Malayka J. Mottarella

Department of Psychology, University of Washington
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EDUCATION

Doctorate in Psychology   *Anticipated 2024*
  University of Washington, Seattle, WA
  Proposed dissertation: Talking to myself: The role of phonological coding in comprehending Python code

Master of Science in Psychology   *Aug. 2022*
  University of Washington, Seattle, WA
  Thesis: Distinct neural networks underpin distractor sensitivity and task accuracy in a complex working memory task

Bachelor of Arts in Psychology, with Honors   *May 2017*
  Willamette University, Salem, OR
  Minor: Anthropology
  magna cum laude, Phi Beta Kappa
  Thesis: The effects of 24-hr sleep deprivation on working memory

GRANTS AND AWARDS

University of Washington Auditory Neuroscience Training Grant (NIH T32)   *2022 – 2024*
     $53,000 + tuition coverage
University of Washington Center for Human Neuroscience Student Technology Grant   *2022*
     $20,000
Society for Text and Discourses Graduate Student Research Award   *Jul. 2020*
     This award recognizes quality in predissertation work

Willamette University Noel F. Kaestner Award in Psychology   *Apr. 2017*
     This award recognizes outstanding scholarly excellence of a graduating senior

PUBLICATIONS

Mottarella, M., Yamasaki, B. L., & Prat, C. S. (2021). Relating individual differences in reading skill to neural indices of proactive control and online filtering during a working memory task. *Discourse Processes, 58*(5-6)*,* 569-591.

Prat, C. S., Madhyastha, T. M., **Mottarella, M.,** & Kuo, C. (2020). Relating natural language aptitude to individual differences in learning programming languages. *Scientific Reports, 10*, 1-10.

Wiggins, E., **Mottarella, M.**, Good, K., Eggleston, S., & Stevens, C. (2018). 24-h sleep deprivation impairs early attentional modulation of neural processing: An event-related brain potential study. *Neuroscience Letters, 677*, 32-36.

PUBLICATIONS (in progress)

Mottarella, M. & Prat, C. S. (under revision). Distinct neural networks underpin distractor sensitivity and task accuracy in a complex working memory task.

Prat, C. S., **Mottarella, M.**, Yamasaki, B. L., Bice, K., Snistar, O., & Stocco, A. (in prep). Neuropsychomentrics: Exploring the measurement characteristics of resting-state EEG metrics recorded with Emotiv EPOC headsets.

BOOK CHAPTERS

Mottarella, M. & Prat, C. S. (in press). Using quantitative electroencephalography (qEEG) to investigate second-language ability. In K. Morgan-Short, & J. van Hell (Eds), *Handbook of Second Language Acquisition and Neurolinguistics*

CONFERENCE PROCEEDINGS AND PRESENTATIONS

Kuo, C., **Mottarella, M.**, Haile, T., & Prat, C. S. (2022, September). Predicting programming success: How intermittent knowledge assessments, individual psychometrics, and resting-state EEG predict Python programming and debugging skills. *International Conference on Software, Telecommunications, and Computer Networks*

Mottarella, M. & Prat, C. S. (2022, April). *Examining Training-Related Changes in Resting-State EEG Following Second-Language Learning in Adults*. Poster presentation given at the Annual Meeting of the Cognitive Neuroscience Society, San Francisco, CA

Mottarella, M., Yamasaki, B., & Prat, C. (2020, July). *Skilled Readers Engage More Proactive Attentional Control Processes During a Working Memory Task*. Oral presentation given at the Annual Meeting of the Society for Text and Discourses, Virtual.

Mottarella, M. & Prat, C. (2020, May). *Understanding the Neurocognitive Mechanisms of Maintenance and Disengagement in a Complex Working Memory Task*. Poster presentation given at the Annual Meeting of the Cognitive Neuroscience Society, Virtual.

Prat, C., Zeitlin, M., **Mottarella, M.**, Yamasaki, B., & Madhyastha, T. (2019, March). *Relating Individual Differences in Beta Oscillations Recorded at Rest to Second Language Aptitude and Basal Ganglia Signal Routing*. Poster presentation given at the Annual Meeting of the Cognitive Neuroscience Society, San Francisco, CA.

Mottarella, M., Prat, C., & Yamasaki, B. (2018, August). *Working Memory Filtering and Individual Differences in Second Language Aptitude*. Poster presentation given at the Annual Meeting of the Society for Neurobiology of Language, Québec City, Canada.

Mottarella, M., Wiggins, E., Eggleston, S., Good, K., Giuliano, R., & Stevens, C. (2017, March). *The effects of 24-hour sleep deprivation on ERP indices of selective attention and working memory*. Poster presentation given at the Annual Meeting of the Cognitive Neuroscience Society, San Francisco, CA.

Wiggins, E., Eggleston, S., **Mottarella, M.**, Wolfe, S., Green, R., & Stevens, C. (2016, March). *The effects of sleep deprivation on selective attention: An event-related brain potential study*. Poster presentation given at the Annual Meeting of the Cognitive Neuroscience Society, New York, NY.

RESEARCH EXPERIENCE

Graduate Research Assistant   *Sep. 2019 - Present*
    Cognition and Cortical Dynamics Lab
    University of Washington
    Primary Investigators: Chantel Prat, Ph.D. and Andrea Stocco, Ph.D.
    Research Focus: Cognitive and neural indices of individual differences in complex skill learning

Social Science Research Analyst   *Jun. 2023 - Sept. 2023*
    U.S. Department of Health and Human Services: Office of Inspector General
    Office of Evaluations and Inspections, Dallas, TX
    Regional Inspector General: Ruth Ann Dorrill
    Research Focus: Oversight and evaluation of HHS programs including Medicare and Medicaid.
    Qualitative and quantitative investigations focused on topics including patient quality of care,
    effective spending and fraud identification, and disparities of program access.

Research Study Coordinator   *Jun. 2017 - Aug. 2019*
    Institute for Learning and Brain Sciences, Cognition and Cortical Dynamics Lab
    University of Washington, Seattle, WA
    Primary Investigators: Chantel Prat, Ph.D. and Andrea Stocco, Ph.D.
    Research Focus: Relating individual differences in cognitive abilities, brain structure, and brain
    function to individual variation in second language acquisition.

Lab Manager & Undergraduate Research Assistant   *Jan. 2015 - May 2017*
    Cognitive Neuroscience Lab
    Willamette University, Salem, OR
    Primary Investigator: Courtney Stevens, Ph.D.
    Research Focus: The effects of sleep deprivation on ERP indices of selective attention and working
    memory

Undergraduate Research Assistant   *Aug. 2015 - Jan. 2016*
    Personality Psychology Lab
    Willamette University, Salem, OR
    Primary Investigator: Erik Noftle, Ph.D.
    Research Focus: Changes in personality traits across the study abroad experience

TEACHING EXPERIENCE

Course Instructor
University of Washington, Seattle, WA

    ➢ Lab in Human Cognition (PSYCH 331)   *Sept. 2021 – Dec. 2021*
       Course supervisor: Susan Joslyn, Ph.D.

    ➢ Lab in Human Cognition (PSYCH 331)   *Mar. 2021 – June 2021*
       Course supervisor: Susan Joslyn, Ph.D.

Graduate Teaching Assistant
University of Washington, Seattle, WA

- ➢ Understanding Statistics in Psychology (PSYCH 315)   *Sept. 2023 – Dec. 2023*
  Course instructor: Dana Nelson, Ph.D.
- ➢ Psychology of Sleep (PSYCH 210)   *Sept. 2022 – Dec. 2022*
  Course instructor: Michael Passer, Ph.D.
- ➢ Cognitive Psychology (PSYCH 355)   *Jun. 2022 – Aug. 2022*
  Course instructor: Adrian Andelin, Ph.D.
- ➢ Introduction to Psychology (PSYCH 101)   *Jun. 2022 – Aug. 2022*
  Course instructor: Judith McLaughlin, Ph.D.
- ➢ Introduction to Psychology (PSYCH 101)   *Mar. 2022 – Jun. 2022*
  Course instructor: Adrian Andelin, Ph.D.
- ➢ Cognitive Psychology (PSYCH 355)   *Jan. 2022 - Mar. 2022*
  Course instructor: Adrian Andelin, Ph.D.
- ➢ Sensation and Perception (PSYCH 333)   *Jan. 2021 - Mar. 2021*
  Course instructor: Adrian Andelin, Ph.D.
- ➢ Sensation and Perception (PSYCH 333)   *Jan. 2020 - Mar. 2020*
  Course instructor: Adrian Andelin, Ph.D.

Undergraduate Teaching Assistant
Willamette University, Salem, OR

- ➢ Cognitive Neuroscience   *Jan. 2017 - May 2017*
  Course instructor: Courtney Stevens, Ph.D.
- ➢ Introduction to Psychology   *Aug. 2016 - Dec. 2016*
  Course instructor: Courtney Stevens, Ph.D.
- ➢ Anthropology of Sex and Gender   *Aug. 2016 - Dec. 2016*
  Course instructor: Pamela Moro, Ph.D.

Tokyo International University of America, Salem, OR
- ➢ English Writing and Comprehension   *Aug. 2016 - Jan. 2017*

SERVICE & MENTORING

Willamette University Alumni Board Director	*Jun. 2023 – Present*
A.L., Psychology Undergraduate Mentoring Program (PUMP)	*Sept. 2022 – Jun. 2023*
S.D., Neuroscience Undergraduate Reading Program (NURP)	*Sept. 2022 – Dec. 2022*
Reading topic: Neural Mechanisms of Programming Aptitude	
S.H., Neuroscience Undergraduate Reading Program (NURP)	*Mar. 2022 – Jun. 2022*
Reading topic: Resting State Brain Activity as an Index of Individual Differences in Cognition	
F.Z., Peer Tutor for PSYCH 355	*Sept. 2021 – Dec. 2021*
J.S., Peer Tutor for PSYCH 355	*Mar. 2021 – Jun. 2021*
A.B., Honor Student	*Dec. 2020 – Jun. 2021*

Thesis: "Testing Cognitive Mechanisms in the Beta Frequency Range to Explain Individual Differences in Second Language Learning"

PROFESSIONAL MEMBERSHIPS

Cognitive Neuroscience Society, Member   *since 2017*
Cognitive Science Society, Member   *since 2020*
Society for Neurobiology of Language, Member   *since 2018*
Society for Text and Discourse, Member   *since 2020*

TECHNICAL SKILLS

Software experience with: *Statistical analysis software (*R, SPSS, SAS, Python); *Programs for experiment design* (E-Prime, PsyToolKit); *Neuroscience tools* (SPM, fMRIprep, EEGLAB/ERPLAB); *Survey tools* (Qualtrics, SNAP, Google Forms)

Research experience with: quantitative methods (inferential statistics, linear modeling, independent component analysis); qualitative methods (interviewing, response coding); applied industry research; multi-session studies.

Neuroscience experience with: Magnetic Resonance Imaging (MRI and fMRI), Electroencephalography (EEG) and Event Related Potentials (ERPs)