

Caitlin R. Bowman, Ph.D.

Department of Psychology, University of Oregon

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Education and Training

- 2015-2020 Postdoctoral researcher, University of Oregon
Advisor: Dagmar (Dasa) Zeithamova
- 2010 - 2015 Ph.D., The Pennsylvania State University
Advisor: Nancy Dennis
- 2008-2010 Research Assistant, University of Oregon
Advisors: Michael Anderson, Margaret Sereno
- 2006 - 2009 B.A., Psychology (Magna Cum Laude, with honors), New York University
Advisors: Lila Davachi, Madeline Heilman

Fellowships, Honors, and Awards

- 2017 - 2020 Postdoctoral National Research Service Award
National Institute of Aging
- 2018 Society for Neuroscience Trainee Professional Development Award
- 2016 Enhancing Postdoctoral Experience Award, University of Oregon
- 2015 Penn State Psychology Department Outstanding Graduate Teaching Award
- 2014 APA Dissertation Award
- 2014 Research and Graduate Studies Office Dissertation Award, Penn State
- 2013 Superior Teaching and Research Award, Penn State
- 2011 Kraft Wilson Graduate Fellowship in Social Sciences, Penn State
- 2009 *Magna cum laude*, New York University
- 2009 Founder's Day Award, New York University
- 2006-2009 Deans List, New York University
- 2006-2009 Baird Scholar, New York University

Publications

Journal articles – in progress

Bowman, C.R., Iwashita, T., & Zeithamova, D. (2020). Model-based fMRI reveals co-existing specific and generalized concept representations. *bioRxiv* [Preprint].

Bowman, C.R., Ashby, S.R., & Zeithamova, D. (2020). Age effects on category learning and their relationship to deficits in memory specificity. *PsyArXiv*. [Preprint].

Journal articles – published

Ashby, S.R., **Bowman, C.R.**, & Zeithamova, D. (in press). Perceived similarity ratings predict generalization success after traditional category learning and a new paired-associate learning task. *Psychonomic Bulletin and Review*.

Bowman, C.R. & Zeithamova, D. (in press). Training set coherence and set size effects on concept generalization and recognition. *Journal of Experimental Psychology: Learning Memory & Cognition*.

Frank, L.E.*, **Bowman, C.R.***, & Zeithamova, D. (2019). Differential functional connectivity along the long axis of the hippocampus aligns with differential role in memory specificity and generalization. *Journal of Cognitive Neuroscience*, 31(12), 1-18.

Bowman, C.R., Chamberlain, J.C., & Dennis, N.A. (2019). Sensory representations supporting memory specificity: Age effects on behavioral and neural discriminability. *Journal of Neuroscience*, 39(12), 2265-2275.

Bowman, C.R. & Zeithamova, D. (2018). Abstract memory representations in the ventromedial prefrontal cortex and hippocampus support concept generalization. *Journal of Neuroscience*, 38(10), 2605-2614.

Huhn, J.M., III, **Bowman, C.R.**, Dennis, N.A. (2018). Repeated study of items with and without repeated context: aging effects on memory discriminability. *Memory*, 26(5), 603-609.

Bowman, C.R.*, Shalome, S.L.*, & Dennis, N.A. (2017). Modulation of target recollection and recollection rejection networks due to retrieval facilitation and interference. *Learning & Memory*, 24(11), 607-611.

Geiger, A.N.*, **Bowman, C.R.***, Clothier, T. & Adams, R.B., Jr. (2017). Witnessing harm to the environment stimulates neural activation in networks associated with empathic responses. *Social Justice Research*.

Bowman, C.R., & Dennis, N.A. (2016). The neural basis of recollection rejection: increases in hippocampal-prefrontal connectivity in the absence of a shared recall-to reject and target recollection network. *Journal of Cognitive Neuroscience*, 28(8), 1194-1209.

Bowman, C.R. & Dennis, N.A. (2015). Age differences in the neural correlates of novelty processing: The effects of item-relatedness. *Brain Research*, 1612, 2-15.

Bowman, C.R. & Dennis, N.A. (2015) The neural correlates of correctly rejecting lures during memory retrieval: The role of item-relatedness. *Experimental Brain Research*, 233, 1963-1975.

Dennis, N.A., **Bowman, C.R.**, & Peterson, K.M. (2014) Neural correlates mediating false recollection in older adults. *Neurobiology of Aging*, 35(2), 395-407.

Dennis, N.A., **Bowman, C.R.** & Vandekar, S.N. (2012) True and phantom recollection: an fMRI investigation of similar and distinct neural correlates and connectivity. *Neuroimage*, 59, 2982-2993.

*These authors contributed equally to this work.

Chapters

Dennis, N.A., **Bowman, C.R.**, & Turney, I.C. (2015). Functional neuroimaging of false memory. *The Cognitive Neuroscience of Human Memory*. Addis, D.R., Barense, M. & Duarte, A. (eds), Wiley-Blackwell.

Liben, L.S. & **Bowman, C.R.** (2013). The development of memory from a constructivist perspective. *Handbook on the Development of Children's Memory*. Bauer, P. & Fivush, R. (eds), Wiley-Blackwell.

Conference Presentations

Symposia

Garcia, S., **Bowman, C.R.**, Zeithamova, D. (2018). Different types of negative emotion may impact memory for associations. *California State University Summer Symposium at UCLA, Los Angeles, CA*.

Bowman, C.R., Webb, C.E., Chamberlain, J., Kurkela, K. & Dennis, N.A. (2018). Investigating dedifferentiation in visual cortex underlying false memories in aging. *Presented as part of the Neural dedifferentiation and age-related cognitive decline symposium at the 25th Annual Cognitive Neuroscience Society Meeting, Boston, MA*.

Zeithamova, D., Ashby, S.R., **Bowman, C.R.** (2017). Changes in face representations following category learning. *Presented at the Cognitive Science Association for Interdisciplinary Learning annual meeting, Hood River, OR*.

Zeithamova, D., Resnick, A., de Araujo Sanchez, M.A., & **Bowman, C.R.** (2016) No trade-off between memory specificity and memory generalization. *Presented at the 6th International Conference on Memory, Budapest, Hungary*.

Posters

Bowman, C.R., Iwashita, T., & Zeithamova, D. (2020). Age effects on memory generalization in a concept-learning task. *Poster to be presented at the 2020 Cognitive Aging Conference, Atlanta, GA*.

Bowman, C.R. & Zeithamova, D. (2019). Concept generalization in young and older adults. *Poster presented at the 26th Annual Cognitive Neuroscience Society Meeting, San Francisco, CA*.

Iwashita, T., **Bowman, C.R.** & Zeithamova, D. (2019). Investigating contributions of memory systems to concept generalization using individual differences in cognitive abilities. *Poster to be presented at the 26th Annual Cognitive Neuroscience Society Meeting, San Francisco, CA*.

Frank, L.E., **Bowman, C.R.**, & Zeithamova, D. (2019). Distinct connectivity patterns of anterior and posterior hippocampus. *Poster to be presented at the 26th Annual Cognitive Neuroscience Society Meeting, San Francisco, CA*.

Ashby, S.A., **Bowman, C.R.**, & Zeithamova, D. (2019). Spontaneous generalization following paired-associate training. *Poster to be presented at the 26th Annual Cognitive Neuroscience Society Meeting, San Francisco, CA*.

Bowman, C.R. & Zeithamova, D. (2018). Tracking the development of specific and generalized representations during concept learning. *Poster presented at the 48th Annual Society for Neuroscience Conference, San Diego, CA.*

Ashby, S., **Bowman, C.R.**, & Zeithamova D. (2018). Spontaneous generalized memory representations following paired-associates training. *Poster presented at the 48th Annual Society for Neuroscience Conference, San Diego, CA.*

Frank, L., **Bowman, C.R.**, & Zeithamova, D. (2018). Distinct connectivity patterns along the hippocampal anterior-posterior axis. *Poster presented at the 48th Annual Society for Neuroscience Conference, San Diego, CA.*

Bowman, C.R., Webb, C.E., Chamberlain, J., & Dennis, N.A. (2018). Age differences in pattern similarity associated with false recognition. *Poster presented at the 25th Annual Cognitive Neuroscience Society Meeting, Boston, MA.*

Bowman, C.R. & Zeithamova, D. (2017). Prototype model correlates in the VMPFC during concept generalization. *Poster presented at the 47th Annual Society for Neuroscience Conference, Washington, D.C.*

Bowman, C.R. & Zeithamova, D. (2017). Prototype representations in VMPFC and hippocampus during concept generalization. *Poster presented at the 24th Annual Cognitive Neuroscience Society Meeting, San Francisco, CA.*

Ashby, S.R., **Bowman, C.R.**, & Zeithamova, D. (2017). Changes in item representations following category learning. *Poster presented at the 24th Annual Cognitive Neuroscience Society Meeting, San Francisco, CA.*

Adke, A., **Bowman, C.R.**, & Zeithamova, D. (2017). Aging effects on perceptual and conceptual memory transformations from short-term to long-term memory. *Poster presented at the 24th Annual Cognitive Neuroscience Society Meeting, San Francisco, CA.*

Bowman, C.R. & Zeithamova, D. (2016) Neural representations of concepts and exemplars: comparing generalization and recognition. *Poster presented at the 46th Annual Society for Neuroscience Conference, San Diego, CA.*

Bowman, C.R. & Zeithamova, D. (2016) Flexible use of category representations. *Poster presented at the 6th International Conference on Memory, Budapest, Hungary.*

Bowman, C.R., Huhn III, J.M., & Dennis, N.A. (2016) Repeated study of items with and without repeated context: Aging effects on recollection and familiarity. *Poster presented at the 6th International Conference on Memory, Budapest, Hungary.*

Bowman, C.R. & Dennis, N.A. (2016). Recall-to-reject: Aging effects on the neural correlates of recollection rejection. *Poster presented at the 2016 Cognitive Aging Conference, Atlanta, GA.*

Sine, S., **Bowman, C.R.**, & Dennis, N.A. (2016). The neural correlates of related lure interference on correct recognition and false memory suppression. *Poster presented at the 23rd Annual Cognitive Neuroscience Society Meeting, New York, NY.*

Bowman, C.R., & Dennis, N.A. (2015). Recall-to-reject: The neural correlates of false memory suppression using true recollection. *Poster presented at the 22nd Annual Cognitive Neuroscience Society Meeting, San Francisco, CA.*

Bowman, C.R., & Dennis, N.A. (2015). Recall-to-reject: The neural correlates of false memory suppression using true recollection. *Poster presented at the Penn State Graduate Exhibition.*

Geiger, N., **Bowman, C.R.**, Clothier, T., Nelson, A.J., Adams, R.B., Jr. (2015). Witnessing harm to the environment stimulates neural activation in empathic networks. *Poster presented at the 4th annual Sustainability Psychology preconference for the Society for Personality and Social Psychology, Long Beach, CA.*

Bowman, C.R., Turney, I.C., Dennis, N.A., & Adams, R.B., Jr. (2014). The effects of face age on memory encoding: neural similarities and differences in activity and functional connectivity. *Poster presented at the 21st Annual Cognitive Neuroscience Society Meeting, Boston, MA.*

Cárdenas, R.A., Garrido, C.O., **Bowman, C.R.**, Adams, R.B., Jr. (2014). Gender and care-giving tendencies drive selective sensitivity in the fusiform face area to different aged faces. *Poster presented at the 21st Annual Cognitive Neuroscience Society Meeting, Boston, MA.*

Bowman, C.R. & Dennis, N.A. (2013). The neural correlates mediating age deficits in novelty detection. *Poster presented at the 20th Annual Cognitive Neuroscience Society Meeting, San Francisco, CA.*

Bowman, C.R., Peterson, K.M. & Dennis, N.A. (2012). The neural correlates mediating true and false recollection in younger and older adults. *Poster presented at the 2012 Cognitive Aging Conference, Atlanta, GA.*

Bowman, C.R., Peterson, K.M. & Dennis, N.A. (2012). The effects of item relatedness on the neural correlates of novelty detection. *Poster presented at the 19th Annual Cognitive Neuroscience Society Meeting, Chicago, IL.*

Bowman, C.R., Vandekar, S.N. & Dennis, N.A. (2011). Neural correlates mediating true and false recollection. *Poster presented at the 41st Annual Society for Neuroscience Conference, Washington DC.*

Ezzyat, Y., **Bowman, C.R.**, & Davachi, L. (2009). The influence of event perception on long-term memory formation. *Poster presented at the 39th Annual Society for Neuroscience Conference, Chicago, IL.*

Teaching Experience – Lead Instructor

Penn State, University Park (in residence)

Neurological Bases of Behavior 2014, 2015

Penn State, World Campus (online)

Introduction to Cognitive Psychology 2014

Research Methods in Psychology 2013

Teaching Experience - Teaching Assistantships

Penn State University (in residence)

Graduate level fMRI methods 2013, 2014

Instructor for lab portion of the course

Psychology of Emotion 2014

Childhood interventions 2013

Graduate level Social Neuroscience 2013

Research Methods 2012

Instructor for weekly lab portion of the course

Human Sexuality 2012

Learning and Memory 2011, 2012

Guest lecture: “The cognitive and neural basis of metamemory”

Senior Seminar 2011

Guest lecture: “The role of memory in expert-level knowledge”

Cognitive Development 2010

New York University (in residence)

Introduction to Psychology 2009-2010

Instructor for weekly recitation section

Undergraduate mentees

University of Oregon:

Madeleine Eustis

Melissa Adler

Wenjia Cao

Takako Iwashita

Sara Garcia (SPUR intern from Cal State Fullerton)

Stefani Aleman

Anisha Adke

Penn State:

Shalome Sine

Professional Development

2017 Research mentor training, Online through University of Wisconsin-Madison's NIH-funded *What Matters in Mentoring Project*

Outreach

2018 Brain Awareness Week workshop, Edison Elementary School, Eugene, OR
2017 Memory and aging: Transfer of information from short-term to long-term memory, Community talk given to members of the Osher Lifelong Learning Institute, Eugene, OR
2017 Mental Time Travel, Hands-on workshop for Apprenticeships in Science & Engineering's Saturday Academy, Corvallis, OR
2017 Mental Time Travel, Hands-on workshop for Summer Academy to Inspire Learning, Eugene, OR
2016 Science Open House, Science Program to Inspire Creativity and Excellence, Eugene, OR
2016 Meet a Scientist, Science Factory, Eugene, OR

Committee Memberships

2014 – 2015 Social, Life, and Engineering Sciences Imaging Center Student Advisory Council, Penn State
2013, 2015 Student representative on Penn State search committees

Professional Memberships

American Psychological Association – Society for Neuroscience – Cognitive Neuroscience Society

Ad-hoc reviewer

Aging, Neuropsychology, and Cognition – Brain and Behavior – Brain and Cognition – Brain Research – Cognition – Cortex – eLife – Entropy – Frontiers in Neuroscience – Journal of Applied Research on Memory and Cognition – Journal of Cognitive Neuroscience – Journal of Experimental Psychology: Learning, Memory, and Cognition – Journal of Gerontology: Psychological Sciences – Journal of Neuroscience – Memory – Neurobiology of Aging – NeuroImage – Psychological Bulletin and Review – Psychology and Aging – Quarterly Journal of Experimental Psychology

Programming consultation

Stice Lab – Oregon Research Institute