

# Debbie M. Yee

## *Curriculum Vitae*

September 2019

### Contact

Cognitive, Linguistics, & Psychological Sciences  
Brown University  
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### Education & Training

- 2019-            Postdoctoral Research Associate, Brown University  
                  Advisor: Amitai Shenhav
- 2013-2019     Ph.D. in Psychological & Brain Sciences, Washington University in St. Louis  
                  Advisor: Todd Braver
- 2013-2015     M.A. in Psychological & Brain Sciences, Washington University in St. Louis  
                  Advisor: Todd Braver
- 2007-2011     B.S. in Brain & Cognitive Sciences, Massachusetts Institute of Technology

### Honors and Awards

- 2019            Teaching Citation, Washington University
- 2019            Mentorship/Collaboration Award, Scientific Research Network on Decision  
                  Neuroscience and Aging
- 2017            Outstanding Teaching Assistant Award, Psychological & Brain Sciences, WashU
- 2017            Summer School In Social Neuroscience and Neuroeconomics Fellow
- 2017-2019     NIH National Research Service Award Pre-Doctoral Fellowship (F31)
- 2016            NIH Aging and Development Training Fellowship (T32)
- 2016            Kavli Summer Institute for Cognitive Neuroscience Fellow
- 2015, 2017     Reinforcement Learning & Decision-Making Student Travel Fellowship
- 2014, 2015     National Science Foundation Graduate Research Fellowship, *Honorable Mention*
- 2014-2016     NIH Cognitive, Computational & Systems Neuroscience Training Fellowship (T32)
- 2010            MIT Undergraduate Research Opportunities Program Direct Funding

### Research Grants

NIA/NIH Yee (PI) 6/1/2017–8/31/2018  
Interactions of Motivational Incentives and Cognitive Control in Older Adult Decision-Making  
Pilot project examining the role of motivation and cognitive control in mediating changes in the  
psychological and neural mechanisms of older adult decision-making.  
Role: Subaward PI (on Samanez-Larkin R24-AG054355)  
Direct Costs: \$30,000

Mallinckrodt Institute Radiology/Washington University Braver (PI) 12/2017  
Dopaminergic and Neural Mechanisms of Incentive Integration and Motivated Cognitive Control  
Role: Co-wrote grant, planning/coordinating PET-MR pilot study and data collection.  
Direct costs: \$22,749

## Publications

**Yee, D.M.**, Adams, S., Beck, A., Braver, TS. (2019). Age-Related Differences in Motivational Integration and Cognitive Control. *Cognitive, Affective, Behavioral Neuroscience*. 19(3):692-714. OSF directory: <https://osf.io/4urc6/>

**Yee, DM.**, Braver, TS. (2018). Interactions of Motivation and Cognitive Control. *Current Opinion in Behavioral Sciences*. 19:83-90.

**Yee, DM.**, Krug, MK., Allen, AZ., Braver, TS. (2016). Monetary and Liquid Incentives Combine to Motivate Cognitive Task Performance. *Frontiers in Psychology*. 6:2037. OSF directory: <https://osf.io/ajgp3/>

Solway, A., Diuk, C., Cordova, N., **Yee, D.**, Barto, A., Niv, Y., Botvinick, M. M. (2014). Optimal Behavioral Hierarchy. *PLoS Computational Biology*. 10(8)

Blackburne, L.K., Eddy, M., Kalra, P., **Yee, D.**, Sinha, P., Gabrieli, J.D.E. (2014). Neural Correlates of Letter Reversal in Children and Adults. *PLoS ONE*. 9(5)

## Book Chapters

**Yee, DM.**, Braver, TS. (in press). Computational Models of Cognitive Control: Past and Current Approaches. To appear in P. Series (Ed.), *Computational Psychiatry* (pp.??). MIT Press.

## Preprints

**Yee, D. M.**, & Braver, T. S. (2018, October 25). Computational Models of Cognitive Control: Past and Current Approaches. <https://doi.org/10.31234/osf.io/k4625>

## In Prep

**Yee, DM.**, Dean Wolf, C., Shenhav, A., Braver, TS. A Hierarchical Drift Diffusion Model of Motivation-Cognitive Control Interactions.

**Yee, DM.**, Shapiro, K., Braver, TS. Adolescent Motivation and Cognitive Control.

**Yee, DM.**, Hallenback, H.W., Naumann, A., Shapiro, K., Thompson, R.J., Braver, TS. Monetary, Liquid, and Social Incentives and Cognitive Control: Individual Differences in Affect and Depressive Symptoms.

## Conference Talks

**Yee, DM.**, Braver, TS. Neural Mechanisms of Motivational Incentive Integration and Cognitive Control. *Cognitive Neuroscience Society Data Blitz*. (San Francisco, CA, Mar 22-26, 2019).

**Yee, DM.**, Braver, TS. Neural mechanisms of motivational integration and cognitive control: Implications for healthy aging. *48<sup>th</sup> Annual Meeting for the Society for Neuroscience*. (San Diego, CA, November 3-7, 2018)

## Conference Posters

Leng, X., **Yee DM.**, Shenhav, A. The influence of positive and negative incentives on cognitive effort persistence. *7<sup>th</sup> International Symposium on Motivation and Cognitive Control*. (Berlin, Germany, Sept 16-18, 2019)

**Yee DM.**, Braver, TS. Neural Mechanisms of Motivational Incentive Integration and Cognitive Control. *7<sup>th</sup> International Symposium on Motivation and Cognitive Control*. (Berlin, Germany, Sept 16-18, 2019)

**Yee, DM.**, Braver, TS. Neural Mechanisms of Motivational Incentive Integration and Cognitive Control. *Cognitive Neuroscience Society Annual Meeting*. (San Francisco, CA, Mar 22-26, 2019).

Nauman, AN., **Yee, DM.**, Hallenback, HW., Thompson, RJ., Braver, TS. Motivational Integration and Cognitive Control: Dissociable Effects of Monetary, Liquid, and Social Incentives. *Society for Affective Science*. (Boston, MA, March 21-23, 2019).

Hallenback, HW., **Yee, DM.**, Nauman, AN., Thompson, RJ., Braver, TS. Depression and Motivation: Parsing Monetary, Social, and Liquid Incentives. *Society for Affective Science*. (Boston, MA, March 21-23, 2019).

**Yee, DM.**, Braver, TS. Neural Mechanisms of Motivational Incentive Integration and Cognitive Control. *Society for Neuroeconomics Annual Meeting*. (Philadelphia, PA, Oct 5-7, 2018)

**Yee, DM.**, Braver, TS. Neural Mechanisms of Motivational Incentive Integration and Cognitive Control. *Eighth International Symposium on Biology of Decision Making*. (Paris, France, May 24-26, 2018)

**Yee, DM.**, Braver, TS. Reward and Punishment Effects on the Integration of Monetary and Liquid Incentives on Cognitive Control: Effects of Age. *Cognitive Aging Conference*. (Atlanta, GA, May 3-6, 2018)

**Yee, DM.**, Dean Wolf, C., Braver, TS. Reinforcement and Punishment Effects on Incentive Integration and Motivated Cognitive Control. *25<sup>th</sup> Annual Cognitive Neuroscience Society Meeting*. (Boston, MA, March 24-27, 2018)

**Yee, DM.**, Braver, TS. Reinforcement and Valence Effects on Incentive Integration and Motivated Cognitive Control. *Multi-Disciplinary Conference on Reinforcement Learning and Decision Making*. (Ann Arbor, MI, June 11-14, 2017)

**Yee, DM.**, Adams, S., Weiss, J., Braver, TS. Motivation-Cognition Interactions in Older and Younger Adults. *Association for Psychological Science*. (Boston, MA, May 25-27, 2017)

**Yee, DM.**, Adams, S., Weiss, J., Braver, TS. Motivation-Cognition Interactions in Older and Younger Adults. *The Society for Affective Science*. (Boston, MA, April 27, 2017)

**Yee, D.**, Braver, T. Monetary and Liquid Incentives Combine to Modulate Cognitive Task Performance. *56<sup>th</sup> Annual Meeting of The Psychonomic Society*. (Chicago, IL, November 21, 2015)

**Yee, D.**, Braver, T. Monetary and Liquid Incentives Combine to Modulate Cognitive Task Performance. *Society for Neuroeconomics Annual Meeting*. (Miami, FL, September 25, 2015)

Oksanen, K., **Yee, D.**, Koller, J., Black, K., Braver, T. Applying simultaneous PET/MR to Explore Relationships Between Task-Evoked BOLD Signals and Dopamine. *Organization of the Human Brain Mapping Meeting*. (Honolulu, HI, June 15, 2015).

Botvinick, M. M., Diuk, C., **Yee, D.**, Cheong, J., Weinstein, A., Niv, Y. & Barto. A. A general form for state-space representations in frontal and temporal cortex. *44<sup>th</sup> Annual Meeting of the Society for Neuroscience*. (Washington D.C., November 18, 2014).

Solway, A., Diuk, C., Cordova, N., **Yee, D.**, Barto, A., Niv, Y., Botvinick, M. Optimal Task Decomposition. *Multi-Disciplinary Conference on Reinforcement Learning and Decision Making Meeting*, (Princeton, NJ, October 25, 2013).

Diuk, C., **Yee, D.**, Ribas-Fernandes, J, Cordova, N., Schapiro A., Niv, Y., Botvinick., M. Divide and Conquer: Task Decomposition in Humans. *42<sup>nd</sup> Annual Meeting of the Society for Neuroscience*, (New Orleans, LA, October 16, 2012).

Blackburne, L.K., Eddy, M., Kalra, P., **Yee, D.**, Del Tufo, S., Sinha, P., Gabrieli, J.D.E. Neural Correlates of Letter Reversal in Children and Adults. *19<sup>th</sup> Annual Cognitive Neuroscience Society Meeting*, (Chicago, IL, April 2, 2012).

Blackburne, L.K., Palti, D., Perea, M., Kim, J., Huang, C., **Yee, D.**, Gabrieli, J.D.E. Attention and Reading Skill Modulate Selectivity of the Left Occipitotemporal Region. *Organization of Human Brain Mapping Meeting*, (Barcelona, Spain, June 6, 2010).

Blackburne, L.K., Palta, D., Perea, M., Kim, J., Huang, C., **Yee, D.**, Gabrieli, J.D.E. Functional Connectivity of Left Fusiform to Phonological Processing Regions Increases with Reading Skill. *39<sup>th</sup> Annual Meeting of the Society for Neuroscience*, (Chicago, IL, October 20, 2009).

## **Invited Articles**

Weston, S.J., **Yee, D.** Why You Should Become a User: A Brief Introduction to R. *The Observer* (29)3, Association for Psychological Science. (March 2017).

## Open Datasets

Etzel, J., Yee, D., Lamichhane, B., Jeffers, M., Di Rosa, E., Crawford, J., An, H., Braver, T. (2018). Multiband Acquisition Dataset.  
website: <https://openneuro.org/datasets/ds001399/versions/00002>

## Invited Talks

2018 Cognitive, Computational, and Systems Neuroscience Retreat (St. Louis, MO)  
2017 Shenhav Lab Meeting, Brown University (Providence, RI)  
Washington University Neuroscience Retreat (St. Louis, MO)

## Teaching Experience and Certifications

2019 Completed Teaching Citation at Washington University

2014-2017 Co-Instructor, Annual Introductory R & Advanced R workshops  
*Developed programming for and co-taught two-day workshop to introduce basics of R-Statistical programming language to students, postdoctoral fellows, and faculty in the Psychological and Brain Sciences Department. Additionally presented monthly 1-hour workshops to Psychology department on relevant packages, including R-markdown, psych, ggplot2, dplyr, tidyr, and yaRrr.*  
*Workshop materials can be found here: <https://debyeeneuro.com/r-tutorials/>*

2016 Fall Teaching Assistant, Psych 5066: Graduate Quantitative Methods I  
Guest Lecturer, Graduate Quantitative Methods I

2017 Spring Teaching Assistant, Psych 5067: Graduate Quantitative Methods II  
Guest Lecturer, Graduate Quantitative Methods II  
*NOTE: Quantitative Methods I and II are the requisite graduate level statistics courses for first year Psychological & Brain Sciences PhD students*

2018 Fall Guest Lecturer, Cognitive Neuroscience  
*Introductory survey course on cognitive neuroscience for undergraduate students*  
Title: “Executive functions (& its interactions with reward)”

2019 Spring Guest Lecturer, Advanced Cognitive Neuroscience  
*Upper level seminar course on cognitive neuroscience for undergraduate students*  
Title: “Performance Monitoring and the Anterior Cingulate Cortex”

## Undergraduate Mentoring

*At Washington University in St. Louis*

2014-2015 Harold Lee  
2015-2016 Jessica Weiss  
2015-2016 Carolyn Dean Wolf  
2015-2016 Rachel Lilenbaum  
2015-2018 Katie Shapiro  
2016-2017 Marisa Gong  
2016-2017 Aaditya Manirajan  
2017 Sarah Finlay (*Dartmouth*)  
2018 Casey Mason  
2018 Sara Hendrix

## Pre-Doctoral Research Experiences

2011-2013 Research Specialist, Princeton University  
PI: Matthew Botvinick M.D., Ph.D.  
2009-2010 Research Assistant, Massachusetts Institute of Technology  
PI: John Gabrieli, Ph.D.  
2008 Research Assistant, Massachusetts Institute of Technology  
PI: Edward Boyden, Ph.D.

## Professional Memberships

Association for Psychological Science  
Association for Women in Science, *St. Louis Chapter Co-President (2014-2017)*  
Cognitive Neuroscience Society  
Psychonomics  
Society for Affective Science  
Society for Neuroeconomics  
Society for Neuroscience

## Journal Reviewer

Social and Personality Compass; Collabra; Frontiers in Human Neuroscience; Neuropsychologia;  
Scientific Reports; Developmental Cognitive Neuroscience

## Additional Training

2013-2014 Completion of Cognitive, Computational, and Systems Neuroscience Pathway  
2016 Computational Psychiatry Course, *Translational Neuromodeling Unit, Zurich, CH*  
2017 AFNI Bootcamp  
2018 Computational Psychiatry Workshop, *San Diego, CA*  
2019 Harmonization Workshop, Scientific Research Network on Decision Neuroscience and Aging, *Miami, FL*

## University and Community Service

Teen Science Café Network Conference Panel: Understanding the Motivations of Scientist-Presenters, Panelist (2018)

Teen Science Cafe, *St. Louis Science Center, Academy of Science STL, Cahokia HS* (2018)

Washington University NIH Fellowship Writing Workshop Mentor (2017)

Cognitive, Computational Systems Neuroscience, *Steering Committee* (2015-2018)

Psychology Grad Student Association, *Diversity Committee* (2014-2016)

Association for Women in Science – St. Louis Chapter, *President* (2014-2017)

MIT Educational Counselor (2011-2018), *Regional Chair* (2015-2018)

## Other Skills

**Programming:** R (expert), Matlab (expert), bash/tcsh (intermediate), Python (beginner)

**Languages:** English (native), French (intermediate, conversational), Chinese (conversational)