

Ashley Manley

Wearable Neurotechnology & EEG Researcher

Boston, MA | Manley.as@northeastern.edu | 760-626-8457

<https://amanley1.github.io/> | www.linkedin.com/in/ashley-manley-760am91

RESEARCH PROFILE

Ph.D. candidate in Psychology at Northeastern University specializing in EEG, executive function, and translational neurotechnology. My research focuses on validating neural biomarkers across lab-grade and wearable EEG systems, developing cognitive assessment paradigms, and evaluating executive function in real-world settings. Research interests include wearable EEG, neurotechnology, cognitive neuroscience, biomarker validation, digital health, and applied mental health technologies.

Dissertation research examines the validation and application of executive function EEG biomarkers across lab-grade and wearable systems, with implications for cognitive assessment and neurotechnology.

EDUCATION

PhD in Psychology (Present) Northeastern University, Boston	Expected April 2027
M.S, Psychology Northeastern University, Boston	2026
PhD, Education (Incomplete) University of California, Irvine	2022 - 2023
B.A., Child and Adolescent Development California State University, San Marcos	2014 - 2017

HONORS AND AWARDS

Winner, Research-to-Product Pitch Contest	Northeastern University, Boston
Connected Science Community PhD Summer Skills	2023
- Developed a commercialization strategy translating neuroscience research on memory consolidation into a viable product concept, demonstrating the ability to bridge basic research and real-world applications. - Demonstrated innovation, entrepreneurial skills, and the ability to translate complex concepts into practical solutions	
Dean's List California State University, San Marcos	2017

RESEARCH EXPERIENCE

Doctoral Researcher - Cognitive Neuroscience
SoundMind Collaboratory & Brain Game Center
Northeastern University, Boston
Research Supervisor: Susanne Jaeggi, PhD, and Aaron Seitz, PhD

2023 - Present

- Research focus: Designing and validating EEG-based biomarkers of executive function using lab-grade and wearable systems, with expertise in wearable EEG validation, executive function task design, translational biomarker development, and scalable neurotechnology applications.
- Leading a cross-system validation study comparing BrainVision (32-channel) and Emotiv EEG using the AX-CPT to evaluate the convergence of executive function biomarkers and assess the feasibility of wearable EEG for cognitive research
- Wearable EEG Platform Development: Collaborating on the integration of Emotiv with the Portable Adaptive Rapid Testing (PART) platform to enable synchronized cognitive assessment and wearable EEG acquisition, advancing scalable and remote neurocognitive research and clinical applications
- Investigation of hot versus cold executive function biomarkers in college-aged adults using wearable EEG
- Preparing a narrative review synthesizing 25 years of EEG research on ADHD and executive function to identify reproducible biomarkers and methodological trends relevant to wearable neurotechnology
- Analyzing EEG markers of inhibitory control, working memory, and cognitive flexibility, with attention to robustness across task contexts and EEG system limitations.
- Analyzing EEG and behavioral data from an audiovisual stimulation study in older adults using a 32-channel BrainVision system to investigate neural correlates of memory and sensory processing
- Applying cognitive neuroscience methods to develop scalable, technology-enabled assessments with potential applications in digital health and wearable neurotechnology
- Developing digital cognitive assessment tasks for cross-platform EEG applications.
- Performing EEG preprocessing and analysis, including artifact handling, task-related spectral measures, and condition-based comparisons in noisy, real-world wearable EEG data

Doctoral Researcher - Cognitive Neuroscience
Working Memory and Plasticity Lab
University of California, Irvine
Research Supervisor: Susanne Jaeggi, PhD

2022 – 2023

- Led and coordinated a research project investigating the effects of visual and sound stimulation on memory consolidation in aging adults
 - Conducted EEG research using a 32-channel BrainVision system to investigate neural correlates of memory and sensory stimulation in older adults.
 - Evaluated the effects of audiovisual stimulation on memory performance and EEG activity to better understand age-related cognitive processes.
 - Designed the research protocol, ensuring scientific rigor and ethical considerations
 - Trained and supervised research assistants in project procedures and protocols
 - Successfully recruited and managed participants for the study
 - Gained experience in EEG techniques, including participant preparation, setup, and minimizing movement during recording
 - Learned BrainVision and EEGLAB (in MATLAB) for preprocessing EEG data, ensuring accurate and reliable results
 - Used wearable EEG technology (DREEM Device) to collect EEG data remotely
 - Mentored undergraduates in personal projects related to this study
- Designed a research study focused on examining creativity in adults with ADHD
 - Proposed to assess divergent and convergent thinking abilities within the ADHD population

- Collaborated with an ongoing research project on inhibitory control within the lab to integrate the designed study into their protocol
- Contributed novel assessments of creativity to enhance the existing inhibitory control research project's objectives
- Assisted in refining protocols, ensuring alignment with ethical standards and research goals
- Prepared materials for the impending data collection phase.
- Demonstrated effective collaboration and communication skills within the research team

Research Assistant

2017 - 2022

Brain Development Imaging Laboratories & SDSU Center for Autism

San Diego State University, CA

Research Supervisors: Inna Fishman, PhD, Mikaela Kinnear, PhD

- Assisted with multiple NIH-funded projects on brain development in children and adolescents with Autism Spectrum Disorders (ASDs).
- Contributed to projects involving multimodal MRI imaging, diagnostic and neuropsychological testing.
- Administered an MRI safety checklist to participants/parents and monitored participants during MRI scans (participants included children and adolescents with typical and atypical development).
- Recruited research participants and conducted informative lectures on child development and ASD awareness in the community (e.g., public libraries and science fair events).
- Scored neuropsychological assessments, including Conners-3, BRIEF-2, Caregiver Sensory Profile 2, SRS, and SCARED.
- Entered data from child and adolescent participants into a comprehensive database, uploading data semi-annually to the NIMH National Database for Autism (NDAR).
- Assisted with creating a new database using REDCap.

Additional Projects:

- Completed and presented an independent research project on executive functioning in children with ASD and ADHD.
- Set up and participated in ADOS-2 co-coding reliability meetings.
- Summarized information from over 25 neuropsychological and standardized test manuals to create a quick reference guide for lab members.
- Created a neuropsychological assessment battery scoring manual and NDAR submission protocols.

PUBLICATIONS

Manley, A., Villareal, D. R., Sietz, R. A., Jaeggi, M. S., Pahor, A. (Under Review) UCMRT_S: A Digital Matrix Reasoning Task for Children and Adolescents.

Manley, A., Farrell, E. Seitz, R. A., Jaeggi, M. S., Munneke, J. (In Progress) Assessing the Feasibility and Validity of Emotiv Wearable EEG for Measuring Attentional Control

Manley, A., Quynh, T. D., Seitz, R. A., Jaeggi, M. S. (In Progress) Droom On: Evaluating the Feasibility of Home-Based Wearable EEG for Sleep Assessment in Older Adults.

Manley, A., Vafaei, E., Seitz, R. A., Jaeggi, M. S., Munneke, J. (In Progress) Wired Minds: 25 Years of EEG and Executive Function in Adolescents with ADHD.

Sridhar, A., Jao Keehn, R. J., Wilkinson, M., Gao, F., Olson, M., Mash, E. L., Kalekirstos, A., Manley, A., Fishman, I., Marinkovic, K., Linke, A., & Müller, R.-A. (2021). Increased heterogeneity and task-related reconfiguration of functional connectivity within a lexicosemantic network in autism (p. 2021.11.22.469604). bioRxiv.

SCIENTIFIC PRESENTATIONS

Farell, E., Manley, A., Munnekke, J., Jaeggi, S., Seitz, A. (2026). The Neural Time Course of Attentional Control: A Validation Study. Cognitive Brain Health Institute Day, Northeastern University, Boston, MA

Kunadharaju, I., Farell, E., Rose, A., Manley, A., Munnekke, J., Jaeggi, S., Seitz, A. (2026). The Neural Time Course of Attentional Control: A Validation Study. Research, Innovation, Scholarship, and Entrepreneurship Expo, Northeastern University, Boston, MA

Manley, A., Pahor, A., Seitz, A., Jaeggi, S. (2024). Validation of the University of California Matrix Reasoning Test Standard (UCMRTs) for Children and Adolescents. Psychonomic Society, New York, NY

Manley, A., Quynh, T., Do, J., Mander, B., Jaeggi, M. (2023). Audio-Visual Stimulation During Eyes-Closed Rest in Older Adults to Increase Memory Recall. Psychonomics, San Francisco, CA

Manley, A., Kinnear, M., Wang, T., Müller, R.A., Fishman, I. (August 2019). Gender Differences Across Executive Functions in Adolescents with ASD and ADHD Symptoms. American Psychological Association (APA) Conference, Chicago, Illinois

TEACHING / MENTORSHIP

President of the Graduate Student Association for Psychology
Northeastern University, Boston 2025 – Present

- Serve as liaison between graduate students and departmental administration, representing student perspectives in departmental meetings and initiatives.
- Organize and lead two annual town hall meetings to discuss departmental updates, address student concerns, and foster community engagement.
- Oversee elections and coordinate activities across Graduate Student Association committees.
- Facilitate communication, collaboration, and professional development opportunities for psychology graduate students.

Undergraduate Research Mentor, SoundMind Collaboratory
Northeastern University, Boston 2025 – Present

- Mentor undergraduate researchers in EEG methodology, cognitive neuroscience, data interpretation, and scientific communication.
- Guided undergraduate researchers through the development of research posters, including interpretation of findings, poster design, and preparation for scientific presentations at university research events.
- Mentored students presenting research from the cross-system EEG validation project at Northeastern University's Cognitive Brain Health Institute Day and RISE Expo (2026).

COS Graduate Student Mentorship Program
Northeastern University, Boston

- A structured mentorship program by the College of Science designed to support diverse first-year graduate students across various disciplines, helping them navigate campus life, balance academic and personal responsibilities, and access necessary resources.

Pre-PhD Mentorship Program
Northeastern University, Boston

2023 – Present

- A paired mentorship by the College of Science Student Diversity Advisory Council to support a diverse undergraduate seeking a Ph.D. by providing advice, resources, and professional and personal opportunities based on their goals

R Workshop for Educational Research
University of California Irvine

Winter 2023

- Assisted Dr. Fernando Rodriguez in teaching the basics of a programming language, R
- This course was designed for graduate students who wanted to learn how to import, organize, graph, and analyze their data
- Troubleshoot errors students were encountering

TA for Introduction to Education: Disciplinary Perspectives (EDUC 25)
University of California, Irvine

Fall 2023

- Prepared materials and taught a discussion section 1 hour a week for a quarter, where students reviewed materials from previous lectures and participated in classroom activities designed to reinforce concepts
- Graded and provided feedback on course assignments for over 80 students

OTHER WORK EXPERIENCE

Elementary School Tutor
Lake Elementary
Vista, CA

2020 - 2022

Responsible for increasing academic achievement for two children currently in 3rd and 5th grade by providing stimulating extracurricular STEM activities after school. Activities include strategic games that develop critical thinking, math, and language skills and are aligned with the current classroom curriculum. During the 2020 academic year, the children attended school online. During this time, main responsibilities included co-attending their online class to ensure both children mastered the class material.

Extended Day Assistant Director
Cardiff School District
Cardiff by the Sea, CA

2013 - 2017

Main responsibilities included managing after-school and summer programs for elementary students, including planning and implementing daily activities and schedules; tracking and updating children's school & medical records to comply with health standards and school policy; and assisting with staff training on how to positively influence a child's development and use appropriate disciplinary techniques.

COMMUNITY OUTREACH

Early Childhood: Typical and Atypical Development Lecture and Discussion San Marcos Library	2017
Brain Workshop Lecture on basic brain anatomy/sheep brain dissection Local libraries & elementary school classrooms	2017 - 2022

PARTICIPATED WORKSHOPS AND TRAININGS

Hierarchical Models: Model-Based Neuroscience, Amsterdam, NLD	Summer 2024
UC Adolescent Consortium Summer Institute, Los Angeles, CA	Summer 2023
R Workshop for Educational Research, Irvine, CA	Winter 2022
Introduction to R, San Diego, CA	Fall 2022

PROFESSIONAL SOCIETIES /ORGANIZATIONS

American Psychological Association, Student Member	2018 – present
Psychonomic Association	2022 – present
Spark Society	2022 – present

TECHNICAL SKILLS

Core Expertise: Wearable EEG validation, Executive function task design, Translational biomarker development, Clinical and developmental EEG, Longitudinal analysis, Real-world signal constraints

EEG: BrainVision, Emotiv, DREEM, EEGlab, ERP analysis, spectral analysis, artifact rejection, preprocessing

Programming & Analysis: MATLAB, R, SPSS, STATA, Python

Data Collection: REDCap, cognitive task implementation, behavioral assessment

Research Methods: Executive function paradigms, AX-CPT, cognitive task development, biomarker validation, wearable neurotechnology, study design

LANGUAGES

Spanish: Intermediate-level conversational skills, proficient writing and reading skills

REFERENCES

Susanne Jaeggi, PhD
Professor, Northeastern University, Boston
Director, SoundMind Collaboratory

s.jaeggi@northeastern.edu

Aaron Seitz, PhD
Professor, Northeastern University, Boston
Director, Brain Game Center
a.seitz@northeastern.edu

Inna Fishman, PhD
Director, SDSU Center for Autism
Associate Clinical Director, Brain Development Imaging Labs
619-594-2299
Inna.Fishman@sdsu.edu