

Rebekah A. Gelpí

Curriculum vitae

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Academic experience

- 2025–present **Postdoctoral Researcher**, *Johns Hopkins University*, Department of Computer Science
Normativity Lab (PI: Dr. Gillian K. Hadfield)
- 2018–2019 **Research Assistant**, *University of Toronto*, Department of Psychology
Computational Cognitive Development Lab (PI: Dr. Daphna Buchsbaum)
- 2016–2017 **Research Assistant**, *Swarthmore College*, Department of Psychology
Perception and Cognition Lab (PI: Dr. Frank Durgin)

Education

- 2020–2025 **Ph.D., Psychology**, *University of Toronto*
Supervisors: Dr. William A. Cunningham, Dr. Daphna Buchsbaum
- 2019–2020 **M.A., Psychology**, *University of Toronto*
Supervisor: Dr. Daphna Buchsbaum
- 2011–2016 **B.A., Cognitive Science**, *Swarthmore College*
Supervisor: Dr. Frank Durgin

Honours and awards

- 2024–2025 **Schwartz Reisman Graduate Fellowship**, *University of Toronto*
\$7,500 CAD
- 2022–2025 **Canada Graduate Scholarship–Doctoral**, *Social Sciences and Humanities Research Council of Canada*
\$105,000 CAD
- 2021–2022 **Ontario Graduate Scholarship**
\$15,000 CAD
- 2019 **Arts & Science Domestic Graduate Entrance Award**, *University of Toronto*
\$5,000 CAD
- 2016 **Frances Velay Women’s Science Research Fellowship**, *Panaphil Foundation*
\$4,500 USD

Publications

Note: Asterisks/daggers represent equal contribution between authors. *Italics* represent undergraduate mentee at time of research.

Forthcoming publications

- Under revision **Gelpí, R. A.**, León-Villagrà, P., Buchsbaum, D., & Denison, S. An introduction to rational constructivism in cognitive development. [\[link\]](#)
- In prep **Gelpí, R. A.** & Hadfield, G. K. Little prescriptivists: Young children’s learning of arbitrary rules supports their participation within a normative social order.

In prep *Ju, Y., Gelpí, R. A., Tang, Y., & Cunningham, W. A.* Building agent-based models of social behaviour with Sorrel.

Gelpí, R. A., León-Villagrà, P., Cunningham, W. A., Lucas, C. G., & Buchsbaum, D. Patterns of belief perseverance and polarization reflect a resource-rational balance of epistemic and instrumental utilities.

Gelpí, R. A., Bridgers, S., Bhuiyan, N., Wang, J. Y., & Buchsbaum, D. Preschoolers' causal inferences from conflicting testimony and observations reflect informant accuracy but not self-knowledge.

Journal articles

2025 **Gelpí, R. A.,** Tang, Y., Jackson, E. C., & Cunningham, W. A. Stereotypic expectations entrench unequal conventions across generations in deep multi-agent reinforcement learning. *PNAS Nexus*, 4(3), pgaf076. [\[link\]](#)

Gelpí, R. A., Whalen, A., Griffiths, T. L., Xu, F., & Buchsbaum, D. Can children and adults balance majority size with information quality in learning from preferences? *Journal of Experimental Psychology: General*, 154(5), 1388–1406. [\[link\]](#)

Gelpí, R. A., Otsubo, K., Whalen, A., & Buchsbaum, D. Investigating sensitivity to shared information and personal experience in children's use of majority information. *Open Mind*, 9, 240–265. [\[link\]](#)

2024 Blackburn, A. M., Han, H., Jeftić, A., Stöckli, S., **Gelpí, R., et al.** Long-term predictors of compliance with COVID-19 guidelines across countries: The role of social norms, trust, stress, demographic factors, and moral values. *Current Psychology*, 43, 17939–17955. [\[link\]](#)

2023 Blackburn, A. M.*, Han, H.*, **Gelpí, R. A.,** Stöckli, S., Jeftic, A., et al. Mediation analysis of conspiratorial thinking and anti-expert sentiments on vaccine willingness. *Health Psychology*, 42(4), 235–246. [\[link\]](#)

2022 **Gelpí, R.,** Allidina, S., Hoyer, D., & Cunningham, W. A. The labelled container: Conceptual development of social group representations. *Behavioral and Brain Sciences*, 45, e108. [\[link\]](#)

2021 Rachev, N. R.†, Han, H.†, Lacko, D.*, **Gelpí, R.*,** Yamada, Y., & Lieberoth, A. Replicating the “Disease” framing paradigm during the 2020 COVID-19 pandemic: A study of stress, worry, trust, and choice under risk. *PLOS ONE*, 16(9), e0257151. [\[link\]](#)

Lieberoth, A., Lin, S.-Y., Stöckli, S., Han, H., Kowal, M., **Gelpí, R., et al.** Stress and worry in the 2020 coronavirus pandemic: Relationships to trust and compliance with preventive measures across 48 countries. *Royal Society Open Science*, 8, 200589. [\[link\]](#)

2020 **Gelpí, R.,** Cunningham, W. A., & Buchsbaum, D. Belief as a non-epistemic adaptive benefit. *Behavioral and Brain Sciences*, 43, e36. [\[link\]](#)

Book chapters

2024 **Gelpí, R. A.** & Buchsbaum, D. Children as cultural explorers: How imitation, pedagogy, and selective trust prepare children for learning in the cultural niche. In R. Kendal, J. Tehrani, & J. Kendal (Eds.), *Oxford Handbook of Cultural Evolution*. [\[link\]](#)

Peer-reviewed conference proceedings

2025 **Gelpí, R. A.,** León-Villagrà, P., Cunningham, W. A., Lucas, C. G., & Buchsbaum, D. Resource-rational belief revision can mitigate as well as amplify polarization. In *Proceedings of the 47th Annual Meeting of the Cognitive Science Society* (pp. 767–774).

- Zhou, C., **Gelpí, R. A.**, Iorini, M., Lucas, C. G., & Buchsbaum, D. Preschool children's learning and generalization of continuous causal functions. In *Proceedings of the 47th Annual Meeting of the Cognitive Science Society* (pp. 2744–2750).
- 2024 Zhou, C., **Gelpí, R. A.**, Lucas, C. G. & Buchsbaum, D. Can children learn functional relations through active information sampling? In *Proceedings of the 46th Annual Meeting of the Cognitive Science Society* (pp. 229–236).
- 2023 Tang, Y.*, **Gelpí, R. A.***, & Cunningham, W. A. Unequal norms emerge under coordination uncertainty in multi-agent deep reinforcement learning. In *Proceedings of the 45th Annual Meeting of the Cognitive Science Society* (pp. 555–561).
- Gelpí, R. A.**, Zhou, C., Lucas, C. G., & Buchsbaum, D. Characterizing shifts in strategy in active function learning. In *Proceedings of the 45th Annual Meeting of the Cognitive Science Society* (pp. 2377–2383).
- 2022 **Gelpí, R.***, Tang, Y.*, & Cunningham, W. A. Informational trade-offs of learning from expert demonstration. In *Proceedings of the 20th International Conference on Cognitive Modeling* (pp. 107–108).
- 2021 Prystawski, B., **Gelpí, R.**, Lucas, C. G., & Buchsbaum, D. Modelling recognition in human puzzle solving. In *Proceedings of the 43rd Annual Meeting of the Cognitive Science Society* (pp. 1907–1913).
- Gelpí, R.**, Saxena, N., Lifchits, G., Buchsbaum, D. & Lucas, C. G. Sampling heuristics for active function learning. In *Proceedings of the 19th International Conference on Cognitive Modeling* (pp. 80–86).
- 2020 **Gelpí, R.**, Prystawski, B., Lucas, C. G., & Buchsbaum, D. Incremental hypothesis revision in causal reasoning across development. In *Proceedings of the 42nd Annual Meeting of the Cognitive Science Society* (pp. 974–980).
- 2017 Durgin, F. H., & **Gelpí, R.** When do vehicles of similes become figurative? Gaze patterns show that similes and metaphors are initially processed differently. In *Proceedings of the 39th Annual Meeting of the Cognitive Science Society* (pp. 1967–1972).

Preprints

- 2025 **Gelpí, R. A.**, Xue, E., & Cunningham, W. A. Towards machine theory of mind with large language model-augmented inverse planning. [arXiv:2507.03682 \[cs.AI\]](#)
- Gelpí, R. A.**, Ju, Y., Jackson, E. C., Tang, Y., Verch, S., Voelcker, C., & Cunningham, W. A. Sorrel: A simple and flexible framework for multi-agent reinforcement learning. [arXiv:2506.00228 \[cs.MA\]](#)

Presentations

Organized symposia

- 2021 **Gelpí, R. A.** (symposium chair), Hwang, H. G., Burkholder, A., & Gerdin, E. Balancing belonging, fairness, and cost in children's predictions and preferences about social affiliation. Symposium at the SRCD 2021 Virtual Biennial Meeting.

Oral presentations

- 2025 **Gelpí, R. A.**, León-Villagrà, P., Cunningham, W. A., Lucas, C. G., & Buchsbaum, D. Resource-rational belief revision can mitigate as well as amplify polarization. Paper presented at the 47th Annual Meeting of the Cognitive Science Society, San Francisco, CA, USA.

- Gelpí, R. A.**, Lucas, C. G., & Buchsbaum, D. Children's use of feature-based and alternation-based rules to explain causal relationships. Paper presented at the SRCD 2025 Biennial Meeting, Minneapolis, MN, USA.
- 2024 Zhou, C., **Gelpí, R. A.**, Lucas, C. G. & Buchsbaum, D. Can children learn functional relations through active information sampling? Paper presented at the 46th Annual Meeting of the Cognitive Science Society, Rotterdam, Netherlands.
- 2023 *Tang, Y.**, **Gelpí, R.***, & Cunningham, W. A. Unequal norms emerge under coordination uncertainty in multi-agent deep reinforcement learning. Paper presented at the 45th Annual Meeting of the Cognitive Science Society, Sydney, Australia.
- 2021 **Gelpí, R.**, *Saxena, N.*, Lifchits, G., Buchsbaum, D. & Lucas, C. G. Sampling heuristics for active function learning. Paper presented at Virtual MathPsych/ICCM 2021.
- Gelpí, R.**, *Ai, W.*, Verma, A., Cunningham, W. A., & Sommerville, J. A. Dissociating moral evaluations and affiliative decision-making in intergroup exclusion. Paper presented at the SRCD 2021 Virtual Biennial Meeting.
- 2020 **Gelpí, R.**, *Prystawski, B.*, Lucas, C. G., & Buchsbaum, D. Incremental hypothesis revision in causal reasoning across development. Paper presented at the 42nd Annual Meeting of the Cognitive Science Society.
- Conference posters and flash talks**
- 2025 Zhou, C., **Gelpí, R. A.**, Iorini, M., Lucas, C. G., & Buchsbaum, D. Preschool children's learning and generalization of continuous causal functions. Poster presented at the 47th Annual Meeting of the Cognitive Science Society, San Francisco, CA, USA.
- 2024 **Gelpí, R. A.**, Lucas, C. G., & Buchsbaum, D. Children's use of feature-based and alternation-based rules to explain causal functions. Poster presented at the 13th Biennial Meeting of the Cognitive Development Society, Pasadena, CA, USA.
- Zhou, C., **Gelpí, R. A.**, Lucas, C. G., & Buchsbaum, D. The development of efficient sampling heuristics in children. Poster presented at the 13th Biennial Meeting of the Cognitive Development Society, Pasadena, CA, USA.
- 2023 **Gelpí, R. A.***, *Tang, Y.**, Jackson, E. C., & Cunningham, W. A. Stereotypic expectations entrench unequal conventions across generations in deep multi-agent reinforcement learning. Poster presented at the 2023 Meeting of the Society for Neuroeconomics, Vancouver, BC, Canada.
- Gelpí, R.**, Zhou, C., Lucas, C. G., & Buchsbaum, D. Characterizing shifts in strategy in active function learning. Poster presented at 45th Annual Meeting of the Cognitive Science Society, Sydney, Australia.
- 2022 **Gelpí, R.***, *Tang, Y.**, Jackson, E. C. & Cunningham, W. A. Temporally extended priority expert demonstrations in a simple foraging task. Poster presented at MathPsych/ICCM 2022, Toronto, ON, Canada.
- Saxena, N.*, **Gelpí, R.**, Buchsbaum, D., & Lucas, C. G. Dynamic strategy selection in active function learning. Poster presented at the 44th Annual Meeting of the Cognitive Science Society, Toronto, ON, Canada.
- Arefhaghi, D.**, **Gelpí, R.***, & Sommerville, J. A. Mean or mad? Children's trait inference from behaviour and facial expressions. Poster presented at the 12th Biennial Meeting of the Cognitive Development Society, Madison, WI, USA.
- 2021 **Gelpí, R.**, *Saxena, N.*, Lifchits, G., Buchsbaum, D. & Lucas, C. G. Sampling heuristics for active function learning. Poster presented at the 43rd Annual Meeting of the Cognitive Science Society.

Prystawski, B., Gelpí, R., Lucas, C. G., & Buchsbaum, D. Modelling recognition in human puzzle solving. Poster presented at the 43rd Annual Meeting of the Cognitive Science Society.

Arefhaghi, D., Gelpí, R., & Sommerville, J. A. Children's integration of prior evidence and facial cues in generalizations about antisocial behaviour. Poster presented at the SRCD 2021 Virtual Biennial Meeting.

Gelpí, R., Verma, A., Ai, W., Sommerville, J. A., & Cunningham, W. A. Group membership trumps moral evaluation in affiliative decision-making. Poster presented at the 22nd Annual Meeting of the Society for Personality and Social Psychology.

Arefhaghi, D., Gelpí, R., & Sommerville, J. A. Children's integration of prior evidence in generalizations about antisocial behaviour. Flash talk presented at the 11th Budapest CEU Conference on Cognitive Development.

2019 **Gelpí, R., Lucas, C. G., & Buchsbaum, D.** Incremental hypothesis revision in child and adult causal reasoning. Poster presented at the 11th Biennial Meeting of the Cognitive Development Society, Louisville, KY, USA.

2017 **Durgin, F. H., & Gelpí, R.** When do vehicles of similes become figurative? Gaze patterns show that similes and metaphors are initially processed differently. Poster presented at the 39th Annual Meeting of the Cognitive Science Society, London, UK.

Teaching experience

Course instructor of record

2024 **Social Psychology: Attitudes**, *Department of Psychology*, University of Toronto

2023 **Cognitive Development**, *Department of Psychology*, University of Toronto

Tutorial leader

2025 **Statistics II**, *Department of Psychology*, University of Toronto

2021 **Statistics II**, *Department of Psychology*, University of Toronto

Statistics I, *Department of Psychology*, University of Toronto

Teaching assistant

2022 **Intro. to Developmental Psychology**, *Department of Psychology*, University of Toronto

Social Psychology: Attitudes, *Department of Psychology*, University of Toronto

2021 **Social Development**, *Department of Psychology*, University of Toronto

2020 **The Psychology of Prejudice**, *Department of Psychology*, University of Toronto

2019 **Intro. to Cognitive Psychology**, *Department of Psychology*, University of Toronto

Guest Lectures

2021 **Social Development**, *Department of Psychology*, University of Toronto
Moral Judgment and Behaviour

2020 **Social Development**, *Department of Psychology*, University of Toronto
Introduction to Bayesian Inference

Research supervision

Undergraduate Independent Study Program

Yan Qing Lee, Nayan Saxena, Denise Arefhaghi, William Ai, Ben Prystawski, Maureen Huang

Undergraduate Research Opportunity Program

Bing Ju, Doga Pulat, Joshua Lunger, Heather Chong, William Ai, Ben Prystawski

Undergraduate Thesis and Mini-Thesis students

Alex Kim, Yikai Tang, Catherine Ma, Mello Mo

Professional and service

Reviews

Ad hoc *Journal of Experimental Psychology: General*
Journal of Experimental Psychology: Learning, Memory, and Cognition
Open Mind
Proceedings of the Annual Meeting of the Cognitive Science Society

Service

2023–2024 **Data Team Lead**, *Graduate Student Engagement and Community*, Científico Latino
2022–2024 **Lecturer**, *Summer Psychology Research Initiative (SPRINT)*, University of Toronto
2020–2023 **Graduate Peer Mentor**, *Department of Psychology*, University of Toronto
2020–2022 **Treasurer**, *Psychology Graduate Students Association*, University of Toronto
2020–2021 **Graduate Peer Mentor**, *Graduate Student Mentorship Initiative*, Científico Latino
Member, *Equity, Diversity, and Inclusion Committee*, University of Toronto
Best Research Practices Working Group
Co-Organizer, *Psychology Undergraduate Research Community*, University of Toronto
2019–2020 **Secretary**, *Psychology Graduate Students Association*, University of Toronto
Webmaster, *Psychology Graduate Students Association*, University of Toronto

Professional development

2024 CIFAR Deep Learning & Reinforcement Learning Summer School
2022 Course Instructor Training Camp
Schwartz Reisman Institute AI Boot Camp
Psychology Graduate Student Teaching Workshop
2020–2022 Advanced University Teaching Preparation Certification

References

William A. Cunningham

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Computer Science
University of Toronto
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Chris Lucas

Reader (Associate Professor)
School of Informatics
University of Edinburgh
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Daphna Buchsbaum

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Department of Cognitive &
Psychological Sciences
Brown University
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