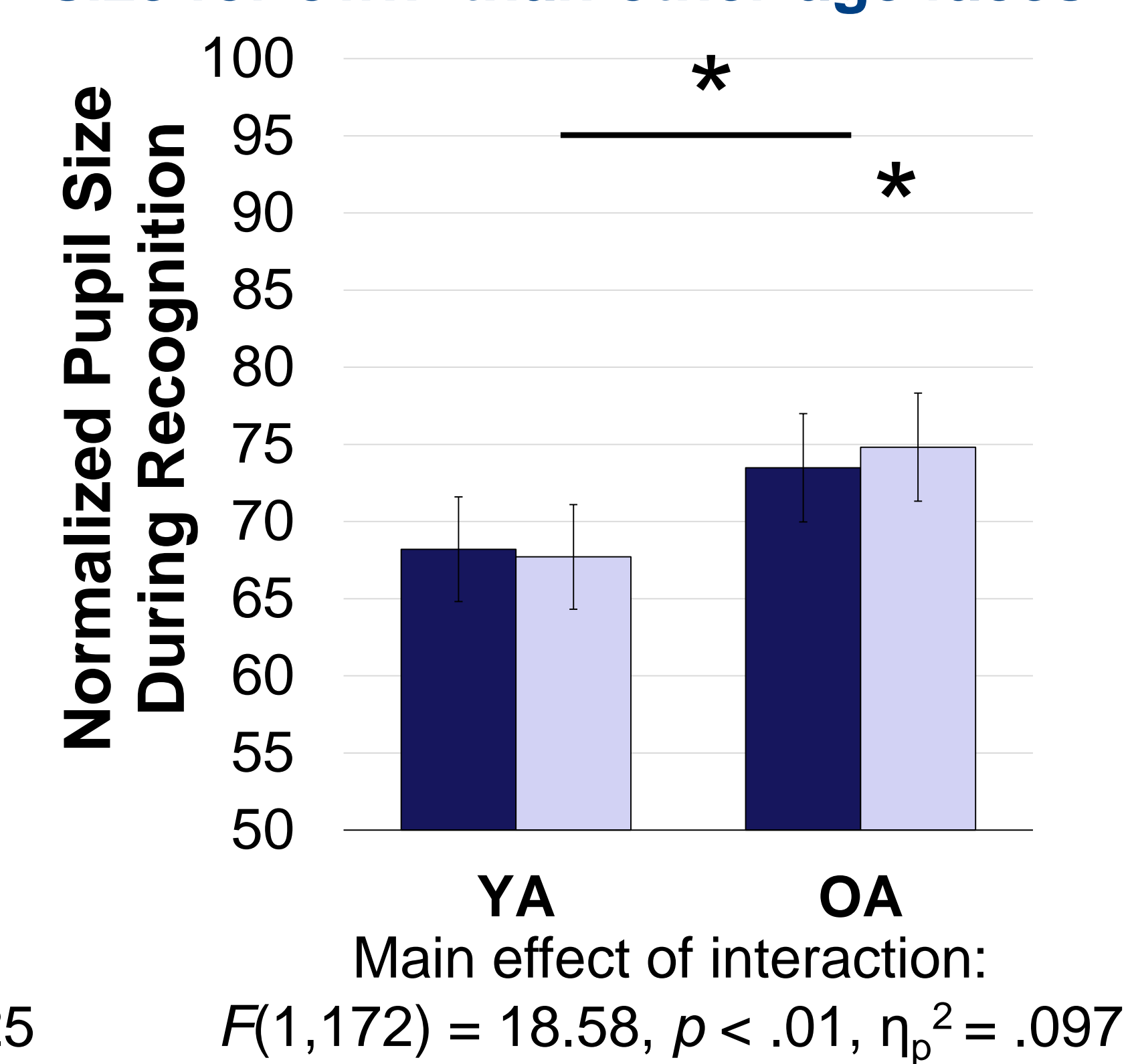
Aim 2 Results

- During testing but not encoding, younger adults showed more fixations for other-age versus own-age faces
- Younger adults look longer than older adults overall for encoding and testing and own- versus other-age faces

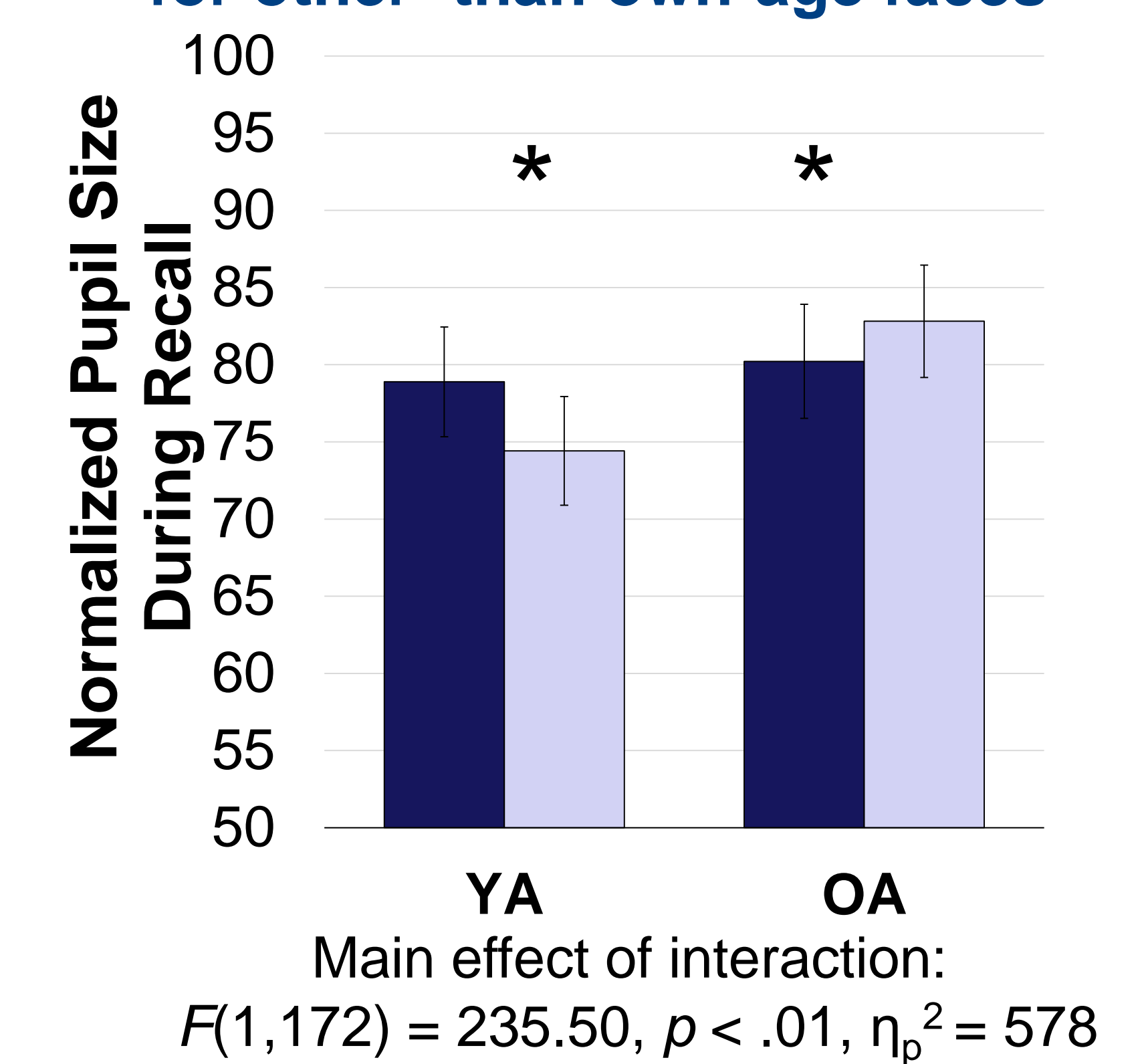
2A. YA larger pupil size for own- than other-age faces; OA larger pupil size for other- than own-age faces



2B. YA pupil size no difference for between face ages; OA larger pupil size for own- than other-age faces



2C. YA larger pupil size for own- than other-age faces; OA larger pupil size for other- than own-age faces



Discussion

- Study is the first to show an OAB in name memory
- OAB was not supported in name recognition, possibly because name recognition is less difficult than name recall *Mather, 2010*
- OA performed worse overall than YA and OA had larger pupil size than YA overall
- Increased pupil size might indicate working harder or increased attention *Sirois & Brisson, 2014*
- Pupil size here suggests increased cognitive load, only when task is difficult (recall, but not recognition)

References

Ebner, N. C. (2008). Age of face matters: Age-group differences in ratings for young and older faces. *Behavior Research Methods, 40*(1), 130-136.

Ebner, N. C., & Johnson, M. K. (2009). Young and older emotional faces: Are there group differences in expression identification and memory? *Emotion, 9*(3), 329-339.

Firestone, A., Turk-Browne, N. B., & Ryan, J. D. (2007). Age-related deficits in face recognition are related to underlying changes in scanning behavior. *Neuropsychology, Development, and Cognition. Section B, Aging, Neuropsychology and Cognition, 14*(6), 594-607.

Hackel, L. M., Looser, C. E., & Van Bavel, J. J. (2014). Group membership alters the threshold for mind perception: The role of social identity, collective identification, and intergroup threat. *Journal of Experimental Social Psychology, 52*, 15-23.

He, Y., Ebner, N. C., & Johnson, M. K. (2011). What predicts the own-age bias in face recognition memory? *Social Cognition, 29*(1), 97-109.

Mather, M. (2010). Aging and cognition. *Wiley Interdisciplinary Reviews: Cognitive Science, 1*(3), 346-362.

Naveh-Benjamin, M., Guez, J., Kilb, A., & Reedy, S. (2004). The associative memory deficit of older adults: Further support using face-name associations. *Psychology and Aging, 19*(3), 541-546.

Naveh-Benjamin, M., Shing, Y. L., Kilb, A., Werkle-Bergner, M., Lindenberger, U., & Li, S. (2009). Adult age differences in memory for name-face associations: The effects of intentional and incidental learning. *Memory, 17*(2), 220-232.

Rhodes, M. G., & Anastasi, J. S. (2012). The own-age bias in face recognition: a meta-analytic and theoretical review. *Psychological Bulletin, 138*(1), 146-74.

Sirois, S., & Brisson, J. (2014). Pupillometry. *Wiley Interdisciplinary Reviews: Cognitive Science, 5*(6), 679-692.

Slessor, G., Laird, G., Phillips, L. H., Bull, R., & Filippou, D. (2010). Age-related differences in gaze following: does the age of face matter? *Journals of Gerontology, Series B: Psychological Sciences and Social Sciences, 65*(5), 536-541.