

Laura Batterink

Department of Psychology
Brain and Mind Institute
Western University
Western Interdisciplinary Research Bldg, Rm. 5140
London, ON Canada N6A 5B7

Telephone: (519) 661-2111, ext.
85409 Email: lbatter@uwo.ca

Academic Positions

-
- | | |
|--------------|--|
| 2018-present | Assistant Professor, Brain and Mind Institute, Department of Psychology, University of Western Ontario, Canada |
| 2013-2018 | Postdoctoral Fellow, Department of Psychology, Northwestern University
Advisors: Drs. Ken Paller & Paul Reber |

Education

-
- | | |
|-----------|---|
| 2007-2012 | Ph.D., Cognitive Neuroscience, University of Oregon
Dissertation: Implicit and explicit neural mechanisms supporting language processing
Advisor: Dr. Helen Neville |
| 2003-2007 | B.A., Neuroscience, Middlebury College
Senior Thesis: N400 ERP response as a measurement of semantic expectancy in trauma survivors
Advisor: Dr. Matthew Kimble |

Research Interests

I am interested in the neural basis of language acquisition, learning and memory, sleep-dependent memory consolidation, conscious awareness, and many other aspects of cognition.

Grants, Honors, and Awards

-
- 2014-2016. F32 National Research Service Award (NRSA). *Statistical learning, memory systems, and sleep-based memory consolidation*. NIH F32 HD 078223.
2016. Postdoctoral Professional Development Travel Award, Northwestern University.
2015. Postdoctoral Professional Development Travel Award, Northwestern University.
- 2013-2014. T32 Training Program in the Neuroscience of Human Cognition, Postdoctoral Training Award, Northwestern University. NIH T32 NS 47987.
2011. Henry V. Howe Scholarship, University of Oregon.
2007. B.A. awarded summa cum laude, Middlebury College.
2007. Elected to Phi Beta Kappa, Middlebury College.

Publications

1. **Batterink, L.** & Paller, K. A. (2017). Vocabulary learning benefits from REM after slow-wave sleep. *Neurobiology of Learning and Memory*, *144*, 102-113.
2. **Batterink, L.** (2017). Rapid statistical learning supporting word extraction from continuous speech. *Psychological Science*, *28*, 921-928.
3. **Batterink, L.,** & Paller, K. A. (2017). Online neural monitoring of statistical learning. *Cortex*, *90*, 31-45.
4. **Batterink, L.** & Paller, K. A. (2017). Sleep-based memory processing facilitates grammatical generalization: Evidence from targeted memory reactivation. *Brain and Language*, *167*, 83-93. Special Issue on Sleep and Language Learning.
5. **Batterink, L.,** Cheng, L., & Paller, K. A. (2016). Neural measures reveal implicit learning during language processing. *Journal of Cognitive Neuroscience*, *28*, 1636-1649.
6. **Batterink, L.,** Creery, J. D., & Paller, K. A. (2016). Phase of spontaneous slow oscillations during sleep influences memory-related processing of auditory cues. *Journal of Neuroscience*, *36*, 1401-1409.
7. **Batterink, L.,** Reber, P. J., & Paller, K. A. (2015). Functional differences between statistical learning with and without explicit training. *Learning and Memory*, *22*, 544-556.
8. **Batterink, L.,** Reber, P. J., Neville, H., & Paller, K.A. (2015). Implicit and explicit contributions to statistical learning. *Journal of Memory and Language*, *83*, 62-78.
9. **Batterink, L.,** Oudiette, D., Reber, P. J., & Paller, K. A. (2014). Sleep facilitates learning a new linguistic rule. *Neuropsychologia*, *65*, 169-179.
10. **Batterink, L.** & Neville, H. (2014). ERPs recorded during early second language exposure predict syntactic learning. *Journal of Cognitive Neuroscience*, *26*, 2005-2020.
11. **Batterink, L.** & Neville, H. (2013). The human brain processes syntax in the absence of conscious awareness. *Journal of Neuroscience*, *33*, 8528-8533.
12. **Batterink, L.** & Neville, H. (2013). Implicit and explicit second language training recruit common neural mechanisms for syntactic processing. *Journal of Cognitive Neuroscience*, *25*, 936-951.
13. **Batterink, L.,** Karns, C.M., & Neville, H. (2012). Dissociable mechanisms supporting awareness: The P300 and gamma in a linguistic attentional blink task. *Cerebral Cortex*, *22*, 2733-2744.
14. Kimble, O.M, **Batterink, L.,** Marks, E., Ross, C., & Fleming, K. (2012). Negative expectancies in posttraumatic stress disorder: Neurophysiological (N400) and behavioral evidence. *Journal of Psychiatric Research*, *46*, 849-855.
15. **Batterink, L.,** & Neville, H. (2011). Implicit and explicit mechanisms of word learning in a narrative context: An event-related potential study. *Journal of Cognitive Neuroscience*, *23*, 3181-3196.
16. **Batterink, L.,** Spoor, S., & Stice, E. (2010). Body mass correlates inversely with inhibitory control in response to food in adolescent girls: An fMRI study. *NeuroImage*, *52*, 1696-1703.

17. **Batterink, L.**, Karns, C. M., Yamada, Y., & Neville, H. (2010). The role of awareness in semantic and syntactic processing: An ERP attentional blink study. *Journal of Cognitive Neuroscience*, 22, 2514-2529.

Manuscripts Under Review

1. **Batterink, L.** & Paller, K. A. (revision invited). Statistical learning of speech regularities can occur outside of focused attention. *Cortex*.
2. **Batterink, L.**, Paller, K. A. & Reber, P. J. (under review). A memory-systems perspective on implicit and statistical learning. *Topics in Cognitive Science*. Special Issue on Statistical Learning.

Book Chapters and Reviews

1. Reber, P. J., **Batterink, L. J.**, Thompson, K. R. & Reuveni, B. (2017). Implicit Learning: History and Applications. In *Implicit Learning* (Ed. A. Cleeremans), Psychology Press.
2. **Batterink, L.** & Paller, K.A. (2016). Picking up patterns in language. *Psychological Science Agenda: APA Science Brief*.

Selected Oral Presentations and Invited Talks

1. **Batterink, L.** (upcoming). Insights into statistical learning from EEG-based neural entrainment. Invited talk, *Cognitive Neuroscience of Second and Artificial Language Learning*, Bangor, UK.
2. **Batterink, L.**, Choi, D., Black, A., Paller, K.A., & Werker, J.F. (upcoming). Tracking the time course of statistical learning in pre-lingual infants: Online evidence from neural entrainment. Oral presentation, *The Bilingual Brain: A Lifelong Perspective* (Satellite Conference of Society for the Neurobiology of Language), Quebec City.
3. **Batterink, L.** (upcoming). Contributions of memory processing during sleep to rule generalization in language. In G. Gaskell & J. Mirkovic (Chairs), *Generalization in language and memory*. Symposium, *Psychonomics*, New Orleans.
4. **Batterink, L.** (upcoming). Implicit learning, language acquisition, and their meeting point. Invited talk, *Ebbinghaus Empire Series*, Department of Psychology, University of Toronto.
5. Choi, D., **Batterink, L.**, Black, A. & Werker, J. (upcoming). Neural entrainment to transitional probabilities in pre-lingual infants. In *Neural correlates of pre- and post-natal learning*. Symposium, *Society for Psychophysiological Research (SPR)*, Quebec City.
6. **Batterink, L.** & Paller, K. A. (2017). Rhythmic EEG entrainment indexes statistical learning. In E. Vogel & E. Awh (Chairs), *Tracking attention and learning through time and space*. Symposium, *Midwestern Psychological Association*, Chicago.
7. **Batterink, L.** (2016). Implicit and explicit memory contributions to language. Invited Talk, *Talks in Linguistics Series*, University of Illinois, Chicago.

8. **Batterink, L.** & Paller, K. A. (2016). Tracking sensitivity to stimulus sequence structure with a neural measure during learning. Oral presentation, *Fifth Implicit Learning Seminar*, Lancaster, UK.
9. **Batterink, L.**, Reber, P. & Paller, K.A. (2015). Functional differences between statistical learning with and without explicit training. Oral presentation, *International Conference on Interdisciplinary Advances in Statistical Learning*, San Sebastian, Spain.

Other Selected Conference Proceedings (2015-present)

1. **Batterink, L.**, Choi, D., Black, A., Paller, K.A., & Werker, J.F. (upcoming). Tracking the time course of statistical learning in pre-lingual infants: Online evidence from neural entrainment. Poster presentation, *Society for the Neurobiology of Language*, Quebec City.
2. **Batterink, L.**, Florczak, S., Santostasi, G., Zee, P.C., Sanchez, D., & Paller, K.A. (2018). Improving memory with real-time phase-locked reactivation during sleep. Poster presentation, *Cognitive Neuroscience Society*, Boston.
3. **Batterink, L.**, Westerberg, C.E. & Paller, K. A. (2017). Vocabulary learning benefits from REM after slow-wave sleep. Poster presentation, *Cognitive Neuroscience Society*, San Francisco.
4. **Batterink, L.** & Paller, K. A. (2016). Online neural monitoring of statistical learning. Poster presentation, *Society for Neuroscience*, San Diego.
5. **Batterink, L.**, Creery, J. & Paller, K.A. (2016). Phase of spontaneous slow oscillations during sleep influences memory-related processing of auditory cues. Poster presentation, *Cognitive Neuroscience Society*, New York.
6. **Batterink, L.**, Creery, J. & Paller, K.A. (2015). An optimal slow-wave phase for learning-related auditory cues during sleep to improve subsequent memory performance. Poster presentation, *Society for Neuroscience*, Chicago.
7. **Batterink, L.**, Oudiette, D., Reber, P. J., & Paller, K. A. (2015). Sleep facilitates learning a new linguistic rule. Poster presentation, *Cognitive Neuroscience Society*, San Francisco.

Ad Hoc Reviewing

Cerebral Cortex, Psychological Science, Journal of Neuroscience, Journal of Cognitive Neuroscience, Neuropsychologia, Psychophysiology, Cognitive Neuroscience, Applied Psycholinguistics, Brain Research, PLOS ONE, Brain Research, Learning and Memory, Journal of Memory and Language, Neurobiology of Learning and Memory, Child Development, Language Learning, Philosophical Transactions B, Scientific Reports, Sleep, Journal of Experimental Child Psychology, Memory and Cognition, Topics in Cognitive Science, Annals of the New York Academy of Sciences

Teaching Experience

- 2015 Guest Lecturer, Undergraduate Seminar, *Human Memory*
 “Highly Superior Autobiographical Memory Syndrome”
 Northwestern University
- 2014 Guest Lecturer, Undergraduate Lecture, *Brain Damage and the Mind*
 “Cognitive Neuroscience Methods”
 Northwestern University
- 2013 Guest Lecturer, Graduate Seminar, *Advanced Cognitive Neuroscience*
 “Implicit and Explicit Mechanisms of Language”
 University of Oregon
- 2013 Instructor, Undergraduate Course, *Cognition*
 University of Oregon
- 2012 Graduate Teaching Fellow, Undergraduate Course, *Music and the Brain*
 University of Oregon
- 2012 Guest Lecturer, Graduate Seminar, *Advanced Cognitive Neuroscience*
 “The Neural Basis of Language”
 University of Oregon
- 2012 Graduate Teaching Fellow, Undergraduate Seminar, *Neuroscience & Inequality*
 University of Oregon
- 2011 Graduate Teaching Fellow, Undergraduate Course, *Biopsychology*
 University of Oregon
- 2009 Graduate Teaching Fellow, Undergraduate Course, *Statistical Methods*
 University of Oregon

Teaching Interests

Cognitive Neuroscience	Cognitive Psychology
Biological Psychology	Learning & Memory
Language or Language Acquisition	Consciousness
Research Methods	

Mentorship Experience

Graduate Students:

Valerie Valderrama (2015-2016), Committee Member, Audiology Capstone Project (NU)
 Kelsey Thompson (2015), Committee Member, Qualification Exam (NU)

Undergraduate Students:

Kelsey Aaronson (NU), Shani Kaplan-Golan (NU), Madeline Deysine (NU), Dalit Hendel (NU), Denise Oleas (NU), Larry Cheng (NU), Christina Torres (NU), Eunice Wright (UO), Lily Tsou (UO), Daley Stevens (UO), Ryan Jayne (UO), Nick Price (UO), Thomas Pettus-Czar (UO)

Service and Scientific Organizations

2018. Member of Review Committee, Cognitive Neuroscience of Second and Artificial Language Learning (CoNSALL), Bangor, UK.

2018. Member of Scientific Program Committee, Association for the Scientific Study of Consciousness, London, ON, Canada.

2018. Member of Local Organizing Committee, Association for the Scientific Study of Consciousness, London, ON, Canada.

2017. Member of Review Committee, Architectures and Mechanisms of Language Processing (AMLaP), Lancaster, UK.

2016. Member of Scientific Program Committee, Fifth Implicit Learning Seminar, Lancaster, UK.

Professional Affiliations

Cognitive Neuroscience Society
Society for Neuroscience

Society for the Neurobiology of Language