

ALYSSA H. SINCLAIR, PH.D. | Curriculum Vitae

Email: asinclair@falklab.org

Phone: +1 (919) 907-9338

Website: sinclairlab-rice.com



[Google Scholar](#)



[@asinclair.bsky.social](#)



[0000-0003-0447-3959](#)

Keywords: learning & memory, belief updating, behavior change, prediction error, motivation, emotion

Employment

Assistant Professor — Rice University, Department of Psychological Sciences July 2026 (Incoming)

Director: [Learning and Behavior Change Lab](#)

Research Interest Groups: Cognitive and Affective Neuroscience,
Health Psychology and Behavioral Medicine

Joan Bossert Postdoctoral Research Fellow — University of Pennsylvania July 2023 – Present

Affiliations: Communication Neuroscience Lab (PI: Emily Falk),
Annenberg School for Communication, Annenberg Public Policy Center,
Penn Center for Science, Sustainability, and the Media

Education

Ph.D., Duke University — *Psychology & Neuroscience, Certificate in Cognitive Neuroscience* Aug 2018 –
Cumulative GPA: 4.0/4.0 May 2023

Dissertation: [“Pre-Learning Interventions Modulate Learning from Error”](#)

Co-Advisors: Prof. R. Alison Adcock & Prof. Gregory R. Samanez-Larkin

Committee Members: Prof. Elizabeth Marsh & Prof. Felipe De Brigard

B.Sc. with High Distinction, University of Toronto — *Psychology (Research Specialist)* Sep 2014 –
Cumulative GPA: 4.0/4.0, *Valedictorian* May 2018

Honors Thesis: “Prediction Error Influences Episodic Memory Reconsolidation”

Thesis Advisor: Prof. Morgan Barense

Teaching Experience

Pedagogy — Course in College Teaching, Course Design Institute (U Penn) 2024–2025

Guest Lecturing — Topics: memory, motivation, reinforcement learning, health beliefs,
cognitive neuroscience research methods, statistics, data visualization (Duke University) 2020–
2023

Teaching Assistantships

NEUROSCI101: Biological Bases of Behavior (Duke University) 2020, 2021

PSY444: Neuroscience Service Learning (Duke University) 2021

VIC171: Method, Theory, & Practices in Natural Sciences (University of Toronto) 2017–2018

Peer-Reviewed Publications

1. Sinclair, A.H., Cosme, D., Lydic, K., Reiner, D.A., Carreras-Tartak, J., Mann, M., & Falk, E.B. (2025). [Behavioral interventions motivate action to address climate change](#). *PNAS*, 122(20).
2. Cosme, D., Chan, H.Y., Sinclair, A.H., Benitez, C., Lydic, K., Martin, R., Resnick, A., Carreras-Tartak, J., Cooper, N., Paul, A.M., Koelle, D., McVay, J., Falk, E.B., & Scholz, C. (2025). [Perceived self and social relevance of content motivates news sharing across cultures and topics](#). *PNAS Nexus*, 4(2).
3. Sinclair, A.H., Wang, Y.C., & Adcock, R.A. (2024). [First impressions or good endings? Preferences depend on when you ask](#). *Journal of Exp. Psychology: General*, 153(10).
4. Kemp, P.L. *, Sinclair, A.H. *, Adcock, R.A., & Wahlheim, C.N. (2024). [Memory and belief updating following complete and partial reminders of fake news](#). *CR:PI*, 9(28). * equal contribution
5. Sinclair, A.H. *, Wang, Y.C. *, & Adcock, R.A. (2023). [Instructed motivational states bias reinforcement learning and memory formation](#). *PNAS*, 120(31). * equal contribution
6. Sinclair, A.H., Taylor, M.K., Brandel-Tanis, F., Davidson, A., Chande, A.T., Rishishwar, L., Andris, C., Adcock, R.A., Weitz, J.S., Samanez-Larkin, G.R., & Beckett, S.J. (2023). [Communicating COVID-19 exposure risk with an interactive website counteracts risk misestimation](#). *PLOS ONE*, 18(10).
7. Sinclair, A.H., Taylor, M.K., Davidson, A., Weitz, J.S., Beckett, S.J., & Samanez-Larkin, G.R. (2023). [Scenario-based messages on social media motivate COVID-19 information seeking](#). *Journal of Applied Research in Memory and Cognition*, 13(1).
8. Sinclair, A.H., Taylor, M.T., Weitz, J.S., Beckett, S., & Samanez-Larkin, G.R. (2023). [Reasons for receiving or not receiving bivalent COVID-19 booster vaccinations among adults](#). *Morbidity & Mortality Weekly Report*, 72(3).
9. Sinclair, A.H., Manalili, G.M., Brunec, I.K., Adcock, R.A., & Barense, M.D. (2021). [Prediction errors disrupt hippocampal representations and update episodic memories](#). *PNAS*, 118(51).
10. Sinclair, A.H., Hakimi, S., Stanley, M.L., Adcock, R.A., & Samanez-Larkin, G.R. (2021). [Pairing facts with imagined consequences improves pandemic-related risk perception](#). *PNAS*, 118(32).
11. Sinclair, A.H., Stanley, M.L., Hakimi, S., Cabeza, R., Adcock, R.A., & Samanez-Larkin, G.R. (2021). [Imagining a personalized scenario selectively increases perceived risk of viral transmission for older adults](#). *Nature Aging*, 1, 677-683.
12. Sinclair, A.H., Stanley, M.L., & Seli, P. (2020). [Closed-minded cognition: Right-Wing Authoritarianism is negatively related to belief updating following prediction error](#). *Psychonomic Bulletin and Review*, 27, 1348-1361.
13. Stanley, M.L., Sinclair, A.H., & Seli, P. (2020). [Intellectual humility and perceptions of political opponents](#). *Journal of Personality*, 88(6), 1-21.
14. Sinclair, A.H. & Barense, M.D. (2019). [Prediction error and memory reactivation: How incomplete reminders drive reconsolidation](#). *Trends in Neurosciences*, 42(10), 728-740.
15. Sinclair, A.H. & Barense, M.D. (2018). [Surprise and destabilize: Prediction error influences episodic memory reconsolidation](#). *Learning & Memory*, 25(8), 369-381.

Other Publications (Correspondence, etc.)

16. Sinclair, A.H., Harris, M., Andris, C., Cosme, D., Peters, E., Fagerlin, A., Falk, E.B., & Weitz, J.S. (2025). [NIH indirect cost cuts will affect the economy and employment](#). *Nature Human Behaviour*.
17. Sinclair, A.H., Cosme, D., Lydic, K., Reinero, D.A., Mann, M., & Falk, E.B. (2025). [Reply to Dablander et al.: Identifying interventions that change intentions lays a valuable foundation for behavior change](#). *PNAS*, 122(20).
18. Sinclair, A.H., Cosme, D., Lydic, K., Reinero, D.A., Mann, M., & Falk, E.B. (2025). Reply to Loh & Ren: Motivating action among climate change believers. *PNAS* (in press).

Preprints & Manuscripts Under Review

1. Sinclair, A.H., Harris, M.J., Cosme, D., Andris, C., Fagerlin, A., Peters, E., Cooke, C.L., Falk, E.B., & Weitz, J.S. (2025). [Communicating the economic impact of NIH funding cuts changes attitudes and motivates action](#).
2. Harris, M.J., Sinclair, A.H., Andris, C., & Weitz, Joshua S. (2025). [Economic loss due to health funding cuts as distributed across geospatial units](#).
3. Harris, M.J., Sinclair, A.H., Pullano, G., [...] Weitz, Joshua S. (2025). Emerging frontiers in infectious disease modeling: Reassessing the data-driven feedback loop between human behavior and disease dynamics.
4. Cosme, D., Lydic, K., Reinero, D., Sinclair, A.H., & Falk, E.B. (2025). Motivating and supporting youth to vote using theory-driven approaches.
5. Lydic, K., Sinclair, A.H., Cosme, D., Carreras-Tartak, J., & Falk, E.B. (2025). [Action planning interventions to promote individual and collective climate action](#).
6. Sinclair, A.H., Cosme, D., Carreras-Tartak, J., & Falk, E.B. (2025). [Affective framing of environmental news headlines influences engagement, donations, and memory](#).
7. Sinclair, A.H., Taylor, M., Beckett, S., Weitz, J., & Samanez-Larkin, G.R. (2024). [Personalized feedback about immunity corrects risk misestimation and motivates vaccination](#).
8. Sinclair, A.H., Hsiung, A., Wright, R., Hakimi, S., & Adcock, R.A. (2024). [Pausing to reflect during news consumption counteracts negativity biases in memory](#).

Fellowships

Joan Bossert Postdoctoral Research Fellowship, University of Pennsylvania	2023–26
Graduate Research Fellowship, National Science Foundation	2019–23
Postgraduate Scholarship, Natural Sci. and Eng. Research Council of Canada	2019–22
James B. Duke Graduate Fellowship, Duke University	2018–2022
NSERC Canada Graduate Scholarship- Master's (Declined)	2018
NSERC Undergraduate Student Research Award, University of Toronto	2018

Grants

Open Philanthropy Grant Co-PIs: A.H. Sinclair, J.S. Weitz Title: "The Science & Community Impacts Mapping Project (SCIMaP)" Funding Agency: Open Philanthropy	2025–2026 \$336,607
MindCORE Neuroimaging Pilot Grant Co-PIs: A. Sinclair, E.B. Falk Title: "Affective Framing of Information and Neural Systems for Motivation" Funding Agency: University of Pennsylvania	2025–2026 \$6,300
Applied Research on Intellectual Humility PI: R. Hoyle, Co-I: A.H. Sinclair Title: "Social and Psychological Mechanisms that Contribute to Humble Processing of Information that Challenges Personal Opinions and Beliefs" Funding Agency: John Templeton Foundation	2023–26 \$250,000
Coronavirus Contract Co-PIs: J. Weitz & G.R. Samanez-Larkin, Co-I: A.H. Sinclair Title: "Modeling SARS-CoV-2 Risk, Interventions, and Impacts on Healthcare" Funding Agency: Centers for Disease Control and Prevention (CDC)	2021–23 \$600,000
Psychology & Neuroscience Outreach Grant Co-PIs: A. Hsiung & A.H. Sinclair Title: "Promoting Equitable Access to Cognitive Research: A Comprehensive Internship Program for Undergraduates" Funding Agencies: Duke University, Charles Lafitte Foundation	2021–22 \$36,434
Research Germinator Grant PI: A.H. Sinclair Title: "Learning from Error: Cognitive, Motivational, and Neural Mechanisms" Funding Agency: Duke Institute for Brain Sciences	2019–22 \$25,000
Special Topics COVID-19 Research Grant PI: A.H. Sinclair Title: "Affective States and Information Seeking During the COVID-19 Pandemic" Funding Agency: Duke University, Charles Lafitte Foundation	2020–21 \$2,500

Awards & Honors

Conference Travel Awards, Duke University	2022, 2023
Trainee Professional Development Award, Society for Neuroscience	2019
Kazuo Mori Trainee Award, Society for Applied Research on Memory & Cognition	2019
Charles Lafitte Foundation Conference Travel Awards, Duke University	2018, 2019
Governor General's Academic Medal, Government of Canada, University of Toronto National award granted to the highest-performing undergraduate student.	2018
John Black Aird Scholarship, University of Toronto Awarded to the top student of the tri-campus graduating class (18,500 students).	2018
Rose Sheinin Award, University of Toronto Awarded for exemplary academic achievement by a woman in science.	2018
Women's Centenary Silver Medal, Victoria College, University of Toronto Awarded to the woman in the graduating class with the highest academic standing.	2018
Treble & Barber Graduate Studies Scholarship, Victoria College, University of Toronto Awarded to an outstanding graduate pursuing a doctorate in Psychology or Philosophy.	2018
Dean's List Scholar, University of Toronto	2014–18
Outstanding Poster Presentation, NeuroXchange Conference	2017
Moscovitch Award, Toronto Area Memory Group Conference Awarded for outstanding contributions to conference discussion.	2017
James Mark Baldwin Prize for Best Essay, University of Toronto	2017
University of Toronto Scholars Award, University of Toronto	2014–2018
Academic Merit Scholarships, University of Toronto, Victoria College	2014–2018

Invited Talks

- Sinclair, A.H.** (2025, May). Psychological interventions change beliefs and intentions about everyday health risks. *Rutgers University – Camden*, Department of Psychology.
- Sinclair, A.H.** (2025, February). Cognitive interventions for real-world challenges. *Rice University*, Department of Psychological Sciences.
- Sinclair, A.H.** (2025, February). Applied cognitive neuroscience: Updating memories, beliefs, and behaviors. *Boston University*, Department of Psychological & Brain Sciences.
- Sinclair, A.H.** (2025, January). Shaping the affective context of cognition. *Stanford University*, Department of Psychology.
- Sinclair, A.H.** (2025, January). Cognitive interventions for real-world challenges. *University of California – San Diego*, Department of Cognitive Science.
- Sinclair, A.H.** (2024, December). Minds, brains, and mass media: Interventions for real-world challenges. *University of Michigan*, Department of Communication & Media.
- Sinclair, A.H.** (2024, November). Psychological interventions to motivate preventative health behaviors. *University of Maryland*, Workshop on Disease Dynamics and Human Behavior.
- Sinclair, A.H.** (2024, March). Cognitive interventions for real-world challenges. *Emory University*, Department of Psychology.
- Sinclair, A.H.** (2024, March). Lab and field experiments for communicating viral exposure risk. *University of Maryland*, Pandemic Readiness Initiative.
- Sinclair, A.H.** (2024, January). Cognitive interventions for real-world challenges. *Princeton University*, Department of Psychology.
- Sinclair, A.H.** (2023, Dec). Motivational states bias learning and memory. *University of Pennsylvania*, Department of Psychology.
- Sinclair, A.H.** (2023, October). Lab and real-world interventions for communicating health risks. *Rutgers University – Camden*, Department of Psychology, Prevention Science Program.
- Sinclair, A.H.** (2022, Feb). Lab and real-world interventions to correct pandemic risk perception. *Duke University*, Duke Institute for Brain Sciences.

Conference Talks

- Sinclair, A.H.,** Cosme, D., Carreras-Tartak, J., Lydic, K., & Falk, E.B. (2025, June). Imagining the future motivates action to address climate change. Talk, *International Communication Association*, Denver, CO.
- Sinclair, A.H.,** Cosme, D., Carreras-Tartak, J., & Falk, E.B. (2025, June). Emotional framing of news headlines influences engagement, donations, and memory. Talk, *International Communication Association*, Denver, CO.
- Sinclair, A.H.,** Cosme, D., Lydic, K., Reinero, D.A., Carreras-Tartak, J., Mann, M., & Falk, E.B. (2024, November). Behavioral interventions motivate action to address climate change. Talk, *Psychonomic Society*, New York, NY.
- Sinclair, A.H.,** Falk, E.B., Goodman, A., & Chesnes, M. (2024, April). Crafting impactful environmental narratives: Leveraging communication science, visuals, and technology in storytelling. Workshop, *Society of Environmental Journalists*, Philadelphia, PA.
- Sinclair, A.H.,** Wright, R., & Adcock, R.A. (2023, November). Reframing the value of errors mitigates anxiety-related learning deficits. Symposium talk, *Psychonomic Society*, San Fran., CA.
- Sinclair, A.H.,** Taylor, M.K., & Samanez-Larkin, G.R. (2023, August). Scenario-based messages on social media motivate COVID-19 information seeking. Talk, *SARMAC*, Nagoya, Japan.
- Sinclair, A.H.,** Wang, Y.C., & Adcock, R.A. (2023, Apr). Instructed motivational states bias reinforcement learning and memory formation. Symposium talk, *Learning & Memory*, Huntington Beach, CA.
- Sinclair, A.H.,** Wang, Y.C., & Adcock, R.A. (2023, Mar). Instructed motivational states bias reinforcement learning and memory formation. Data blitz, *Cognitive Neuroscience Society*, San Fran., CA.
- Sinclair, A.H.,** Hakimi, S., Stanley, M.S., Adcock, R.A., Samanez-Larkin, G.R. (2021, July). Pairing facts with imagined consequences improves pandemic-related risk perception. Talk, *SARMAC*, virtual.
- Sinclair, A.H. & Barense, M.D.** (2018, May). Prediction error influences episodic memory reconsolidation. Data blitz, *Toronto Area Memory Group Conference*, Toronto, ON.

Poster Presentations

- Sinclair, A.H.,** Cosme, D., Carreras-Tartak, J., & Falk, E.B. (2025, October). Affective framing influences information consumption, donations, and memory. *Curiosity, Information Seeking, & Exploration (CISE) Symposium*.
- Sinclair, A.H.,** Cosme, D., Carreras-Tartak, J., & Falk, E.B. (2025, April). Affective framing of news headlines influences information consumption and memory. *Cognitive Neuroscience Society*.
- Sinclair, A.H.,** Wang, Y.C., & Adcock, R.A. (2024, Nov). Motivational states shape neural representations during reinforcement learning and memory formation. *Society for Neuroscience*.
- Sinclair, A.H.,** Cosme, D., Carreras-Tartak, J., Butler, T., Kostick, H., Mann, M., & Falk, E. (2024, April). Misperceptions of impact predict intentions to take action against climate change. *Cognitive Neuroscience Society*.

Poster Presentations (continued)

- Sinclair, A.H.,** Cosme, D., Carreras-Tartak, J., Butler, T., Kostick, H., Mann, M., & Falk, E. (2024, April). Cognitive and social factors shape intentions to take action against climate change. *Social and Affective Neuroscience Society*.
- Sinclair, A.H.,** Wang, Y.C., & Adcock, R.A. (2023, Nov). Neural correlates of motivational states that bias reinforcement learning and memory formation. *Society for Neuroscience*.
- Sinclair, A.H.,** Wang, Y.C., & Adcock, R.A. (2023, Mar). Instructed motivational states bias reinforcement learning and memory formation. *Cognitive Neuroscience Society*.
- Sinclair, A.H.,** Wang, Y.C., & Adcock, R.A. (2022, Nov). Early and late rewards bias value memory and preferences over distinct timescales. *Psychonomic Society*.
- Sinclair, A.H.,** Wang, Y.C., & Adcock, R.A. (2022, Apr). First impressions: Early rewards in episodes bias value memory and preferences. *Cognitive Neuroscience Society*.
- Sinclair, A.H.*,** Wright, R.*, Hsiung, A.*, Hakimi, S., & Adcock, R.A. (2022, Apr). Downside of doom scrolling: Pausing to reflect influences information seeking and enhances memory. *Cognitive Neuroscience Society*. *Denotes equal contribution.
- Sinclair, A.H.,** Hakimi, S., Stanley, M.S., Adcock, R.A., & Samanez-Larkin, G.R. (2020, October). Perceived vs. actual virus transmission risk during the COVID-19 pandemic. *Society for Neuroeconomics*.
- Sinclair, A.H.,** Hakimi, S., Adcock, R.A., & Barense, M. D. (2020, August). Effective connectivity among cortico-hippocampal regions predicts memory for naturalistic episodes. *Context and Episodic Memory Symposium*.
- Sinclair, A.H.,** Poh, J.H., Adcock, R.A., & Barense, M. D. (2020, May). Neural representations of emotional valence and intensity during naturalistic events. *Cognitive Neuroscience Society*.
- Sinclair, A.H.,** Manalili, G.M., & Adcock, R.A., & Barense, M. D. (2019, Nov). Surprising event boundaries modulate hippocampal activity & distort episodic memories. *Psychonomic Society*.
- Sinclair, A.H.,** Manalili, G.M., Adcock, R.A., & Barense, M. D. (2019, Oct). Prediction errors at event boundaries drive episodic memory reconsolidation. *Society for Neuroscience*.
- Sinclair, A.H.,** Manalili, G.M., & Barense, M.D. (2019, Apr). Neural mechanisms of prediction error and episodic memory distortion. *Smokies Cognition and Neuroscience Symposium*.
- Sinclair, A.H.,** Manalili, G.M., & Barense, M.D. (2017, Oct). Surprise and destabilize: Prediction error triggers episodic memory updating. *Society for Neuroscience*.

Mentoring

Graduate Students: Christian Benitez (2023–present), Thandi Lyew (2023–present), Chico Xu (2024–present), Taurean Butler (2023–2024), Hannah Schwalberg (2023–2024)

Honors Thesis Students: Alyssa Guthrie (2020–2023), Yume Choi (2021–2022)

Undergraduate Research Assistants: Pétra de Beer (2024–present), Paul Kim (2020–2022), Tolulemi Gbile (2018–2020), Grace Manalili (2017–2019), Carolyn Chung (2017–2018), Kayla Liu (2018)

Cognitive Neuroscience Research Interns: Paige Sevchik, Nour Kanan, Blaine Luebbering, Dipali Arora

Service

Nominated Representative — <i>Graduate Student Affairs, Duke University</i> Student Liaison to the Graduate School, representing Cognitive Neuroscience.	2019-2023
Departmental Event Planner — <i>Center for Cognitive Neuroscience, Duke University</i> Contributed to planning the annual departmental retreat and solicited feedback from members of the department on culture, practices, and issues.	2021-2022
Journal Club Organizer — <i>Center for Cognitive Neuroscience, Duke University</i> Organized and managed a weekly journal club for trainees in the Center.	2019-2020
Volunteer Editor — <i>The Inkblot: Undergraduate Journal of Psychology</i> Reviewed & edited papers from undergraduate psychology students.	2017-2018

Outreach

Outreach Volunteer — <i>University of Pennsylvania</i> Mentored prospective Ph.D. applicants from underrepresented groups via MindCORE DivE In . Moderated panels, led workshops, and mentored students.	2023–2025
Outreach Lecturer — <i>Duke University</i> Lectured on learning strategies and mental health as part of an NIH-funded outreach program for high-school students from underrepresented groups.	2023
Program Coordinator & Mentor — <i>Cognitive Neuroscience Research Internship</i> Contributed to founding and leading a research internship program that provides equitable and accessible research opportunities for undergraduate students from historically underrepresented backgrounds. Lectured, mentored, administrated, and obtained funding.	2020–2023
Service-Learning Facilitator — <i>Neuroscience Service-Learning Course, Duke University</i> Contributed to developing a service-learning course and forging community partnerships. Oversaw the design, production, and donation of educational neuroscience activity kits for children in underserved neighborhoods.	2021
Mentor — <i>Científico Latino: Graduate School Mentorship Initiative</i> Guided STEM graduate school applicants from underrepresented minorities. Revised graduate and NSF-GRFP applications, conducted mock interviews.	2019–2022

Selected Press

For an expanded list of press coverage, see <https://www.sinclairlab-rice.com/pages/press>

Penn Today (2025): [What Behavioral Strategies Motivate Environmental Action?](#)

A collaborative study tested 17 strategies in an “intervention tournament.”

Duke Today (2024): [Yet Another Reason Why You Should Sleep on it Before Making an Important Decision](#)

Science proves, once again, that we are easily deceived by first impressions.

MedPage Today (2023): [Why Aren’t People Getting the Bivalent COVID Booster?](#)

Survey shows lack of awareness on eligibility, availability, and some just think they’re immune.

Duke Today (2023): [This One Simple Brain Hack Might Boost Learning and Improve Mental Health](#)

A simple shift from a high-pressure mindset to a curious one improves people’s memory.

Big Think (2022): [How Trying to Predict the Future can Transform Your Memories](#)

Whenever you’re surprised, there’s a good chance that your brain is busy tweaking your memories.

Nature News & Views (2021): [Risks, Real and Imagined](#)

A new study finds that imagining a personalized disease transmission event amplifies perceived risk and bolsters risk-related information seeking in older age.

Peer Reviewing

Nature Human Behaviour

Psychological Science

Current Biology

NeuroImage

npj Science of Learning

Journal of Cognitive Neuro.

Memory

Oxford University Press

Learning & Memory

Cognition

Learning & Motivation

Memory & Cognition

Neuropsychologia

Personality Science

Journal of Applied Research
in Memory and Cognition

Frontiers in Psychology

Frontiers in Public Health

Open Mind: Discoveries in Cog. Sci.

Philosophical Transactions
of the Royal Society B

Quarterly Journal of
Experimental Psychology

WIREs Cognitive Science

Skills

- fMRI data collection (Level 2 operator training)
- fMRI data analysis (**FSL**, **fMRIPrep**, **SPM**, **bash**)
- Data analysis with **R** and **Python**, multilevel modeling
- Computational modeling (reinforcement learning, large language models)
- Experiment programming with **Python** and **Javascript** (Qualtrics, Psychopy, Pavlovía)
- Data visualization with **R** and **Adobe Illustrator**

Affiliations

- Cognitive Neuroscience Society
- Psychonomic Society
- Society for Neuroscience
- Society for Applied Research in Memory & Cognition
- Social and Affective Neuroscience Society
- Society for Neuroeconomics