April 2025

Jordan E. Pierce, Ph.D.

Postdoctoral Researcher, University of Nebraska-Lincoln
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Research Experience and Skills

2020-present Postdoctoral Researcher, University of Nebraska-Lincoln

- Cognitive and Affective Neuroscience Laboratory, Dr. Maital Neta
- Analysis of the neural correlates of emotional valence bias and its relationship with emotion regulation across the lifespan
- Analysis in AFNI, R, MATLAB, and SPSS

2019-2020 Postdoctoral Researcher, University of Geneva, Switzerland

- Clinical and Experimental Neuropsychology Laboratory, Dr. Julie Péron
- Investigation of the role of the basal ganglia and cerebellum in emotional prosody using fMRI

2016-2020 Postdoctoral Researcher, University of Geneva, Switzerland

- Laboratory for Behavioral Neurology & Imaging of Cognition, Dr. Patrik Vuilleumier
- Neurofeedback training of visual attention using fMRI in patients with spatial neglect following stroke and in healthy adults
- Neuropsychological and fMRI assessment of spatial remapping during saccades
- Analysis in SPM and MATLAB

2011-2016 Graduate Student, University of Georgia

- Clinical and Cognitive Neuroscience Laboratory, Dr. Jennifer McDowell
- FMRI and eye tracking data collection of saccade tasks in healthy adults and individuals with schizophrenia
- Resting state analyses on fMRI data from individuals with schizophrenia, individuals with congenital aniridia, and overweight children
- Analysis in AFNI, FSL, Freesurfer, SPSS, and MATLAB
- Operation of GE 3T Signa console

Education

May 2016 Doctor of Philosophy in Psychology, University of Georgia

- Dissertation: “Cognitive Control of Simple and Complex Saccade Tasks in Varying Contexts assessed with Functional MRI”

Dec. 2013 Master of Science in Psychology, University of Georgia

- Thesis: "Saccade Trial Type Probability and Its Effects on Residual Inhibition and Task Switching Costs"

May 2010 Bachelor of Science in Psychology, University of North Carolina at Charlotte

- Magna Cum Laude, Honors in Psychology and University Honors Program
- Honors Thesis: "An ERP Study of Cerebral Hemispheric Differences in Suppression of Sentence-Irrelevant Meanings of Homographs"

Peer-Reviewed Journal Articles

1. **Pierce, J.E.**, Harp, N.R., Gross, J.J., & Neta, M. (submitted). Valence bias arises from both positive and negative responses to ambiguous stimuli.
2. Ceravolo, L., Thomasson, M., Constantin, I., Chassot, E., **Pierce, J**., Cionca, A., Grandjean, D., Assal, F., & Péron, J. (submitted). Differential engagement of associative-limbic and sensorimotor regions of the cerebellum and basal ganglia in explicit vs. implicit emotional processing.
3. **Pierce, J.E.**, & Neta, M. (revise and resubmit). Segregation of three resting-state brain networks predicts reappraisal success across the lifespan.
4. Lorenz, T., Harp, N., **Pierce, J.E**., Angeletti, P., & Neta, M. (2025). Chronic stress may amplify gender/sex differences in amygdala reactivity to ambiguous emotional stimuli. *Stress and Health,* 41: e70035. https://doi.org/10.1002/smi.70035
5. **Pierce, J.E**., Grisso, M. & Neta, M. (2025). Intersection of biases: In-group positivity for racially diverse ambiguous facial expressions. *Group Processes & Intergroup Relations.* https://doi.org/10.1177/13684302251320362
6. **Pierce, J.E.**, Wig, G., Harp, N.R., & Neta, M. (2024). Resting state functional network segregation of the default mode network predicts valence bias across the lifespan. *Imaging Neuroscience, 2:* 1-15. https://doi.org/10.1162/imag_a_00403
7. **Pierce, J.E.**, Jones, V.K., & Neta, M. (2024). A more connected future: how social connection, interdisciplinary approaches, and new technology will shape the affective science of loneliness, a commentary on the Special Issue. *Affective Science, 5:* 217-221. https://doi.org/10.1007/s42761-024-00266-w
8. **Pierce, J.E**., Petro, N.M., Clancy, E., Gratton, C., Petersen, S.E. & Neta, M. (2023). Specialized late cingulo-opercular network activation elucidates the mechanisms underlying decisions about ambiguity. *Neuroimage, 279:* 120314. https://doi.org/10.1016/j.neuroimage.2023.120314
9. **Pierce, J.E**., Thomasson, M., Voruz, P., Selosse, G., & Péron, J. Explicit and implicit emotion processing in the cerebellum: a meta-analysis and systematic review. (2023). *The Cerebellum, 22:* 852–864. https://doi.org/10.1007/s12311-022-01459-4
10. **Pierce, J.E**., Clancy, E., Petro, N.M., Dodd, M.D., & Neta, M. Task-irrelevant emotional faces impact BOLD responses more for prosaccades than antisaccades in a mixed saccade fMRI task. (2022). *Neuropsychologia*, *177*: 108428. https://doi.org/10.1016/j.neuropsychologia.2022.108428
11. **Pierce, J.E**., Haque, E. & Neta, M. Affective flexibility as a developmental building block of cognitive reappraisal: An fMRI study. (2022). *Developmental Cognitive Neuroscience*, *58*: 101170. https://doi.org/10.1016/j.dcn.2022.101170

12. Voruz, P., Allali, G., Benzakour, L., Nuber-Champier, A., Thomasson, M., Jacot De Alcantara, I., **Pierce, J**., Lövblad, K-O., Braillard, O., Coen, M., Serratrice, J., Pugin, J. Ptak, R., Guessous, I., Landis, B.N. Assal, F. & Péron, J. (2022). Long COVID neuropsychological deficits after severe, moderate, or mild infection. *Clinical and Translational Neuroscience. 6(2):* 9. https://doi.org/10.3390/ctn6020009
13. Voruz, P., **Pierce, J.**, Ahrweiller, K., Haegelen, C., Sauleau, P., Drapier, S., Drapier, D., & Péron, J. Motor symptom asymmetry predicts short and long-term cognitive decline following STN DBS in Parkinson's disease. (2022). *Scientific Reports, 12:* 3007. https://doi.org/10.1038/s41598-022-07026-5
14. **Pierce, J.E**., Blair, R.J.R., Clark, K.R., & Neta, M. (2022). Reappraisal-related downregulation of amygdala BOLD activation occurs only during late trial window. *Cognitive Affective Behavioral Neuroscience, 22:* 777–787. https://doi.org/10.3758/s13415-021-00980-z
15. Saj, A., **Pierce, J.E**., Ronchi, R., Ros, T., Thomasson, M., Bernati, T., Van de Ville, D., Serino, A., & Vuilleumier, P. (2021). Real-time fMRI and EEG neurofeedback: a perspective on applications for the rehabilitation of spatial neglect. *Ann Phys Rehabil Med. 64(5):* 101561. https://doi.org/10.1016/j.rehab.2021.101561
16. Ceravolo, L., Frühholz, S., **Pierce, J**., Grandjean, D., & Péron, J. (2021). Basal ganglia and cerebellar contributions to vocal emotion decoding: a high-resolution fMRI study. *Scientific Reports, 11:* 10645. https://doi.org/10.1038/s41598-021-90222-6
17. **Pierce, J.E**., Ronchi, R., Thomasson, M., Rossi, I., Casati, C., Saj, A., Vallar, G., & Vuilleumier, P. (2021). A novel computerized assessment of manual spatial exploration in unilateral spatial neglect. *Neuropsychological Rehabilitation, 32*(6): 1099–1120. https://doi.org/10.1080/09602011.2021.1875850
18. Benis, D., Haegelen, C., **Pierce, J.**, Milesi, V., Houvenaghel, J., Vérin, M., Sauleau, P., Grandjean, D., & Péron, J. (2020). Subthalamic nucleus oscillations during vocal emotion processing are dependent of the motor asymmetry of Parkinson's disease. *NeuroImage, 222:* 117215. https://doi.org/10.1016/j.neuroimage.2020.117215
19. **Pierce, J.E.** & Péron, J. (2020). The basal ganglia and the cerebellum in human emotion. *Social Cognitive and Affective Neuroscience, 15(5):* 599-613. https://doi.org/10.1093/scan/nsaa076
20. Saj, A., **Pierce, J**., Caroli, A., Ronchi, R., Thomasson, M., & Vuilleumier, P. (2020). Rightward exogenous attentional shifts impair perceptual memory of spatial locations in patients with left unilateral spatial neglect. *Cortex, 122:* 187-97. https://doi.org/10.1016/j.cortex.2019.10.002
21. **Pierce, J.E**., Saj, A., & Vuilleumier, P. (2019). Differential parietal activations for spatial remapping and saccadic control in a visual memory task. *Neuropsychologia, 131:* 129-38. https://doi.org/10.1016/j.neuropsychologia.2019.05.010
22. **Pierce, J**., Ricou, C., Thomasson, M., & Saj, A. (2019). Sensorimotor plasticity in response to predictable visual stimuli could correct the signs of spatial neglect. *Ann Phys Rehabil Med*, *62(3):* 198-99. https://doi.org/10.1016/j.rehab.2018.11.002
23. **Pierce, J**. & Saj, A. (2019). A critical review of the role of impaired spatial remapping processes in spatial neglect. *The Clinical Neuropsychologist*, *33(5)*: 948-970, https://doi.org/10.1080/13854046.2018.1503722

24. Wang, L.Y., Chung, J., Park, C., Choi, H., Rodrigue, A.L., **Pierce, J.E.**, Clementz, B.A., & McDowell, J.E. (2019). Regularized aggregation of statistical parametric maps. *Human Brain Mapping. 40(1):* 65-79. https://doi.org/10.1002/hbm.24355
25. Kundu, S., Ming, J., **Pierce, J.**, McDowell, J., & Guo, Y. (2018). Estimating dynamic brain functional networks using multi-subject fMRI data. *NeuroImage, 183*: 635-49. https://doi.org/10.1016/j.neuroimage.2018.07.045
26. Burton, C.R., Schaeffer, D.J., Bobilev, A.M., **Pierce, J.E.**, Rodrigue, A.L., Krafft, C.E., Clementz, B.A., Lauderdale, J.D., & McDowell, J.E. (2018). Microstructural Differences in Visual White Matter Tracts in People with Aniridia. *Neuroreport, 29(17):* 1473-78. https://doi.org/10.1097/WNR.0000000000001135
27. Rodrigue, A.L., Schaeffer, D.J., **Pierce, J.E.**, Clementz, B.A., & McDowell, J.E. (2018). Evaluating the specificity of cognitive control deficits in schizophrenia using antisaccades, functional magnetic resonance imaging, and healthy individuals with poor cognitive control. *Front. Psychiatry, 9*: 107. https://doi.org/10.3389/fpsyt.2018.00107
28. **Pierce, J.E.** & McDowell, J.E. (2017). Contextual effects on cognitive control and BOLD activation in single versus mixed saccade tasks. *Brain and Cognition,* 115: 12-20. https://doi.org/10.1016/j.bandc.2017.03.003.
29. Schaeffer, D.J., Rodrigue, A.L., Burton, C.R., **Pierce, J.E.**, Murphy, M.N., Clementz, B.A., & McDowell, J.E. (2017). White matter fiber integrity of the saccadic eye movement network differs between schizophrenia and healthy groups. *Psychophysiology, 54:* 1967–77*.* https://doi.org/10.1111/psyp.12969
30. Grant, M.K., Bobilev, A.M., **Pierce, J.E**. DeWitte, J., & Lauderdale, J.D. (2017). Structural brain abnormalities in 12 persons with aniridia. *F1000Research*, *6*: 255. https://doi.org/10.12688/f1000research.11063.2
31. **Pierce, J.E**. & McDowell, J.E. (2017). Reduced cognitive control demands following practice of saccade tasks in a trial type probability manipulation. *Journal of Cognitive Neuroscience, 29(2)*: 368-381. https://doi.org/10.1162/jocn_a_01051.
32. **Pierce, J.E.** & McDowell, J.E. (2016). Effects of preparation time and trial type probability on performance of anti- and pro-saccades. *Acta Psychologica (Amst)*, *164*: 188-194. https://doi.org/10.1016/j.actpsy.2016.01.013
33. **Pierce, J.E**. & McDowell, J.E. (2016). Modulation of cognitive control levels via manipulation of saccade trial type probability assessed with event-related BOLD fMRI. *Journal of Neurophysiology*, *115(2)*: 763-772. https://doi.org/10.1152/jn.00776.2015
34. Schaeffer, D.J., Rodrigue, A.L., Burton, C.R., **Pierce, J.E.**, Unsworth, N., Clementz, B.A., & McDowell, J.E. (2015). White matter structural integrity differs between people with schizophrenia and healthy groups as a function of cognitive control. *Schizophrenia Research*, *169(1-3)*: 62-68. https://doi.org/10.1016/j.schres.2015.11.001
35. Schwarz, N.F., Krafft, C.E., Chi, L., Weinberger, A.L., Schaeffer, D.J., **Pierce, J.E.**, Rodrigue, A.L, Williams, C.F., DiBattisto, C.H., Maria, B.L., McDowell, J.E., & Davis, C.L. (2015). Antisaccade-related brain activation in children with attention-deficit/hyperactivity disorder – a pilot study. *Psychiatry Research: Neuroimaging*, *234(2):* 272-279*.* https://doi.org/10.1016/j.pscychresns.2015.10.003

36. **Pierce, J.E.,** McCardel, J.B., & McDowell, J.E. (2015). Trial type probability and task switching effects on behavioral response characteristics in a mixed saccade task. *Exp Brain Research, 233* (3), 959-969. https://doi.org/10.1007/s00221-014-4170-z
37. **Pierce, J.E.**, Krafft, C.E., Rodrigue, A.L., Bobilev, A., Lauderdale, J.D., & McDowell, J.E. (2014). Intrinsic functional connectivity networks in individuals with aniridia. *Frontiers in Human Neuroscience,* 8: 1013. https://doi.org/10.3389/fnhum.2014.01013
38. Schaeffer, D.J., Krafft, C.E., Schwarz, N.F., Chi, L., Rodrigue, A.L., **Pierce, J.E.**, Allison, J.D., Yanasak, N.E., Liu, T., Davis, C.L., & McDowell, J.E. (2014). The relationship between uncinate fasciculus white matter integrity and verbal memory proficiency in children. *Neuroreport, 25(12):* 921-5. https://doi.org/10.1097/WNR.0000000000000204
39. Schaeffer, D.J., Krafft, C.E., Schwarz, N.F., Chi, L., Rodrigue, A.L., **Pierce, J.E.**, Allison, J.D., Yanasak, N.E., Liu, T., Davis, C.L., & McDowell, J.E. (2014). An 8-month exercise intervention alters frontotemporal white matter integrity in overweight children. *Psychophysiology, 51(8):* 728-33. https://doi.org/10.1111/psyp.12227
40. Krafft, C.E., **Pierce, J.E.**, Schwarz, N.F., Chi, L., Weinberger, A.L., Schaeffer, D.J., Rodrigue, A.L., Camchong, J., Allison, J.D., Yanasak, N.E., Liu, T., Davis, C.L., & McDowell, J.E. (2014). An eight-month randomized controlled exercise intervention alters resting state synchrony in overweight children. *Neuroscience, 256:* 445-455. https://doi.org/10.1016/j.neuroscience.2013.09.052
41. Krafft, C., Schaeffer, D., Schwarz, N., Chi, L., Weinberger, A., **Pierce, J**., Rodrigue, A., Allison, J., Yanasak, N., Liu, T., Davis, C., & McDowell, J. (2014). Improved fronto-parietal white matter integrity in overweight children is associated with attendance in an after-school exercise program. *Developmental Neuroscience. 36:* 1-9. https://doi.org/10.1159/000356219
42. Krafft, C., Schwarz, N., Chi, L., Weinberger, A., Schaeffer, D., **Pierce, J.E.,** Rodrigue, A., Yanasak, N., Miller, P., Tomporowski, P., Davis, C., McDowell, J. (2014). An 8-month randomized controlled exercise trial alters brain activation during cognitive tasks in overweight children. *Obesity (Silver Spring),* 22(1): 232-242. https://doi.org/10.1002/oby.20518

Book Chapters

1. **Pierce, J.E.** & Péron, J.A. (2022). Reward-based learning and emotional habit formation in the cerebellum., In M. Adamaszek, M. Manto, & D.J.L.G. Schutter (eds.), *The Emotional Cerebellum*. Advances in Experimental Medicine and Biology, vol 1378. Springer, Cham. https://doi.org/10.1007/978-3-030-99550-8_9
2. **Pierce, J.E.**, Clementz, B.A., & McDowell, J.E. (2019). Saccades: Fundamentals and Neural Mechanisms. In C. Klein & U. Ettinger (eds.), *Eye Movement Research: An Introduction to its Scientific Foundations and Applications*. Springer Nature Switzerland AG: Cham, Switzerland. https://doi.org/10.1007/978-3-030-20085-5
3. Krafft, C.E., Schwarz, N.F., Chi, L., Li, Q., Schaeffer, D.J., Rodrigue, A.L., **Pierce, J.E**., Dyckman, K.A., & McDowell, J.E. (2012). The Location and Function of Parietal Cortex Supporting Reflexive and Complex Saccades, A Meta-analysis of Over a Decade of Functional MRI Data. In A. Costa & E. Villalba (eds.), *Horizons of Neuroscience Research* (Vol. 9). Nova Science Publishers: Hauppauge, NY.

Conference Presentations

1. **Pierce, J.E.**, Haque, E. & Neta, M. Affective flexibility as a developmental building block of cognitive reappraisal: An fMRI study. Poster presented at 2023 Society for Affective Science Meeting, Long Beach, CA.
2. **Pierce, J.E.**, Blair, R.J., Clark, K., & Neta, M. Reappraisal-related downregulation of amygdala BOLD activation occurs only during late trial window. Poster presented at 2021 Society for Neuroscience Virtual Meeting.
3. **Pierce, J.E.,** Saj, A., & Vuilleumier, P. Differential parietal activations for spatial remapping and saccadic control in a visual memory task. Poster presented at 2019 Cognitive Neuroscience Society Meeting, San Francisco, CA.
4. **Pierce, J.E**. & McDowell, J.E. Differential effects of saccade trial type probability and task practice on behavior and BOLD activation in good and poor antisaccade performers. Poster presented at 2015 Gordon Research Conference on Eye Movements, Waltham, MA.
5. **Pierce, J.E**. & McDowell, J.E. Effects of saccade practice and trial type probability on fMRI activation of antisaccade circuitry. Poster presented at 2015 Organization for Human Brain Mapping Meeting, Honolulu, HI.
6. **Pierce, J.E**. & McDowell, J.E. Effects of trial preparation time and trial type probability on performance of anti- and prosaccades. Poster presented at 2015 Cognitive Neuroscience Society Meeting, San Francisco, CA.
7. **Pierce, J.E.**, McCardel, J.B., Coppiano, J.S., Rodrigue, A.L., Schaeffer, D.J., Arkin, S. & McDowell, J.E. Modulation of the neural correlates of saccade performance using task switching and trial type probability in an event-related fMRI paradigm. Poster presented at 2014 Society for Neuroscience Meeting, Washington, D.C.
8. **Pierce, J.E.**, McCardel, J.B., Coppiano, J.S., Rodrigue, A.L., Schaeffer, D.J., & McDowell, J.E. Antisaccade trial probability modulates saccade circuitry activation in a rapid event-related fMRI paradigm. Poster presented at the 2014 Organization for Human Brain Mapping Meeting, Hamburg, Germany.
9. **Pierce, J.E**., McCardel, J. B., & McDowell, J.E. The effects of saccade trial type probability on residual inhibition and task switching costs. Poster presented at 2014 Cognitive Neuroscience Society Meeting, Boston.
10. **Pierce, J.E**., Rodrigue, A.L., Krafft, C.E., Bobilev, A., Lauderdale, J.D., & McDowell, J.E. Differences in functional connectivity during resting state fMRI in individuals with aniridia. Poster presented at 2013 Cognitive Neuroscience Society Meeting, San Francisco, CA.
11. **Pierce, J.E**., Krafft, C.E., Rodrigue, A.L. Weinberger, A.L., Schaeffer, D.J., Chi, L, Schwarz, N.F., Allison, J.D., Yanasak, N.E., Miller, P.H., Tomporowski, P.D., Davis, C.L., & McDowell, J.E. Associations of cortical thickness and subcortical volume with measures of cognitive performance in overweight children. Poster presented at 2012 Society for Neuroscience Meeting, New Orleans, LA.

Academic Workshops

- "Turning your Research into Teaching" course through the University of Nebraska-Lincoln and the Center for the Integration of Research, Teaching, and Learning (CIRTL), Summer 2022

- Brain Modes workshop at Georgia State University, Atlanta, GA, December 2015
- "Structural and Functional Brain Connectivity via MRI and fMRI" course at Martinos Center for Biomedical Imaging, Boston, MA, October 2013
- Multi-modal Neuroimaging Training Program (MNTP) at the University of Pittsburgh and Carnegie Mellon University, Pittsburgh, PA, Summer 2012
- "AFNI Bootcamp" fMRI software workshop at the National Institutes of Health, Bethesda, MD, March 2012

Journal Reviewer

- Behavioral Sciences
- Brain Sciences
- Cognition & Emotion
- European Child & Adolescent Psychiatry
- Journal of Cognitive Neuroscience
- Frontiers in Neurology
- Frontiers in Human Neuroscience
- Frontiers in Neuroscience
- International Journal of Environmental Research and Public Health
- Neuropsychologia
- Neuropsychological Rehabilitation
- Social Cognitive and Affective Neuroscience
- Psychophysiology

Service

- Volunteered at the Food Bank of Lincoln during UNL's College of Arts and Sciences Day of Service, 2021-22
- Reviewed undergraduate research projects for UNL's UCARE program, 2022-23
- Volunteered at Lincoln- Lancaster County Health Department COVID-19 vaccination clinics, 2021
- Proctored medical student exams, University of Geneva, 2017
- Served with Academic Honesty Office, UGA
  - Continuing Discussion Panelist, 2012-2016
  - Multiple Violations Review Board Member, 2014-2016
- Scored papers from high school students for Georgia Junior Science & Humanities Symposium, 2012-2016
- Tutored elementary school children at the Thomas Lay Afterschool Program in Athens, GA, 2011-2012

Awards

- Herbert Zimmer Research Award, 2016
- Paul D. Coverdell Neuroimaging Program Fellowship, 2015-2016
- Richard L. Marsh Mentoring Award, 2014
- Franklin Foundation Travel Awards, Fall 2012, Fall 2013, Spring 2014, Spring 2015
- Graduate School Research Assistantship, 2011-2013
- Undergraduate Cameron Morrison Merit Scholarship, 2006-2010