

Catherine M. Carpenter

Student at The Pennsylvania State University

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Education

M. S., Cognitive Psychology

Expected Spring 2020

The Pennsylvania State University – University Park, PA

B.S., Psychology, Biology Minor

The Pennsylvania State University – University Park, PA

May 2020

Study Abroad

City, University of London, London, England

Study Abroad program, Spring 2019

Research Experience

Graduate Research Assistant

August 2020 - Present

Cognitive Aging and Neuroimaging Laboratory: *The Pennsylvania State University*

PI: Nancy Dennis

- Programming tasks in PsychoPy
- Using online interfaces such as Pavlovia and Prolific to collect data
- Writing and editing manuscripts
- Working with the IRB
- Scheduling and scanning fMRI participants on NIH grant
- Preprocessing in fMRIPrep and SPM12, univariate and multivariate analyses in SPM12
- Study design for NSF grant

Undergraduate Research Assistant

December 2017 – August 2020

Cognitive Aging and Neuroimaging Laboratory: *The Pennsylvania State University*

PI: Nancy Dennis

- Administration of behavioral and neuroimaging tests to both younger and older adults
- Collection fMRI data in both older and younger adults
- Preprocessing and modeling of MRI data using SPM12 implemented in MATLAB
- Behavioral data analysis using SPSS
- Programming with E-Prime and MATLAB
- Managed research team of 3 to 5 undergraduate research assistants
- Worked on NIH funded grant in conjunction with a research team at Elon University

- Stimulus design
- Writing manuscripts
- Foundational lab duties: maintenance of participating database, calling and recruiting older adults, management of SONA

Posters

Carpenter, C. M., Gerver, C. R., Overman, A. A. & Dennis, N. A (March 2021). Age-Related increases in associative false alarms: A representational similarity analysis of hits and misses at retrieval. Poster presented at Cognitive Neuroscience Society 2021.

Gerver, C. R., Overman, A. A., **Carpenter, C. M.**, Cowan, J., Jenkins, C. & Dennis, N. A (March 2021). Encoding-retrieval congruency affects the neural processing of associative recollection in young and older adults. Poster presented at the Cognitive Neuroscience Society 2021.

Carpenter, C. & Babu, H. (2020, April 9). The effect of memory cue duration on directed forgetting performance in healthy aging. Psi Chi Undergraduate Research Conference, State College, PA, United States (Conference cancelled due to COVID-19).

Babu, H. & **Carpenter, C.** (2020, April 9). Contextual interference negatively impacts associative memory across age. Psi Chi Undergraduate Research Conference, State College, PA, United States (Conference cancelled due to COVID-19).

Carpenter, C., Babu, H., Kurkela, K., & Dennis, N. A. (2020). The effect of memory cue duration on directed forgetting performance in healthy aging. Poster to be presented at the Cognitive Aging Conference (Conference cancelled due to COVID-19)

Babu, H., **Carpenter, C.**, Webb, C., Overman, A., Dennis, N. A. (2020). Contextual interference negatively impacts associative memory across age. Poster to be presented at the Cognitive Aging Conference (Conference cancelled due to COVID-19)

Chamberlain, J., Hultman, C., Martinez, V., **Carpenter, C.**, Overman, A., Dennis, N. A. (2019). Configuration manipulation impacts neural patterns in medial temporal lobe in associative memory retrieval. Poster presented at the Cognitive Neuroscience Annual Meeting.

Publications

Kurkela, K., **Carpenter, C. M.**, Babu, H., Chamberlain, J., & Dennis, N. A. The effect of memory cue duration on performance in the directed forgetting paradigm in healthy aging. *Aging, neuropsychology and cognition*. (Accepted).

Webb, C., **Carpenter, C. M.**, Babu, H., Overman, A., Dennis, N. A. Contextual interference negatively impacts associative memory across age. (In prep).

Overman, A. A., Dennis, N. A., **Carpenter, C. M.**, and Gerver, C. R. Understanding associative false memories in aging using multivoxel pattern analyses. *Aging, neuropsychology and cognition*. (Accepted for special issue).

Dennis, N. A., Chamberlain, J. D., & **Carpenter, C. M.** Chapter:10 False memories. *SAGE handbook of cognitive and systems neuroscience*. (In prep).

Teaching Assistantships – The Pennsylvania State University

Psych 490 – Debunking Myths about the Brain

Fall 2020

Psych 452 – Learning and Memory

Fall 2020 & Spring 2021

Grants & Awards

Undergraduate awards

- **Dean's List** - Fall 2017 – Spring 2020
- **Liberal Arts Enrichment Funding** - Summer 2019; \$1,500 and Fall 2019; \$1,800 for research related expenses.
- **Costello Family Memorial Scholarship in Psychology** – Awarded to a student each year in the psychology department, based upon academic merit and psychology research, April 2019; \$530
- **Mona Bird Shipley Memorial Scholarship** – Honorable Mention, December 2019.

Software Proficiencies

- Proficient in Microsoft Programs, including Word, Excel, PowerPoint
- Programming experience with E-Prime, MATLAB, R, PsychoPy
- Proficient in Qualtrics
- fMRI preprocessing experience with SPM12 and FSL, fMRIprep
- fMRI univariate and multivariate analysis experience in SPM12 and MATLAB
- Proficient in behavioral analyses using R and SPSS
- Proficient in online testing platforms such as Pavlovia and Prolific