

# Paul W. Savoca

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## Education

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2027 PhD Psychology  
University of California, Los Angeles (UCLA)  
Los Angeles, CA

2019 BS Psychology (Minor: Political Science)  
Northeastern University  
Boston, MA  
GPA: 3.92

## Honors/Funding

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2024-2027 NSF Graduate Research Fellowship

2024 UCLA Graduate Summer Research Mentorship Award

2023 UCLA Psychology Summer Graduate Student Mentorship Award

2022 UCLA Graduate Dean's Scholar Award

2019 Northeastern University Department of Psychology Faculty Scholar Award

2019 Northeastern University Department of Psychology Travel Award

2015-2019 Northeastern University Dean's List

## Publications

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**Savoca, P. W.**, Glynn, L. M., Fox, M. M., Richards, M. C., & Callaghan, B. L. (2024). Exploring the impact of maternal early life adversity on interoceptive sensibility in pregnancy: Implications for prenatal depression. *Archives of Women's Mental Health*, 1–10. <https://doi.org/10.1007/s00737-024-01504-7>

**Savoca, P. W.**, Glynn, L. M., Fox, M. M., Richards, M. C., & Callaghan, B. L. (2024). Interoception in Pregnancy: Implications for Peripartum Depression. *Neuroscience & Biobehavioral Reviews*, 105874. <https://doi.org/10.1016/j.neubiorev.2024.105874>

Esfand, S.M., Querdasi, F.R., Gancz, N.N., **Savoca, P.W.**, Nussabaum, S., Somers, J.A., Ditzer, J., Figueroa, Chu, K., Towner, E., & Callaghan, B.L. (*in prep*). *Protocol overview for the Mind, Brain, and Body Study: Examining how the gut-brain-immune axis is linked to internalizing symptoms in youth exposed to caregiving-related early adversity*.

**Savoca, P.W.**, Quigley, K.S., & Callaghan, B.L. (*in prep*). *Early Life Adversity and the Use of Concepts in Memory*.

**Savoca, P.W.**, Fabian, A., & Callaghan, B.L. (*in prep*). *Alexithymia Mediates the Relationship between Discrimination and Anxiety in Women*.

**Savoca, P.W.**, Quigley, K.S., Barrett, L.F., & Atzil, S. (*in prep*). *Using Allostasis to Understand the Impact of Early Life Adversity on Fronto-Limbic Circuitry*.

Chen D., Kragel, P.A., Satpute, A.B., **Savoca, P.W.**, Wald, L.L., Bianciardi, M., Wager, T.D., Quigley, K.S., Barrett, L.F., & Theriault, J. (2022). *The role of superior colliculus in affective experiences during visual and somatosensory stimulation*. *bioRxiv*.

## **Presentations**

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**Savoca, P.W.**, Ditzer, J., Gancz, N.N., Delgadillo, D., Callaghan, B.L. (April 2024). *Planned Analyses: Linking Gut-Microbiome Features to Insula Laminar Structure*. Poster presented at Goodman-Luskin Microbiome Center Annual Symposium, Los Angeles, CA.

**Savoca, P.W.**, Callaghan, B.L. (January 2024). *Interoception During Pregnancy: Integrating a Microbiome Perspective*. Presentation given at Goodman-Luskin Microbiome Center Seminar Series, Los Angeles, CA.

**Savoca, P.W.**, Callaghan, B.L. (November 2023). *Alteration of maternal perinatal interoception after early childhood trauma exposure: links with depression*. Nano-symposium presented at annual meeting of Society for Neuroscience, Washington, D.C.

**Savoca, P.W.**, Quigley, K.S., Callaghan, B.L. (September 2023). *Differences in Concept Uses Associated with Early Life Adversity*. Poster presented at Flux annual meeting, Santa Rosa, CA.

Nussbaum, S.G., **Savoca, P.W.**, Simpson, R.C., Chan, E.M., Callaghan, B.L. (September 2023). *The Impact of Early Life Adversity on Physiological Response to Acoustic Cues*. Poster presented at Flux annual meeting, Santa Rosa, CA.

**Savoca, P.W.**, Chan, E.M., Simpson, R.C., Nussbaum, S.G., Callaghan, B.L. (June 2023). *The Role of Interoceptive Efficiency in the Experience of Arousal and Mental Health*. Poster presented at annual meeting of the Association for the Scientific Study of Consciousness, New York, NY.

Simpson, R.C., **Savoca, P.W.**, Chan, E.M., Nussbaum, S.G., Callaghan, B.L. (May 2023). *Examining Alexithymia and Interoceptive Prediction Errors*. Poster presented at the UCLA Psychology Undergraduate Research Conference, Los Angeles, CA. (*Student Mentor*)

Chan, E.M., **Savoca, P.W.**, Simpson, R.C., Siyan, S.G., Callaghan, B.L. (May 2023). *Allostasis Efficiency and Childhood Uncertainty in Young Adults*. Poster presented at the UCLA Psychology Undergraduate Research Conference, Los Angeles, CA. (Student Mentor)

**Savoca, P.W.**, Simpson, R.C., Chan, E.M., Nussbaum, S.G., Callaghan, B.L. (March 2023). *Temporal Concordance of Subjective and Objective Arousal*. Poster presented at annual meeting of the Society for Affective Science, Long Beach, CA.

Gancz, N., **Savoca, P.W.**, Callaghan, B.L. (March 2023). *A Gut Feeling: Examining Electrogastrography as a Biomarker of Affective Responses*. Poster presented at annual meeting of the Society for Affective Science, Long Beach, CA.

Loxton, C., **Savoca, P.W.**, Westlin, C., Shepherd, K., Katsumi, Y., Wong, B., Andreano, J., Touroutoglou, A., Dickerson, B.C., Quigley, K.S., Barrett, L.F., Isaacowitz, D.M. (March 2022). *Stability in Arousal Engagement Across Task and Age*. Poster presented at annual meeting of the Society for Affective Science (virtual).

Chen, D., Kragel, P.A., Satpute, A.B., **Savoca, P.**, Wald, L.L., Bianciardi, M., Wager, T.D., Quigley, K.S., Barrett, L.F., Theriault, J. (November 2021). *The role of superior colliculus in affective experiences during visual and somatosensory stimulation*. Poster presented at annual meeting of the Society for Neuroscience (virtual).

**Savoca, P.**, Andreano, J., Meydan, A., Touroutoglou, A., Quigley, K.S., Dickerson, B.C., Barrett, L.F. (March 2021). *Structural Preservation and Functional Connectivity of Interoceptive Circuitry Predicts Interoceptive Sensitivity*. Poster presented at annual meeting of Cognitive Neuroscience Society (virtual).

Dev, S., **Savoca, P.**, Katsumi, Y., Wong, B., Andreano, J., Barrett, L.F., Dickerson, B.C., Touroutoglou, A. (July 2020). *Alzheimer's disease related atrophy in Superagers: Resilience or Resistance?* Poster presented at annual meeting of Alzheimer's Association International Conference (virtual).

**Savoca, P.**, Lyons, S., Palermo, M., Dickerson, B.C., Barrett, L.F., Andreano, J. (May 2020). *Modulation of Internetwork Connectivity between Salience and Default Mode Networks over the Menstrual Cycle*. Poster presented at annual convention for the Association for Psychological Science (virtual).

**Savoca, P.**, Katsumi, Y., Westlin, C., Touroutoglou, A., Andreano, J., Quigley, K., Barrett, L.F. (March 2019). *Superagers and visual consciousness for affective information using a continuous flash suppression task*. Poster presented at the annual meeting of the Society for Affective Science, Boston, MA.

## **Research Experience**

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### **PhD Student**

University of California, Los Angeles

September 2022 – Present

***Temporal Relationships of Arousal and Predictability***

*This study examines the temporal relationship between subjective and objective arousal using, and its association with interoception and well-being.*

***Sensations of Motherhood***

*This study follows first-time mothers during and following pregnancy to examine variation in interoceptive awareness and well-being that may be associated with pregnancy.*

***Early Life Adversity and the Use of Concepts in Memory***

*This study examines the relationship between early-life adversity and concept use in childhood, using novel measures of memory performance during an associative memory task.*

**Clinical Research Coordinator II**

Massachusetts General Hospital, Charlestown MA

May 2019 – June 2022

***Affect regulation and Beta Amyloid: Maturational Factors in Aging and Age-Related Pathology***

*This study examines if variation in affect regulation can be protective of cognitive function in aging, particularly in people with Alzheimer's Disease pathology.*

PIs: Lisa Feldman Barrett, Bradford Dickerson, Derek Isaacowitz

- Managed administration, including IRB documents, for large multi-site study (funded by an R01 from the National Institute of Mental Health), conducted across five experimental sessions that span two different institutions
- Recruited, scheduled, and compensated research participants from community
- Administered neuropsychological assessments
- Operated a MR-PET scanner to collect structural, functional, and PET imaging data
- Preprocessed PET and structural MRI data
- Analyzed structural and resting-state functional connectivity data
- Collected, scored, and analyzed peripheral physiology data
- Trained, managed and mentored a team of undergraduate research assistants
- Obtained a deep understanding for the structural and functional anatomy of brain networks
- Collaborated with engineers on advanced modeling of behavioral, neuroimaging, and peripheral psychophysiological data

***Biopsychosocial Mechanisms of Successful Aging***

*This study examines a variety of potential mechanisms that may contribute to successful cognitive aging.*

PIs: Lisa Feldman Barrett, Bradford Dickerson

- Implemented and aided in the design a novel associative memory task

- Programed behavioral tasks, for both the lab and the neuroimaging environment
- Analyzed threat vs. challenge physiological data
- Deployed and collected data using an innovative video dairy day reconstruction method
- Managed and mentored a team of undergraduate research assistants

***Ovarian Effects on Intrinsic Connectivity and the Affective Enhancement of Memory***

*This study explores the effects of ovarian hormones on brain functional connectivity and memory across the menstrual cycle.*

PIs: Lisa Feldman Barrett, Joseph Andreano

- Operated MRI scanner to collect structural and functional imaging data
- Aided in the scoring of behavioral data

***Noninvasive brain stimulation as a tool to study the role of motivation in age-related cognitive abilities***

*This clinical trial examines the potential efficacy of tDCS in improving memory and motivation.*

PIs: Alexandra Touroutoglou, Sumientra Rampersad

- Modified a memory paradigm for use in this clinical trial
- Collected neuropsychological data
- Trained a team of undergraduate research assistants in administering tasks and assessments

***TMS in Primary Progressive Aphasia: Modulation of Brain Networks and Language (K23)***

*This study examines the effects of transcranial magnetic stimulation (TMS) on participants with primary progressive aphasia.*

PI: Alexandra Touroutoglou

- Aided in the design and implementation of a language task to be administered with TMS

**Undergraduate Research Assistant**

Interdisciplinary Affective Science Lab

September 2016 - December 2016, January 2019 – May 2019

- Conducted neuropsychological assessments of participants, assisting with fMRI and PET scans, scored questionnaire data, and ran behavioral lab sessions which included peripheral physiology recordings.
- Worked on a research project regarding emotional granularity and the use of emotion words in multiple languages.
- Ran in-lab experiment sessions, conducted post-experiment interviews with participants and preliminary analysis of data.

**Full time Research Assistant, Co-op**

Life-Span Emotional Development Lab

July 2018 - December 2018

- Worked full-time on a research project that examined the roles of affect regulation, beta-amyloid, and aging on memory and cognitive abilities.
- Implemented peripheral physiology recording during simultaneous fMRI and PET acquisition.
- Created a pipeline for eye-tracking data analysis.
- Recruited and screened participants, assisted with behavioral and neuro-imaging sessions, and managed a group of undergraduate research assistants.

## **Relevant Work Experience**

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### **Residential Counselor**

Italian Home for Children

July 2017 – January 2019

- Worked as a full-time residential counselor in an intensive group home for children aged 4-12.
- Oversaw the daily routines and activities of residents, documented client behavior in reports, and worked with clients to overcome maladaptive behaviors.

## **Memberships and Professional Associations**

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2024-present	International Society for Developmental Psychobiology
2023-present	Society for Neuroscience
2023-2024	Flux Society
2022-2023	Association for the Scientific Study of Consciousness
2021-2022	Cognitive Neuroscience Society
2019-present	Society for Affective Science
2017-2019	Psi Chi (Northeastern University chapter)

## **Skills**

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### Statistical:

- Hierarchical linear modeling (HLM), General Linear Modeling (GLM), Monte Carlo Simulation, ANOVA, t-testing, correlation analyses, mediation modeling

### Software:

- Proficient in R, Eprime, Psychtoolbox-3 (Matlab), and Python

### Neuroimaging:

- Structural MRI analysis in Freesurfer; Functional MRI analysis in CONN; Preprocessing of PET data; Tissue Iron Estimation

### Physiology:

- Acquisition and analysis of Electrocardiogram, Impedance Cardiography, Electrodermal, and Blood Pressure data

## **Open Access Software**

Electrocardiogram (ECG) Cleaning/Editing GUI: [https://github.com/bablab/Physiology\\_GUIs](https://github.com/bablab/Physiology_GUIs)