JAIME RIOS

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Education

Ph. D in **Psychology and Neuroscience**
Duke University, Durham NC
August 2024 - 2029 (Expected)

Bachelors of Arts, **Psychology and Sociology**
University of California, Davis Graduated April 2021
GPA: 3.65

Associates of Science, **Computer Science and Psychology**
Cosumnes River College Graduated May 2018
Graduated Highest Honors
GPA: 3.73

Research Experience

Ph.D Student Researcher (Duke University) Egner Lab | *Durham, NC* | August 2024 - Present
PI: Tobias Egner

- Studying task switching and working memory using fMRI, behavior, and computational modeling
- Researching adaptive processes involved in switching between external and internal attentional foci

Research Coordinator Poldrack Lab | *Stanford, CA* | May 2021 - July 2024
PI: Russell Poldrack

- Led study design and data acquisition of behavioral tasks (online and in-lab) and neuroimaging protocols for healthy and special group (e.g. smokers, binge eaters) participants, including longitudinal designs (N = 100)
- Created pipelines for task design optimization using neurodesign
- Created codebases used to analyze fMRI data using dimensionality reduction techniques for the purpose of creating cognitive ontologies
- Create reproducible pipelines for quality control of behavioral data across various tasks related to cognitive control (tasks include: Stop signal, Motor Selective Stop Signal, Tower of London, Discount Fixed, Cue Control, Cued Task Switching, Stroop, and Columbia Card Counting task)
- Debugged and constructed tasks using JsPsych and PsychoPy

Research Assistant Personality and Self-Knowledge Lab | *Davis, CA* | Jan 2020 - April 2021
PI: Simine Vazire

- Data entry on abstracts and rating them on several measures of interest dealing with novelty
- Data entry on research methods using a remote R shiny application
- Discuss topics related to metascience including reproducibility, questionable research practices, and open science

Research Assistant Social Inference Lab | *Davis, CA* | January 2020 –April 2021
PI: Andrew Todd

- Run participants through experiments using the UC SONA System 7 hours a week
- Deal with any on the spot issues/problems with the experiments
- Experiments generally dealt with implicit racial bias using IAT
- Participate in weekly discussions with grad students centered around social inference

Research Assistant Hopwood Personality Lab | *Davis, CA* | September 2019–Dec 2019
PI: Christopher Hopwood

- Rated agency and communion for 31 dyads using DARMA
- Communicate with group and participate in discussions centered around Interpersonal Theory

Publications

Bissett, P. G., Eisenberg, I. W., Shim, S., **Rios, J. A.**, Jones, H. M., Hagen, M. P., Enkavi, A. Z., Li, J. K., Mumford, J. A., MacKinnon, D. P., Marsch, L. A., & Poldrack, R. A. (2024). Cognitive tasks, anatomical MRI, and functional MRI data evaluating the construct of self-regulation. Scientific Data, 11(1). https://doi.org/10.1038/s41597-024-03636-y

Bissett, P. G., Jones, H. M., Hagen, M. P., Bui, T. T., Li, J. K., **Rios, J. A**., Mumford, J. A., Shine, J. M., & Poldrack, R. A. (2023). A dual-task approach to inform the taxonomy of inhibition-related processes. *Journal of Experimental Psychology: Human Perception and Performance*, *49*(3), 277–289. https://doi.org/10.1037/xhp0001073

Mumford, J. A., Bissett, P. G., Jones, H. M., Shim, S., **Rios, J. A. H.**, & Poldrack, R. A. (2023). The response time paradox in functional magnetic resonance imaging analyses. Nature Human Behavior, In Print.

Submitted Manuscripts

Conference Presentations

Bissett, P. G., Shim, S., **Rios, J. A. H.**, Mumford, J. A., & Poldrack. R. A. Cue switching but not task switching drives fronto-parietal activity in cued task switching paradigm. Annual Meeting of the Organization of Human Brain Mapping. Seoul, Korea. June 23-27, 2024.

Bissett, P. G., Bennett, L., **Rios, J. A. H.**, Shim, S., Mckee, P., Iyer, C., Ram, N., & Poldrack. R. A. Mapping task measures to latent constructs: An expert survey of the NIMH RDoC cognitive domain. Annual Meeting of the Organization of Human Brain Mapping. Seoul, Korea. June 23-27, 2024.

Xu, A., Blair, R., **Rios, J. A. H.**, Ciric, R., & Poldrack. R. A. MIDMSL: A Densely-Sampled, Multimodal MRI Dataset of Motor Skill Learning. Annual Meeting of the Organization of Human Brain Mapping. Seoul, Korea. June 23-27, 2024.

Bissett, P. G., Shim, S., **Rios, J. A. H.**, Jones, H. M., Hagen, M. P., Mumford, J. A., Shine, J. M., & Poldrack. R. A. Dual-task costs relate to overlap in single-task fMRI maps: A dense scanning study. Annual Meeting of the Organization of Human Brain Mapping. Montreal, Canada. June 22-26, 2023.

Rios, J. A. H., Bissett, P. G., & Poldrack. R. A. In Progress Analysis: Uncovering the structure of sequential control through data-driven ontology discovery. Cognitive Neuroscience Society. San Francisco, California. March 25-28, 2023.

Bissett, P. G., Shim, S., **Rios, J. A. H.**, Jones, H. M., Hagen, M. P., Mumford, J. A., Shine, J. M., & Poldrack. R. A. Characterizing cognitive control networks using a precision neuroscience approach. Annual Meeting of the Cognitive Neuroscience Society. San Francisco, California. March 25-28, 2023.

Bissett, P. G., Jones, H. M., Hagen, M. P., Bui, T. T., Li, J. K., **Rios, J. A. H.**, Mumford, J. A., Shine, J. M., & Poldrack, R. A. A dual-task approach to inform the taxonomy of inhibition related processes. Annual Meeting of the Organization of Human Brain Mapping. Glasgow, United Kingdom. June 19-23, 2022.

Bissett, P. G., Eisenberg, I. W., Jones, H. M., Hagen, M. P., **Rios, J. A. H.**, Shim, S., Enkavi, A. Z., Li, J. K., Mumford, J. A., Shine, J. M., MacKinnon, D. P., Marsch, L. A., & Poldrack, R. A. Toward a neuro-cognitive ontology of self-regulation. Annual Meeting of the Organization of Human Brain Mapping. Glasgow, United Kingdom. June 19-23, 2022.

Bissett, P. G., Eisenberg, I. W., Jones, H. M., Hagen, M. P., **Rios, J. A. H.**, Shim, S., Enkavi, A. Z., Li, J. K., Mumford, J. A., Shine, J. M., MacKinnon, D. P., Marsch, L. A., & Poldrack, R. A. Toward a neuro-cognitive ontology of self-regulation. Annual Meeting of the Cognitive Neuroscience Society. San Francisco, California. April 23-26, 2022.

Vaghi, M., Shim, S., **Rios, J. A.**, Bissett, P., Mukunda, P., Rodriguez, C., & Poldrack, R. Precision Functional Mapping in Obsessive-Compulsive Disorder Using Dense Sampling Scanning. American College of Neuropsychopharmacology, December 2022, Tampa, FL.

Awards

Impact Neuroscience Program Fellow (Duke University)
Dean's Graduate Fellowship (Duke University)
Recipient of Citation for Outstanding Performance in Sociology (UC Davis)

Society Affiliations

Organization for Human Brain Mapping (2021-2024)
Psychonomic Society (2023)
Cognitive Neuroscience Society (2021-2023)

Technical Skills

Programming
*Languages***:** Python, Javascript, R, C, C++, Java, HTML5, CSS3
Other relevant tools: Psychopy, JSPsych, Tidyverse, Excel, git, Prolific, Experiment Factory, Sona

Neuroimaging Tools
fMRIPREP, MRIQC, Neurodesign, Nilearn, Nibabel

Statistical Analyses and Methods
Factor analysis, hierarchical clustering, task-based fMRI GLM, representational similarity analysis, drift-diffusion modeling, reinforcement learning

Last Updated 8/25/24