Jordan D. Chamberlain

•441 Moore Building •Department of Psychology •The Pennsylvania State University •jdc80@psu.edu

Education

Doctor of Philosophy 2023 (Expected)
The Pennsylvania State University, University Park, PA
Cognitive Psychology

Masters of Science 2017
University of Michigan, Ann Arbor, MI
Psychology: Cognition and Cognitive Neuroscience
Thesis*: Neural Distinctiveness and GABA Concentrations in the Aging Ventral Visual Cortex*

Bachelors of Science 2016
University of Michigan, Ann Arbor, MI
Biopsychology, Cognition, and Neuroscience

Research Interests

Cognitive neuroscience of aging, false memory, cognitive training, neuroimaging, multivariate analyses

Peer-Reviewed Publications

Chamberlain, J. D., Sprague, B. N., Ross, L. A. (in press). Age- and time-varying associations between subjective health and episodic memory in older adults. *The Journals of Gerontology: Series B: Psychological Sciences and Social Sciences.* https://doi.org/10.1093/geronb/gbab142

Kurkela, K. A., Carpenter, C. M., Babu, H., **Chamberlain, J. D.,** Dennis, N. A. (in press). The effect of memory cue duration on performance in the directed forgetting task in healthy aging. *Aging, Neuropsychology, and Cognition*. https://doi.org/10.1080/13825585.2021.1942427

Chamberlain, J. D., Turney, I. C., Goodman, J., Hakun, J., Dennis, N. A. (2021). Fornix white matter microstructure differentially predicts false recollection rates in older and younger adults. *Neuropsychologia.* https://doi.org/10.1016/j.neuropsychologia.2021.107848

Chamberlain, J. D., Gagnon, H., Lalwani, P., Cassady, K., Simmonite, Seidler, R, Taylor, S., Weissman, D., Park, D. C., Polk, T. A. (2021). GABA levels in ventral visual cortex decline with age and are associated with neural distinctiveness. *Neurobiology of Aging.* https://doi.org/10.1101/743674

Bowman, C. R., **Chamberlain, J. D.,** & Dennis, N. A. (2019). Sensory Representations Supporting Memory Specificity: Age Effects on Behavioral and Neural Discriminability. *Journal of Neuroscience*, *39*(12), 2265–2275. https://doi.org/10.1523/JNEUROSCI.2022-18.2019

Gagnon, H., Simmonite, M., Cassady, K., **Chamberlain, J.,** Freiburger, E., Lalwani, P., Kelley, S., Foerster, B., Park, D. C., Petrou, M., Seidler, R. D., Taylor, S. F., Weissman, D. H., & Polk, T. A. (2019). Michigan Neural Distinctiveness (MiND) study protocol: Investigating the scope, causes, and consequences of age-related neural dedifferentiation. *BMC Neurology*, *19*(1), 61. https://doi.org/10.1186/s12883-019-1294-6

Chamberlain, J. D., Bowman, C. R., & Dennis, N. A. (under review). Age-related differences in encoding-retrieval similarity and their relationship to false memory. (bioRxiv preprint https://doi.org/10.1101/2021.07.12.451838).

In-Prep Publications

Chamberlain, J. D., & Dennis, N. A. (in prep). Systematically reducing schematic information at encoding differentially impacts true and false memory during retrieval

Dennis, N. A., **Chamberlain, J. D.** & Carpenter, C. (in prep). False Memories: what neuroimaging can tell us about how we mis-remember the past. *The SAGE Handbook of Cognitive and Systems Neuroscience.*

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Turney, I. C., **Chamberlain, J. D.,** Hakun, J., Ross, L. A., Kirchoff, B., Dennis, N.A. (in prep). Investigating neural effects of memory training to reduce false memories in older adults: univariate and multivariate evidence.

Conference Presentations

Posters

Chamberlain, J. D., Bowman, C. R., Dennis, N. A. *Age-related reductions in encoding-retrieval similarity associated with perceptual and thematic false memories.* Presented virtually at the Cognitive Neuroscience Society's Annual Meeting (March, 2021), Boston, MA

Chamberlain, J. D., Turney, I. C., Dennis, N. A. *Neural Discriminability Increases in Older Adults Following Cognitive Training to Reduce False Memories.* Accepted to be presented at the Cognitive Aging Conference (2020b), Atlanta, GA. Event cancelled due to COVID-19.

Chamberlain, J. D., Turney, I. C., Dennis, N. A. *Encoding-Retrieval Similarity (ERS) of Perceptually Related Items and Their Relation to False Memories in Aging*. Presented virtually at the Cognitive Neuroscience Society's Annual Meeting (April, 2020a), Boston, MA

Chamberlain, J. D., Hultman, C., Martinez, V., Carpenter, C., Overman, A., Dennis, N. *Configuration Manipulation Impacts Neural Patterns in Medial Temporal Lobe in Associative Memory Retrieval.* Presented at the Cognitive Neuroscience Society's Annual Meeting (March, 2019c), San Francisco, CA

Chamberlain, J. D., Gray, C., McGraw, K., Babu, H., Overman, A, Dennis, N. A. *The Influence of Memory Performance on Neural Representations Supporting Associative Retrieval.* Presented at the Cognitive Neuroscience Society's Annual Meeting (March, 2019b), San Francisco, CA

Chamberlain, J. D., Gagnon, H., Lalwani, P., Cassady, K., Simmonite, M., Foerster, B., Petrou, M., Seidler, R, Taylor, S., Weissman, D., Polk, T. A., *GABA Levels in Ventral Visual Cortex Decline with Age and Predict Neural Distinctiveness.* Presented at the Dallas Aging and Cognition Conference (January, 2019a), Dallas, TX

Chamberlain, J. D., Turney, I., Goodman, J., Hakun, J., Dennis, N. *Understanding the Relationship between False Memory and White Matter in Younger and Older Adults*. Presented at the Cognitive Aging Conference (May, 2018), Atlanta, GA

Bowman, C., Webb, C., **Chamberlain, J. D.**, Dennis, N. *Age Differences in Neural Pattern Similarity Associated with False Recognition*. Presented at the Cognitive Neuroscience Society's Annual Meeting (March, 2018), Boston, MA

Chamberlain, J. D., Gagnon, H., Lalwani, P., Cassady, K., Simmonite, M., Foerster, B., Petrou, M., Seidler, R, Taylor, S., Weissman, D., Polk, T. A., *Neural Distinctiveness and GABA Concentrations in the Aging Ventral Visual Cortex.* Presented at the Society for Neuroscience's Annual Conference (November, 2017), Washington, D.C.

Cassady, K., Gagnon, H., **Chamberlain, J. D.**, Lalwani, P., Simmonite, M., Petrou, M., Seidler, R., Taylor, S., Weissman, D., Polk, T. A., *Aging in the Somatosensory System: Neural Distinctiveness, GABA Concentrations, and Tactile Function.* Presented at the Society for Neuroscience's Annual Conference (November, 2017), Washington, D.C.

Lalwani, P., Gagnon, H., Cassady, K., **Chamberlain, J. D.**, Simmonite, M, Petrou, M., Seidler, R., Taylor, S., Weissman, D., Polk, T. A. *Age-related Declines in Neural Distinctiveness and GABA Concentrations in the Auditory Cortex.* Presented at the Society for Neuroscience's Annual Conference (November, 2017), Washington, D.C.

Simmonite, M., Lovden, M., Lalwani, P., **Chamberlain, J. D.**, Polk, T. A. *Independent Components of Neural Activation Before and After 100 Days of Cognitive Training.* Presented at the Society for Neuroscience's Annual Conference (November, 2017), Washington, D.C.

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Simmonite, M., Gagnon, H., Carp, J., Cassady, K., **Chamberlain, J. D.**, Lalwani, P., Ossher, L., Foerster, B., Park, D. C., Petrou, M., Seidler, R., Taylor, S., Weissman, D., Polk, T. A. *Age-related Reductions of Neural Distinctiveness and Fluid Processing are Associated with Lower GABA Concentrations in Visual, Auditory, and Sensorimotor Cortex.* Presented at the International Symposium on MRS of GABA (September, 2017), Leuven, Belgium.

Chamberlain, J. D., Vineet, R., Nielsen, K., Alicia, A., Gonzalez, R., *Trail Making and Electrodermal Activity in Older Adults: When Does Arousal Indicate Cognition?* Presented at the Gerontological Society of America's 69th Annual Scientific Meeting (November, 2016), New Orleans, LA.

Chamberlain, J. D., Polk, T. A., *GABA and Age-Related Neural Dedifferentiation in the Visual Cortex.* Presented at the Psychology Research Symposium at the University of Michigan (April, 2015), Ann Arbor, MI.

Chamberlain, J. D., Breitenbach, S., *Effects of Copper Solution on Plant-Rhizobia Interactions.* Presented at the 2012 Math and Science Symposium at the Grand Valley State University (March, 2012), Grand Rapids, MI.

Talks

Bowman, C., Webb, C., **Chamberlain, J. D.**, Dennis, N. *Investigating Dedifferentiation in Visual Cortex Underlying False Memories in Aging*. Presented at the Cognitive Neuroscience Society's Annual Meeting (March, 2018), Boston, MA

Research Experience

Graduate Research Assistant 2019-2020
The Study of Healthy Aging & Applied Research Programs, State College, PA
Primary Investigator: Lesley Ross PhD.
Primary Project: Neural mechanisms associated with attention training in healthy older adults

Graduate Research Assistant 2017-Present
Cognitive Aging & Neuroimaging Lab, State College, PA
Primary Investigator: Nancy Dennis PhD.
Primary Project: Age-related differences in neural patterns underlying true and false memories

Research Associate 2016-2017
BioSocial Methods Collaborative, Research Center for Group Dynamics, Institute for Social Research, Ann Arbor, MI
Primary Investigator: Richard Gonzalez PhD.
Primary Project: Physiological arousal during neuropsychological testing in older adults

Research Assistant I 2014-2017
Computational and Cognitive Neuroscience Lab, Ann Arbor, MI
Primary Investigator: Thad Polk PhD.
Primary Project: Age-related differences in neural distinctiveness and GABA levels

Laboratory Assistant 2014-2016
Juanita Merchant Lab, Biomedical Science Research Building, Ann Arbor, MI
Primary Investigator: Juanita Merchant PhD.
Primary Projects: Mouse necropsy, immunohistochemistry staining, plasmid transformation/isolation

Teaching Assistant Experience-The Pennsylvania State University

Psychology 490-False Memory & Eyewitness Testimony Spring 2021
Psychology 260-Neural Basis of Human Behavior Fall 2020
Guest Lecture: Neuroimaging
Psychology 458-Advanced Visual Cognition Spring 2019
Psychology 452-Learning & Memory Spring 2019
Guest Lecture: Older Adult Memory Interventions
Psychology 462-Physiological Psychology Fall 2018
Guest Lectures: Neuroimaging Parts I & II

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Guest Lectures: Neuropsychology Parts I & II	
Psychology 260-Neural Basis of Human Behavior	Fall 2018
Psychology 452-Learning & Memory	Spring 2018
Psychology 261-Introduction to Learning Psychology	Spring 2018
Psychology 243-Introduction to Well-being and Positive Psychology	Fall 2017

Graduate Student Instructor Experience-University of Michigan

Psychology 240-Introduction to Cognitive Psychology	Winter 2017
Psychology 345-Introduction to Human Neuropsychology	Fall 2016

Professional Memberships

Cognitive Neuroscience Society	2017-Present
Society for Neuroscience	2017-Present
Gerontological Society of America	2016-Present

Leadership Roles

Brownbag Coordinator, Cognitive Area, Penn State Psychology Department	2018-2019
President, Undergraduate Psychology Society, University of Michigan	2015-2016
Education Committee Member, Neuroscience Student Association, University of Michigan	2014-2015

Awards

Bruce V. Moore Graduate Fellowship	2021
Psi Chi Teaching Assistant of the Year	2021
Psi Chi Teaching Assistant of the Year	2019
Semper Fidelis Award in Musical Excellence	2012

Ad Hoc Reviewer

Memory
Neurobiology of Aging
MONTyBOCA Trail Meals

Software Proficiencies

MATLAB (Psychtoolbox; SPM12; CoSMoMVPA), FSL, Linux, E-Prime, SPSS, R Studio, Qualtrics, Noldus Observer XT, Inqscribe