Hause Lin
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Experience and Education

2022- Data Science Consultant, World Bank Group
2021- Post-Doctoral Fellow, University of Regina
Research Affiliate, MIT
Advisors: Gordon Pennycook, David Rand
2016-21 Ph.D., University of Toronto, Canada
Thesis: Hypothesis-Driven Source Separation and Dimension Reduction of Neural Time Series Data
Committee: Michael Inzlicht, Cendri Hutcherson, Katherine Duncan
2019 Research Assistant, Rotman School of Management, University of Toronto, Canada
Advisor: Bernardo Blum, Associate Professor of Economic Analysis and Policy
2019 Research Fellow, Donders Institute for Neuroscience, The Netherlands
Advisor: Mike X Cohen, Synchronization in Neural Systems Lab
2015-16 M.A., University of Toronto, Canada
2011-14 B.Sc. (Hons, ranked 1/223), University of Sussex, UK

Awards, Grants, and Honors

2023-25 Joint Initiative for Digital Citizen Research, Department of Canadian Heritage ($10,000 CAD)
2022-24 Postdoctoral Fellowship, Social Sciences & Humanities Research Council (ranked 5th, $90,000 CAD)
2021-22 Government of Canada Digital Citizen Contribution Program: Scaling Up Accuracy Nudge Interventions to Counter Disinformation in Canada ($89,780 CAD, co-applicant)
2021 Carnegie Endowment for International Peace: Scaling Up Interventions Against Misinformation on Social Media (co-applicant, $25,000 USD)
2021 Google Sponsorship Grant: Interventions Against Misinformation (co-applicant, $100,000 USD)
2015-20 Connaught International Scholarship ($175,000 CAD), University of Toronto
2020 Doctoral Completion Award ($8,000 CAD), University of Toronto
2020 Robert Pratt Scholarship ($2,250 CAD), University of Toronto
2020 Udacity Technology Deep Learning Scholarship, Bertelsmann Technology
2020 Kaggle Open Data Research Grant (PI, $2,000 USD), Google
2020 SCORE Program Replication Study Award, Center for Open Science
2019 Data for Social Good Scholarship, Dataquest
2019 Udacity Artificial Intelligence with PyTorch Scholarship
2019 rstudio::conf(2020) Scholarship ($1,000 USD), RStudio
2019 Toronto Machine Learning Summit Scholarship, Royal Bank of Canada
2019 Mary H. Beatty Fellowship ($10,000 CAD), University of Toronto
2019 Summer Institute in Social and Personality Psychology, New York University
2019 Inaugural Psychology Best Paper Award ($250 CAD), University of Toronto
2019 School of Graduate Studies Conference Grant ($560 CAD), University of Toronto
2018 Society for Psychophysiological Research Training Fellowship ($3,400 USD)
2018 Ontario Graduate Scholarship ($15,000 CAD), Ontario, Canada
2018 Society for Personality and Social Psychology Graduate Travel Award ($500 USD)
2017 The Social & Affective Neuroscience Society Poster Award ($200 USD)
2016-19 Graduate Student Grant ($400 per year CAD), University of Toronto
2016 School of Graduate Studies Conference Grant ($410 CAD), University of Toronto
2014 The Undergraduate Awards Winner and The George Berkeley Gold Medal (Psychology)
2014 The British Psychological Society Undergraduate Award for Highest Overall Score
2013 Junior Research Associate Grant (£2,500), University of Sussex
2009 Corporal First Class, Commendation Letter, Commando Training Institute, Singapore

Publications (Google Scholar)

*denotes shared first-authors

Depow, G. J., **Lin, H.**, & Inzlicht, M. (accepted). Cognitive effort for self, strangers, and charities. *Scientific Reports*. doi: 10.31234/osf.io/zr3we

Lin, H., Ristic, J., Inzlicht, M., Otto, A.R. (accepted). The average reward rate modulates behavioral and neural indices of effortful control allocation. *Journal of Cognitive Neuroscience*. doi: 10.31234/osf.io/yjuq8

Umemoto, A., **Lin, H.**, & Holroyd, C.B. (accepted). Electrophysiological measures of conflict and reward processing are associated with decisions to engage in physical effort. *Psychophysiology*.

Epstein*, Z. & **Lin*, H**. (2022). Yourfeed: Towards open science and interoperable systems for social media. https://arxiv.org/abs/2207.07478

Lin, H., Westbrook, A., Fan, F., & Inzlicht, M. (in-principle acceptance). Instilling the value of effort. Registered Report Stage 1. *Nature Human Behaviour*.

Frömer*, R., **Lin*, H.**, Wolf, C. D. K., Inzlicht, M., & Shenhav, A. (2021). Expectations of reward and efficacy guide cognitive control allocation. *Nature Communications, 12*(1030), 1- 11. doi: 10.1038/s41467-021-21315-z

Lin, H., Werner, K. M., & Inzlicht, M. (2021). Promises and perils of experimentation: The mutual-internal-validity problem. *Perspectives on Psychological Science*. *16*(4), 854-863. doi: 10.1177/1745691620974773

Lin, H., Saunders, B., Friese, M., Evans, N. J., & Inzlicht, M. (2020). Strong effort manipulations reduce response caution: A preregistered reinvention of the ego-depletion paradigm. *Psychological Science*, *31*(5), 1-17. doi: 10.1177/0956797620904990

Fusco, G., Scandola, M., **Lin, H.**, Inzlicht, M., & Aglioti, S. M. (in-principle acceptance). Modulating preferences during intertemporal choices through exogenous midfrontal theta transcranial alternating current. Registered Report Stage 1. *Cortex*.

Umemoto, A., **Lin, H.**, & Inzlicht, M. (in-principle acceptance). Cost-benefit analysis in physical effort expenditure: An electrophysiological registered report. Registered Report Stage 1. *Cortex*.

Lin, H., & Vartanian, O. (2018). A neuroeconomic framework for creative cognition. *Perspectives on Psychological Science, 13*(6), 655-677. doi: 10.1177/1745691618794945. **University of Toronto Trainee Best Paper Award**

Lin, H., Saunders, B., Hutcherson, C. A., & Inzlicht, M. (2018). Midfrontal theta and pupil dilation parametrically track subjective conflict (but also surprise) during intertemporal choice. *NeuroImage, 172*, 838-852. doi: 10.1016/j.neuroimage.2017.10.055

Francis, Z., Milyavskaya, M., **Lin, H.**, & Inzlicht, M. (2018). Development of a within-subject, repeated-measures ego depletion paradigm: Inconsistent results and future recommendations. *Social Psychology, 49*, 271-286. doi: 10.1027/1864-9335/a000348

Saunders, B., **Lin, H.**, Milyavskaya, M., & Inzlicht, M. (2017). The emotive nature of conflict monitoring in the medial prefrontal cortex. *International Journal of Psychophysiology, 119*, 31-40. doi: 10.1016/j.ijpsycho.2017.01.004

Scientific Reproducibility Publications

Jones, B. C., DeBruine, L. M., Flake, J. K., Liuzza, M. L., Antfolk, J., Arinze, N. C., Ndukaihe, I. L. G., … **Lin, H**., Inzlicht, M., … Forscher, P. S., Chartier, C. R., Coles, N. A. (2021). To which world regions does the valence-dominance model of social perception apply? *Nature Human Behaviour, 59,* 159-169. doi: 10.1038/s41562-020-01007-2

Ebersole, C. R., Mathur, M.A., Baranski, E., Bart-Plange, D-J., Buttrick, N.R., Chartier, C. R., Corker, K. S., … **Lin, H.**, Žeželj, I., Zrubka, M., Nosek, B. A. (2020). Many Labs 5: Testing pre-data collection peer review as an intervention to increase replicability. *Advances in Methods and Practices in Psychological Science, 3*(3), 309-331. https://doi.org/10.1177/2515245920958687

Chartier, C. R., Arnal, J. D., Arrow, H., Bloxsom, N., Bonfiglio, D. B. V., Brumbaugh, C. C., Ebersole, C. R., … **Lin, H.**, … Schmidt, K., Storage, D., Tocco, C. (2020). Many Labs 5: Replication of Albarracín et al. (2018). *Advances in Methods and Practices in Psychological Science, 3*(3), 332-339. https://doi.org/10.1177/2515245920945963

Anderson, T., Petranker, R., **Lin, H.**, & Farb, N. A. S. (2020). The metronome response task for measuring mind wandering: Replication attempt and extension of three studies by Seli et al. *Attention, Perception, & Psychophysics, 83,* 315-330. https://doi.org/10.3758/s13414-020-02131-x

Landy, J. F., Jia, M., Ding, I. L., Viganola, D., Tiemey, W., Dreber, A., Johannesson, M., … **The Crowdsourcing Hypothesis Tests Collaboration***, Ulhmann, E. L. (2020). Crowdsourcing hypothesis tests: Making transparent

how design choices shape research results. *Psychological Bulletin, 146*(5), 451-479. doi: 10.1037/bul0000220 ***part of the collaboration**

Moshontz, H., Campbell, L., Ebersole, C. R., IJzerman, H., Urry, H. L., Forscher, P. S., Grahe, J. E., … **Lin, H**., … Navarette, G., Silan, M. A., Chartier, C. R. (2018). The Psychological Science Accelerator: Advancing psychology through a distributed collaborative network. *Advances in Methods and Practices in Psychological Science. 1*(4), 501–515, doi: 10.1177/2515245918797607

Manuscripts Under Review or In Preparation

Epstein*, Z., **Lin*, H**., Pennycook, G., & Rand, D.G. (submitted). How many others have shared this? Experimentally investigating the effects of social cues on engagement, misinformation, and unpredictability on social media https://arxiv.org/abs/2207.07562

Lin, H., Rand, D.G., & Pennycook, G. (submitted). Conscientiousness does not moderate the association between political orientation and susceptibility to fake news sharing while actively open-minded thinking does.

Lin, H., Pennycook, G., & Rand, D.G. (revision submitted). Thinking more or thinking differently? Using drift-diffusion modeling to illuminate why accuracy prompts decrease misinformation sharing. doi: 10.31234/osf.io/kf8md

Lin, H., & Cohen, M. X. (in prep). Dimension reduction and source analysis of multivariate EEG neural activity via generalized eigendecomposition.

Lin, H., & Inzlicht, M. (in prep). Using machine learning and neurophysiology to investigate information processing and predict irrational choice. **Winner of Kaggle Open Data Research Grant**

Lin, H., Hutcherson, C. A. (in prep). Using computational methods to infer behavioral preferences and predict moral trade-offs.

Hutcherson, C. A., **Lin, H**., Inbar, Y. (in prep). Investigating the computational and temporal dynamics associated with ethical tradeoffs and violations.

Research Software and Data Science Teaching (github.com/hauselin)

Lin, H. (2019). Data science tutorials. Retrieved from hauselin.com/datascience

Lin, H. (2019). hauselin/docdata R package. hauselin.github.io/docdata/

Lin, H. (2019). hauselin/hausekeep R package: third release (v0.0.0.9003-alpha). hauselin.github.io/hausekeep

Lin, H. (2019). Effect size converter. escal.site

Talks (*denotes advisee)

Epstein, Z., **Lin, H.**, Arechar, A.A., Pennycook, G., & Rand, D.G. (Jul 2022). *Yourfeed: Measuring attention in an experimental social media environment.* Talk presented at the 8th International Conference on Computational Social Science, Chicago, Illinois, USA. *IC2S2 Best Honorable Mention Talk Award Winner*.

Lin, H., Berinsky, A.J., Eckles, D., Rand, D.G., & Pennycook, G. (Mar 2022). *Scaling up interventions against misinformation on social media*. Talk presented at the MIT Marketing Seminar.

Lin, H., Rand, D.G., & Pennycook, G. (Feb 2022). *Decreasing the spread of misinformation using ad-based digital field experiments on Twitter.* Talk presented at the Society for Personality and Social Psychology Annual Convention, San Francisco, CA, USA.

Lin, H., Pennycook, G., & Rand, D.G. (Dec 2021). *Scaling up interventions against misinformation on social media.* Talk presented at Princeton University's Empirical Studies of Conflict Project & Carnegie Endowment for International Peace's Partnership for Countering Influence Operations.

Lin, H., & Cohen, M. X. (Oct 2020). *Hypothesis-driven dimension reduction and source separation for time-domain EEG data*. Talk presented at the Society for Psychophysiological Research 60th Annual Meeting. Slides and code.

Frömer, R., **Lin, H.**, Wolf, C. D. K., Inzlicht, M., & Shenhav, A. (Oct 2019). *Neural dynamics underlying the integration of reward and efficacy during evaluation and motivation of cognitive control.* Talk presented at the Society for Neuroscience, Chicago, Illinois, USA.

Inzlicht, M., Francis, Z., & **Lin, H**. (Oct 2019). *Recasting ego depletion: Self-control failure as boredom regulation*. Talk presented at the Society of Experimental Social Psychology Conference, Toronto, Canada.

Lin, H., & Vartanian, O. (May 2019). *An integrative neurobiological framework for studying creativity*. Invited talk presented at the Inaugural Psychology Trainee Award Event, University of Toronto, Scarborough.

Lin, H. (May 2019). *Regulatory dynamics during decision making*. Invited talk presented at the Behavioural Science Institute, Radboud University, The Netherlands.

Lin, H. (Feb 2019). *Is creativity decision making? A new framework for studying creative cognition.* Invited talk presented at the University of Toronto Mississauga Perception, Cognition, and Language Group, Canada.

Lin, H. (Jun 2018). *Easily generate APA-format results (with effect sizes) in R*. Lightning talk presented at the Society for the Improvement of Psychological Science 2018 Meeting, Grand Rapids, Michigan, USA.

Lin, H., Friese, M., Saunders, B., & Inzlicht, M. (Jan 2018). *When might ego depletion exist?* Talk presented at the Social Personality Research Group, University of Toronto, Canada.

Hutcherson, C.A., **Lin, H.**, *Ilangomaran, R., & Inbar, Y. (Oct 2017). *Taboo for you? Computational approaches to sacred values and moral temptation.* Talk presented at the 2017 Society for Experimental Social Psychology Annual Meeting, Boston, MA, USA.

Lin, H., Saunders, B., Hutcherson, C. A., & Inzlicht, M. (Nov 2017). *Self-control in decision making involves prefrontal theta band oscillatory dynamics.* Talk presented at the Society for Neuroscience, Washington, D.C., USA.

Lin, H., Saunders, B., Hutcherson, C. A., & Inzlicht, M. (Apr 2017). *Do midfrontal theta oscillations and pupil responses track subjective conflict during value-guided choice?* Talk presented at the Ebbinghaus Empire Meeting Data Blitz, University of Toronto, Canada.

Lin, H., & Inzlicht, M. (Mar 2017). *Heart versus brain: Do emotions help or hinder decision making?* Talk presented at the Social Personality Research Group, University of Toronto, Canada.

Inzlicht, M., Saunders, B., & **Lin, H.** (Sept 2016). *The conflict negativity: A neural system tracking parametric variation in subjective conflict during value-guided decisions.* Talk presented at the Society for Psychophysiological Research 56th Annual Meeting, Minneapolis, Minnesota, USA.

Lin, H., Saunders, B., Hutcherson, C. A., & Inzlicht, M. (July 2016). *Varying subjective value and conflict during intertemporal choice: Graded representation of decision conflict in the brain.* Talk presented at the Society for the Advancement of Judgment and Decision Making Studies 1st Meeting, University of the Balearic Islands, Spain.

Lin, H., Saunders, B., Hutcherson, C. A., & Inzlicht, M. (Nov 2015). *Neural and psychophysiological correlates of conflict during intertemporal choice.* Talk presented at the Social Personality Research Group, University of Toronto, Canada.

Posters (*denotes advisee)

*Kwon, V., **Lin, H.**, & Inzlicht, M. (Sept 2019). *Multivariate EEG analyses reveal evolving spatiotemporal theta networks during self-regulation.* Poster presented at the Society for Psychophysiological Research 59th Annual Meeting, Washington, D.C., USA.

Umemoto, A., **Lin, H.**, & Holroyd, C. (Sept 2019). *Electrophysiological indices of reward valuation and cognitive control during decision making involving physical effort.* Poster presented at the Society for Psychophysiological Research 59th Annual Meeting, Washington, D.C., USA.

Lin, H., Saunders, B., Friese, M., & Inzlicht, M. (May 2019). *Strong effort manipulations reduce response caution: A pre-registered reinvention of the ego depletion paradigm.* Poster presented at the 31st Association for Psychological Science Convention. Washington, D.C., USA.

Lin, H., Saunders, B., & Inzlicht, M. (Oct 2018). *Decision-making biases and certainty elicit rapid and distinct neurophysiological responses.* Poster presented at the Society for Psychophysiological Research 58th Annual Meeting, Quebec City, Quebec, Canada.

Anderson, T., Petranker, R., **Lin, H**., & Farb, N. (Oct 2018). *The metronome response task: A continuous performance task measuring meta-awareness and mind-wandering.* Poster presented at the Society for Psychophysiological Research 58th Annual Meeting, Quebec City, Quebec, Canada.

*Minkovich, M., **Lin, H.**, & Inzlicht, M. (May 2018). *Distinct effects of meaning and personal relevance on prosocial choice and behavior.* Poster presented at the Southern Ontario Behavioural Decision Research Conference, Toronto, Canada.

Lin, H., *Ilangomaran, D., *Bhagat, K., Inbar, Y., & Hutcherson, C.A. (May 2018). *Computational insights into moral temptation in taboo tradeoffs.* Poster presented at the Social & Affective Neuroscience Society 11th Annual Meeting, New York City, New York, USA.

Lin, H., Miles, E., Francis, Z., & Inzlicht, M. (Mar 2018). *Practicing self-control does not improve self-control but modestly improves well-being*. Poster presented at the Society for Personality and Social Psychology Annual Convention, Atlanta, Georgia, USA.

Lin, H., Saunders, B., Hutcherson, C. A., & Inzlicht, M. (Oct 2017). *Self-control in decision making involves prefrontal theta band oscillatory dynamics.* Poster presented at the Society for Neuroeconomics, Toronto, Canada.

Lin, H., Saunders, B., Hutcherson, C. A., & Inzlicht, M. (Aug 2017). *Midfrontal theta and pupil dilation track subjective conflict in value-based decisions.* Poster presented at the 13th International Conference for Cognitive Neuroscience, Amsterdam, Netherlands.

Lin, H., *Ilangomaran, D., Inbar, Y., & Hutcherson, C. A. (July 2017). *Forbidden tradeoffs: Computational insights into morally taboo decision making.* Poster presented at the 4th Summer School in Model-Based Neuroscience, University of Amsterdam, Netherlands.

Lin, H., Saunders, B., Hutcherson, C. A., & Inzlicht, M. (Mar 2017). *Decision-conflict in the temporal discounting task: Midfrontal theta and pupil dilation track subjective conflict in value-based decisions.* Poster presented at the Social & Affective Neuroscience Society 10th Annual Meeting, Los Angeles, California, USA. Poster Award Winner.

Lin, H., Saunders, B., Hutcherson, C. A., & Inzlicht, M. (Sept 2016). *Neurometric variation of decision conflict: Neurophysiological signals during intertemporal choice.* Poster presented at the Society for Psychophysiological Research 56th Annual Meeting, Minneapolis, Minnesota, USA.

Lin, H., Saunders, B., Hutcherson, C. A., & Inzlicht, M. (May 2016). *Neurometric variation of decision-conflict brain activity during intertemporal choice.* Poster presented at The Neuroscience of Decision Making 38th Symposium, University of Montreal, Canada.

University Teaching

2019 Reproducible and Replicable Research Methods and Analyses with R, University of Toronto
2018 Data Science with R, Rotman School of Management, University of Toronto
2016 Scientific Communication, University of Toronto
2012-15 Student Mentor Part-Time, University of Sussex

Undergraduate Advising

2020-21 Maham Khan (Computer Science & Mathematical Sciences), University of Toronto
2020-21 Frank Fan (Physics & Molecular Biology), University of Toronto
2018-19 Victor KyoJin Kwon (Computer Science), University of Toronto
2017-18 Krupal Bhagat (Psychology & Neuroscience), University of Toronto
2017-18 Michelle Minkovich (Psychology), University of Toronto
2016-18 Dharini Ilangomaran (Psychology & Neuroscience), University of Toronto

Work Experience

2019 Research Assistant, Rotman School of Management, University of Toronto
2018 Society for Personality and Social Psychology Conference Volunteer
2011-14 Student Ambassador Part-Time, University of Sussex
2007-09 National Service (Corporal First Class), Commando Training Institute, Singapore Armed Forces

Ad-Hoc Academic Journal Peer-Review (Publons)

Proceedings of the National Academy of Sciences; Psychological Science; Nature Communications (co-reviewer); Perspectives on Psychological Science; Psychological Review; Behavior Research Methods; Cognition; Cognitive Science; Scientific Reports; Cerebral Cortex; Journal of Cognitive Neuroscience; NeuroImage (co-reviewer); Neuropsychologia; Brain Topography; Cognitive, Affective, and Behavioral Neuroscience; Psychophysiology; Journal of Experimental Psychology: General; International Journal of Psychophysiology; Journal of Experimental Social Psychology; Personality and Social Psychology Bulletin; Management Science; Memory & Cognition; Motivation and Emotion

Professional Academic Service

2020-22 Society for Psychophysiological Research Program Committee

2019-21 Defense Advanced Research Project Agency Replication Project, Center for Open Science
2019 Many Labs 5 Multi-Site Replication Project Data Analyst
2018-20 Society for Psychophysiological Research Student Committee Member
2017 Psychological Science Accelerator Methods and Analysis Reviewer
2015 Judging Panelist for Psychology, The Undergraduate Awards

Courses and Workshops

2020 Causal Diagrams: Draw Your Assumptions Before Your Conclusions, HarvardX, edX
2020 Network Dynamics of Social Behavior, Coursera
2020 Machine Learning with Tidyverse (Allison Hill), rstudio::conf, San Francisco
2019 Time-Frequency Principal Components Analysis (Edward Bernat)
2019 Mathematics for Machine Learning Specialization, Coursera, Imperial College London
2019 Computational Thinking using Python XSeries, MITx, edX
2019 Using Behavioral Science to Advance Psychology and Public Policy, New York University
2019 Bayesian Multilevel Models with brms package (Paul Bürkner), Utrecht University
2019 Computational Bayesian Methods using Stan (Shravan Vasishth), Free University of Berlin
2018 Machine Learning for Neuroimaging Data (Leila Wehbe)
2018 Machine Learning for Psychologists (Sergey Fogelson), University of Toronto
2018 Teaching Workshop (John Vervaeke), University of Toronto
2017 Math and MATLAB for Neural Time Series (Mike X Cohen), Radboud University
2017 Model-Based Neuroscience Summer School, University of Amsterdam
2017 Productive Academic Writing (Paul Silvia), University of Toronto
2017 Time-Frequency Decomposition: Methods and Challenges (Mike X Cohen)
2016 Bayesian Cognitive Modeling (Joachim Vandekerckhove), University of Toronto
2015 Multilevel Data Analysis Using R, University College London
2015 Regressions with R, University College London
2015 Python PsychoPy Neuroscience Workshop, University of Nottingham
2015 EEG Analysis, King's College London
2015 Introduction to Bayesian Analysis, University College London
2014 Limbic Brain Advanced Functional Neuroanatomy, London
2014 Human Brain Anatomy: Introduction to Functional Neuroanatomy, London

Professional Memberships

Society for Psychophysiological Research, Society for Neuroscience, Society for Neuroeconomics, Social & Affective Neuroscience Society, Society for the Improvement of Psychological Science

Skills and Knowledge

Skills: Neural and Behavioral Time Series, Statistical Modeling, Machine Learning, Experimentation and A/B Testing, Multilevel Modeling, Signal Processing
Programming: Python, R, JavaScript, HTML, CSS, MATLAB
Frameworks and Libraries: Svelte, jsPsych
Languages: English, Cantonese, Mandarin Chinese