Laura Saad

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EDUCATION

Expected May 2023	Ph.D. Cognitive Psychology, Rutgers University – New Brunswick
	Certificate in Cognitive Science, Rutgers Center for Cognitive Science
2021	M.S. Cognitive Psychology, Rutgers University – New Brunswick
	<u>Thesis:</u> *Rethinking Intentional Binding*
2015	B.S. Psychology, University of the Sciences

HONORS AND AWARDS

2022	School of Graduate Studies Research & Travel Award
2020	NSF-GRFP, Honorable Mention
2019	Society for Mathematical Psychology Student Travel Award
2015	First Place Student Poster, Psi Chi Research Day, Philadelphia, PA

PEER-REVIEWED PUBLICATIONS

1. **Saad, L**., Musolino, J., and Hemmer, P. (2022) Bayesian Rational Memory Model Simulates Temporal Binding Results. *Proceedings of the 44th Annual Conference of the Cognitive Science Society*.

2. Devlin, K. N., Brennan, L., **Saad, L.,** Giovannetti, T., Hamilton, R. H., Wolk, D. A., Xie, S. X., and Mechanic-Hamilton, D. (2021*). Diagnosing Mild Cognitive Impairment Among Racially Diverse Older Adults: Comparison of Consensus, Actuarial, and Statistical Methods*. Journal of Alzheimer's Disease.

3. Delhaye, E., Mechanic-Hamilton, D., **Saad, L.,** Sandhitsu, D. R., Wisse, L. E. M., Yushkevich, P. A., Wolk, D. A., and Bastin, C. (2018) *Associative memory for conceptually unitized word pairs in mild cognitive impairment is related to the volume of the perirhinal cortex*. Hippocampus.1:1-9

MANUSCRIPTS IN PREPARATION

1. **Saad, L.,** Hemmer, P., and Musolino, J. (under review). Rethinking Temporal Binding.

2. **Saad, L.,** Hough, A., Musolino, J., Hemmer, P., Lebiere, C., and Blaha, L. An ACT-R model of temporal binding.

3. **Saad, L.,** Hemmer, P., and Musolino, J. (submitted). Temporal binding as a measure of agency: critical review and suggestions for the road ahead.

PRESENTATIONS *(unless otherwise indicated by italics, first author was presenter)*

TALKS

1. **Saad, L.,** Musolino, J., and Hemmer, P. (2022, November) *Evaluating sources of error in temporal binding tasks.* Talk presented at the 63rd annual meeting of the Psychonomic Society, Boston, Massachusetts.

2. **Saad, L.,** Musolino, J., and Hemmer, P. (2022, May) *Bayesian Rational Memory Model Simulates Temporal Binding.* Data Blitz presented at 18th annual Context and Episodic Memory Symposium, Philadelphia, PA.

3. **Saad, L.,** Musolino, J., and Hemmer, P. (2021, November). *What is Intentional Binding Measuring?* Talk presented at the 62nd annual meeting of the Psychonomic Society, Virtual.

4. **Saad, L.,** Musolino, J., and Hemmer, P. (2021, July). *What is Intentional Binding Measuring?* Talk presented at the 54th annual meeting of the Society for Mathematical Psychology, Virtual.

POSTERS

1. **Saad, L.,** Musolino, J., and Hemmer, P. (2022, July) *Bayesian Rational Memory Model Simulates Temporal Binding.* Poster accepted for presentation at the 44th Annual Conference of the Cognitive Science Society. Toronto, Canada.

2. **Saad, L.,** Musolino, J., and Hemmer, P. (2022, July) *Bayesian Rational Memory Model Simulates Temporal Binding.* Poster presented at the 54th annual meeting of the Society for Mathematical Psychology. Toronto, Canada.

3. **Saad, L.,** Musolino, J., and Hemmer, P. (2022, June) *Bayesian Rational Memory Model Simulates Temporal Binding.* Poster presented at the 7th annual TRACE workshop, Wurzburg, Germany.

4. Jomy, A., Devlin, K. N., **Saad, L.,** and Mechanic-Hamilton, D. (2022, February). Comparing normative adjustments to optimize MCI diagnosis in diverse older adults. Poster presented at the American Association for the Advancement of Science 2022 Annual Meeting, Philadelphia, PA.

5. **Saad, L.,** Blaha, L., Musolino, J., and Hemmer, P. (2021, September). *An ACT-R Model of Intentional Binding.* Poster presented at the Annual SOCRATES Socially Cognizant Robotics Workshop in Piscataway, NJ.

6. **Saad, L.,** Musolino, J., and Hemmer, P. (2020, November). *Intentional Binding: an unintentional artifact?* Poster presented at the 61st annual meeting of the Psychonomic Society, Virtual.

7. **Saad, L.,** Musolino, J., and Hemmer, P. (2020, July). *Intentional Binding: an unintentional artifact?* Poster presented at the 53rd annual meeting of the Society for Mathematical Psychology, Virtual.

8. **Saad, L.,** DeLuna, J., Hemmer, P., and Musolino, J. (2019, November). *Evaluating the Role of Congruence and Contiguity on the Sense of Agency.* Poster presented at the 60th annual meeting of the Psychonomic Society, Montreal, Canada.

9. **Saad, L.,** DeLuna, J., Rothrock, J., Musolino, J., and Hemmer, P. (2019, July). *Evaluating the Role of Congruence and Contiguity on the Sense of Agency.* Poster presented at the 52nd annual meeting of the Society for Mathematical Psychology, Montreal, Canada.

10. Rothrock, J., **Saad, L.,** DeLuna, J., Hemmer, P., and Musolino, J. (2019, May). *Investigating the Sense of Agency: Pilot Data on a Standard IB Paradigm.* Poster presented at the 31st annual meeting of the Association for Psychological Science, Washington, D.C.

11. Mechanic-Hamilton, D., *Saad, L.,* Sacchetti D., and Hamilton R. (2018, February). *Pilot M.I.N.D.S. study: modulating intellect with noninvasive DC stimulation.* Poster presented at the 46th annual meeting of the International Neuropsychological Society, Washington D.C.

12. **Saad, L.**, Wolk, D. A., and Mechanic-Hamilton, D. (2017, February). *An update on normative data for neuropsychological performance on memory and language measures in a racially diverse older adult longitudinal cohort.* Poster presented at the 45th annual meeting of the International Neuropsychological Society, New Orleans, LA.

13. Devlin, K. N., **Saad, L.,** Giovannetti, T., Wolk, D. A., and Mechanic-Hamilton, D. (2017, February). *Diagnosing mild cognitive impairment: comparison of conventional, actuarial, and statistical methods.* Poster presented at the 45th annual meeting of the International Neuropsychological Society, New Orleans, LA.

14. Hruska, A., **Saad, L.,** and Janke, E. A. (2016, April). *The influence of pain and pain sensitivity on decision making.* Poster presented at the 11th annual Philadelphia area Psi Chi Research Day, University of the Sciences, Philadelphia, PA.

15. **Saad, L.** and Janke, E. A. (2015, April). *The influence of pain and pain sensitivity on decision making in healthy adults.* Poster presented at the 10th annual Philadelphia area Psi Chi Research Day, Drexel University, Philadelphia, PA.

16. Jacob, S. S., **Saad, L.**, DeLoretta, L. C., McHugh-Grant, S., and Moelter, S. T. (2015, March). *Multimedia use and impulsivity in healthy undergraduate students.* Poster presented at the annual meeting of the Eastern Psychological Association, Philadelphia, PA.

17. DeLoretta, L. C., Benau, E. M., **Saad, L.**, and Moelter, S. T. (2014, September). *Right hemisphere activity associated with time perception revealed by contingent negative variation.* Poster presented at the 54th annual meeting of the Society for Psychophysiological Research, Atlanta, GA.

18. **Saad, L.,** Benau, E. M., DeLoretta, L. C., and Moelter, S. T. (2014, September). *Allocation of attention resources increases magnitude of attentional blink.* Poster presented at the 54th annual meeting of the Society for Psychophysiological Research, Atlanta, GA.

19. **Saad, L.,** Benau, E. M., DeLoretta, L C., and Moelter, S. T. (2014, April). *Allocation of attention resources increases magnitude of attentional blink.* Poster presented at the 9th annual Philadelphia area Psi Chi Research Day, Temple University, Philadelphia, PA

RESEARCH EXPERIENCE

Human Computational Cognition Laboratory
Rutgers University, Department of Psychology, New Brunswick, NJ
Doctoral student, 2018-present
Advisors: Drs. Pernille Hemmer and Julien Musolino
- o Principal investigator on several projects investigating the underlying mechanisms of temporal binding (TB) – a proposed implicit measure of the sense of agency. Responsibilities include:
  - o Develop perceptual/behavioral tasks and program data organization and analysis in MATLAB; train and mentor undergraduate research assistants in maintenance of data integrity as well as data collection and analysis; assist with grant proposal development and writing; conduct comprehensive literature reviews in multiple domains, such as sense of agency, time perception and psychophysical techniques; submit manuscripts for publication in peer-reviewed journals; develop and improve theory in domain of research; present research nationally and internationally at conferences
- o Foster collaboration with clinicians and researchers from the Rutgers Center for Computational Neuropsychiatry (CCNP) on a project investigating memory and time perception in schizophrenic patient population. Responsibilities include:
  - o Development and submission of Institutional Review Board approved protocol; communication with CCNP researchers and research coordinators; develop and program behavioral tasks and data collection methods in MATLAB; conduct data analysis and visualization in MATLAB

Air Force Research Laboratory
Oak Ridge Institute for Science and Education
Carnegie Mellon University, Pittsburgh, PA
Repperger Research Summer Intern, 2022
Scientist Mentors: Drs. Alexander Hough and Leslie Blaha
- Developed a cognitive model of temporal binding task using LISP implementation of the Adaptive Control of Thought – Rational (ACT-R) cognitive architecture

Air Force Research Laboratory
Oak Ridge Institute for Science and Education
Carnegie Mellon University, Pittsburgh, PA (completed virtually due to COVID-19)
Repperger Research Summer Intern, 2021
Scientist Mentor: Dr. Leslie Blaha
- Developed proficiency with visualization techniques in R using ggplot2
- Obtained new statistical analytical skillset in R including Recurrence Quantification Analysis and basic parametric and non-parametric statistics
- Completed PyIBL (Python Instance Based Learning theory) tutorial
- Completed ACT-R Python tutorial
- Started project developing an ACT-R model of a temporal binding task

University of Pennsylvania Memory Center
Department of Neurology, Perelman School of Medicine, Philadelphia, PA
Clinical Research Coordinator, 2015 – 2018
Supervisor: Dr. Dawn Mechanic-Hamilton
- Coordinated a study assessing the impact of transcranial direct current stimulation (tDCS) and cognitive training on preservation of cognitive functioning in older adults
- Collected data and completed analysis for a project investigating the relationship between episodic memory recall and temporal discounting in older adults

Health Behavior Research Lab
University of the Sciences, Department of Behavioral and Social Sciences, Philadelphia, PA
Research Assistant, 2014 – 2018
Supervisor: Dr. E. Amy Janke
- Principal investigator on a project assessing the influence of pain and pain sensitivity on decision making

Cognitive Neuropsychology Lab
University of the Sciences, Department of Behavioral and Social Sciences, Philadelphia, PA
Research Assistant, 2012 – 2015
Supervisor: Dr. Stephen Moelter
- Acquisition and analysis of cognitive electroencephalograph (EEG-ERP) data
- Analysis of behavioral accuracy and reaction time data
- Ensure compliance with Institutional Review Board policy
- Designed and conducted a senior thesis using the attention blink paradigm

TEACHING EXPERIENCE

RUTGERS UNIVERSITY

Teaching Assistant, August 2018-August 2019
- Cognition
- The Religious Mind
- Forensic Psychology
- Systems Psychotherapy

Lead Teaching Assistant, Cognition Lab, August 2021-December 2022
Average Student Rating (4.67/5 – Fall 2021; 5/5 – Spring 2022)
- Responsibilities include:
  - Development of weekly lectures, assessments, homework assignments, and video tutorials for a 15-week laboratory course in cognition
  - Grading assessments
- Skills taught:
  - Basic data cleaning habits and fundamentals of experimental design
  - Exploratory data and statistical analysis skills using Excel and JASP
  - Fundamentals of science communication and scientific writing

RELEVANT COURSEWORK

- MATLAB programming
- Computational Cognition
- Mathematical Models of Learning and Cognition
- Bayesian Modeling
- Deeper Data Analysis for Neuroscience and Psychology
- Digital Biomarkers for Brain Sciences
- Perception
- Decision Making

TECHNICAL SKILLS

- *Languages:* MATLAB, Python, R, Lisp
- *Statistics and graphics packages:* Origin Pro, JASP, SPSS

- *Other skills:*
    - Bayesian models of cognition
    - Cognitive Modeling (ACT-R)

AD HOC REVIEWING

Acta Psychologica; Consciousness and Cognition

AFFILIATIONS

2019–	Member, Society for Mathematical Society
2019–	Member, Psychonomic Society
2019–	Member, Women in Cognitive Science
2019–	Member, Women of Math Psych
2013–	Member, Psi Chi, The International Honor Society in Psychology
2013-2017	Member, Society for Psychophysiological Research
2013-2014	Vice President, Psi Chi, University of the Sciences Chapter