# Joshua K. HARTSHORNE

learning mechanisms; critical periods; co-development of language & thought AI for science; massive online experiments; computational models

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CITATIONS: 16,089

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### APPOINTMENTS

2024- $current$	Research Associate Professor of Communication Sciences & Disorders $MGH\ Institute\ of\ Health\ Professions$
2016-2024	Assistant Professor of Psychology Boston College
Fall 2022	Visiting Scholar, Institute of Linguistics Academia Sinica, Taiwan
2015-2015	Post-Doctoral Associate, Brain & Cognitive Sciences  Massachusetts Institute of Technology  Advisor: Josh Tenenbaum
2012-2015	Post-Doctoral Fellow RUTH L. KIRSCHSTEIN NRSA INDIVIDUAL FELLOWSHIP Massachusetts Institute of Technology Advisor: Josh Tenenbaum

# **EDUCATION**

2012	Ph.D. in Psychology, Harvard University / Cambridge, MA Advisor: Jesse Snedeker
2009	${\rm A.M.}$ in Psychology, ${\bf Harvard~University}$ / Cambridge, MA Advisor: Jesse Snedeker
2002	B.A. in Mathematics, <b>Oberlin College</b> / Oberlin, OH Advisor: James Walsh

## AWARDS

2023	NSF CAREER
2012	Ruth L. Kirschstein National Research Service Award (NRSA)
2011	Jean Berko Gleason Award, BUCLD 2011, Best Student Presentation
2008	National Science Foundation Graduate Fellowship (NSF GRFP)
2008	National Defense Science and Engineering Graduate Fellowship (NDSEG)

# Research

2025-2026	"Vision-Language Integration" Office of Naval Research PI: Joshua Tenenbaum Total Hartshorne Costs: \$40,000
2023-2026	"Bootstrapping a corpus of endangered languages"
2020-2020	National Science Foundation
	PI: Joshua Hartshorne, co-PIs: Emily Prud'hommeaux, Li-May Sung Total Hartshorne Costs: \$335,834
2023-2028	"CAREER: How many intuitive physics systems are there, and what do they mean for physics education?"
	National Science Foundation PI: Joshua Hartshorne. Total Costs: \$1,562,735
2020-2024	"Collaborative Research: NSF2026: EAGER: A Playground and Proposal for Growing an AGI" National Science Foundation
	co-PIs: Joshua Hartshorne, James Pustejovsky. Total Hartshorne Costs: \$198,663
2019-2024	"RR: CompCog: A challenge suite for statistical word segmentation"
	National Science Foundation PI: Joshua Hartshorne. Total Costs: \$706,549
2020-2022	"RAPID: COLLABORATIVE RESEARCH: A "CITIZEN SCIENCE" APPROACH TO COVID-19 SOCIAL DISTANCING EFFECTS ON CHILDREN'S LANGUAGE DEVELOPMENT"  National Science Foundation  of Plan Lordon Hostology Vi. Tier Huger, Total Hostology Costs, \$151,042
0010 0001	co-PIs: Joshua Hartshorne, Yi Ting Huang. Total Hartshorne Costs: \$151,942
2019-2021	"Connectivity-based Bayesian Nonparametric Modeling of Individual Variability in Autism"
	Simons Foundation Autism Research Initiative (SFARI) PIs: Joshua Hartshorne & Stefano Anzellotti. Total Costs: \$299,258
2016-2023	"CompCog: Large-scale, empirically based, publicly accessible database of argument structure to support experimental and computational research"  National Science Foundation  PI: Joshua Hartshorne. Total Costs: \$442,473
	(Numbers include 2 supplements)
2012-2015	Ruth L. Kirschstein National Research Service Award (Individual)
2008-2012	National Science Foundation Graduate Fellowship
2008-2011	National Defense Science and Engineering Graduate Fellowship
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# Training

2021-2024	"REU SITE: DEVELOPING SOCIAL MINDS"
	National Science Foundation
	Senior Personnel (PI: Katherine McAuliffe). Total Hartshorne Costs: \$330,331
	This program is run jointly by 4 labs, but NSF regulations allow only 1 PI & 1 co-PI
2019-2019	"APA Summer Undergraduate Psychology Research Experience"
	PI: Joshua Hartshorne. Co-PIs: Sara Cordes & Katherine McAuliffe. Total Costs: \$25,836
2018-2018	"APA SUMMER UNDERGRADUATE PSYCHOLOGY RESEARCH EXPERIENCE"
	PI: Sara Cordes. Co-PIs: Joshua Hartshorne & Katherine McAuliffe. Total Costs: \$20,723
2016-2017	"Intensive summer program in psychology for exceptional high school students:

A PILOT PROGRAM"

Esther Rosen Katz Fund, American Psychological Foundation

PI: Joshua Hartshorne. Co-PI: Katherine McAuliffe. Total Costs: \$18,000

#### Other

2024-2026 "POSE: Phase II: An open-source ecosystem for behavioral experiments"

National Science Foundation

PI: Joshua de Leeuw. Total Hartshorne Costs: \$266,035

2023-2025 "HNDS-I: Pushkin: Enabling large-scale citizen science data collection for the social,

BEHAVIORAL, AND ECONOMIC SCIENCES"

National Science Foundation

PI: Joshua Hartshorne. Total Hartshorne Costs: \$499,594

2022-2024 "POSE: Phase I: An open-source ecosystem for massive online experiments and citizen

SCIENCE"

National Science Foundation

PI: Joshua Hartshorne. Total Hartshorne Costs: \$296,162

2020-2021 "Collaborative Research: A virtual workshop on conducting language research on-

LINE: ENHANCING THE RESILIENCE OF THE LANGUAGE SCIENCES IN A TIME OF SOCIAL DISTANCING"

National Science Foundation

co-PIs: Joshua Hartshorne, Joshua de Leeuw. Total BC Costs: \$33,880

2016 "Workshop on Events in Language and Cognition"

National Science Foundation

PI: Joshua Hartshorne. Total Costs: \$6,491

2007 North American Society of Adlerian Psychology Conference Scholarship

#### **Publications**

prep  $\mathcal{C}$   $\diamond$ Hartshorne, Joshua K. &  $\diamond$ Jesse Snedeker. (in prep). Conceptual Nativism: The origins of submitted language are in the structure of thought.

Lin, Kai-Ying, Patrick O'Neill, & **Joshua K. Hartshorne**. (*in prep*). What Can Be Learned from Sparse Voice Distributions? A Bayesian Data Analysis of Verb-Voice Associations in Tao/Yami, a Philippine-Type Language.

**Joshua K Hartshorne**, Mariella V Jennings, Timothy J O'Donnell, Tobias Gerstenberg, Joshua B Tenenbaum, Noah Goodman, Akash Kumar, & Valerio Pepe. (*in prep*). Probable World Semantics as a solution to linguistic ambiguity

Yuile, Amanda Rose & **Joshua K. Hartshorne**. (in prep) Age-related changes in implicit causality pronoun biases.

Sarısoy, Duygu, Ebru Evcen, & **Hartshorne**, **Joshua K.** (*submitted*). Referential form, word order, and implicit causality in Turkish emotion verbs.

**Hartshorne**, **Joshua K.** (*submitted*). Just give them healthcare: The COVID-19 pandemic as a natural experiment in parenting practices.

in press Hartshorne, Joshua K. and \*Mengguo Jing (in press). Evaluating the Costs of School and Daycare Closure on Family Wellbeing and Child Development. The COVID Information Commons - Research Insights from the Coronavirus

**Hartshorne, Joshua K.** and \*Peng, Huei-Ci. (*in press*). What is the best way to teach the endangered languages of Taiwan? A call for quantitative research on language revitalization. *Foreign Language Studies*.

<sup>\*</sup> denotes student/trainee;  $\diamond$  indicates equal effort.

- James, Ariel N., Rachel Ryskin, **Hartshorne**, **Joshua K.**, Haylee Backs, Nandeeta Bala, Laila Barcenas-Meade, Samata Bhattarai, Tessa Charles, Gerasimos Copoulos, Claire Coss, Alexander Eisert, Elena Furuhashi, Keara Ginell, Anna Guttman-McCabe, Emma (Chaz) Harrison, Laura Hoban, William A. Hwang, Claire Iannetta, Kristen M. Koenig, Chauncey Lo, Victoria Palone, Gina Pepitone, Margaret Ritzau, Yi Hua Sung, Lauren Thompson, & Joshua R. de Leeuw. (*in press*). What paradigms can webcam eye-tracking be used for? Attempted replications of five prominent cognitive science experiments, *Behavior Research Methods*.
- 2025 **Hartshorne, Joshua K.** and \*Mengguo Jing (2025). An integrated review of cognitive mechanics across disciplines. *Nature Reviews Psychology*.
  - \*Scheppat, Hunter, **Joshua K. Hartshorne**, Dyan Leddy, Éric Le Ferrand, & Emily Prud'hommeaux. (2025). Integrating diverse corpora for training endangered language machine translation systems. *Proceedings of the Use of Computational Methods in the Study of Endangered Languages (ComputEL)*.
  - Éric Le Ferrand, Bo Jiang, Emily Prud'hommeaux, & **Joshua K. Hartshorne**. (2025). That doesn't sound right: Evaluating speech transcription quality in field linguistics corpora. *Proceedings of the Association for Computational Linguistics (ACL)*.
  - Sarısoy, Duygu, Ebru Evcen, & **Joshua K. Hartshorne** (2025). Referential Form, Word Order, and Implicit Causality in Turkish Emotion Verbs. *Proceedings of the Cognitive Science Society*
  - Liu, Zoey, Haiyin Yang, \*Wenshuo Qin, & **Joshua K. Hartshorne** (2025). Studying Cross-linguistic Structural Transfer in Second Language Learning. *Proceedings of the Cognitive Science Society*
  - \*Li, Wei, \*Samantha Gutierrez, & **Joshua K. Hartshorne** (2025). How many factors underlie cognitive mechanics? *Proceedings of the Cognitive Science Society*
- Hartshorne, Joshua K. (2024). No evidence that age affects different bilingual learner groups differently: Rebuttal to van der Slik, Schepens, Bongaerts, and van Hout (2021). Language Development Research, 4, doi.org/10.34842/y8sz-4q83.
  - Allen, K., Brändle, F., Botvinick, M., Fan, J. E., Gershman, S. J., Gopnik, A., Griffiths, T. L., **Hartshorne**, **J. K.**, Hauser, T. U., Ho, M. K., de Leeuw, J. R., Ma, W. J., Murayama, K., Rutledge, R. B., Sherson, J., Simsek, Ö., Spiers, H., Summerfield, C., Thalmann, M., Vélez, N., Watrous, A. J., Tenenbaum, J. B., & Schulz, E. (2024). Using games to understand the mind. *Nature Human Behavior*, 8, 1035–1043, 10.1038/s41562-024-01878-9.
  - \*Li, Wei, Laura T. Germine, Samuel Mehr, Mahesh Srinivasan, & **Joshua K. Hartshorne**. (2024). Developmental psychologists should adopt citizen science to improve generalization and reproducibility. *Infant and Child Development*, 33(1), e2348. doi.org/10.1002/icd.2348
  - \*Li, Wei & **Joshua K. Hartshorne**. (2024). Commentary: Don't let Perfect be the enemy of Better: In defense of unparameterized mega-studies. *Brain and Behavioral Sciences*, 47. doi.org/10.1017/S0140525X23002121
  - Oved, Iris, Nikhil Krishnaswamy, James Pustejovsky, & **Joshua K. Hartshorne**. Computational thought experiments for a more rigorous philosophy and science of the mind. (2024) *Annual Meeting of the Cognitive Science Society*, Rotterdam, Netherlands.
- 2023 Erb, Christopher D., Laura T. Germine, and **Joshua K. Hartshorne**. (2023). Cognitive control across the lifespan: Congruency effects reveal divergent developmental trajectories. *Journal of Experimental Psychology: General*, 152(11), 3285-3291. https://doi.org/10.1037/xge0001429
  - Hartshorne, Joshua K., \*Yujing Huang, & \*Lauren Skorb. (2023). Some puzzling findings regarding the acquisition of verbs. Language Development Research, 3, 1, doi.org/10.34842/2023.535
  - Oved, Iris, Nikhil Krishnaswamy, James Pustejovsky, & **Joshua K. Hartshorne**. (2023). Commentary: Neither Neural Networks nor the Language of Thought alone Make a Complete Game. *Brain and Behavioral Sciences*, 46, e285.
  - Yun, Heesu, Wei Li, Zonggui Li, & **Joshua K. Hartshorne** (2023). Will children learn English faster if their native language is similar to English? *Proceedings of the Cognitive Science Society*.
- <sup>\*</sup>Li, Wei & **Joshua K. Hartshorne**. (2022). Even simultaneous bilinguals do not reach monolingual levels of proficiency in syntax. *Languages*, 7(4), 293. https://doi.org/10.3390/languages7040293.

- \*Aglinskas, Aidas, **Joshua K. Hartshorne**, & Stefano Anzellotti. (2022). Contrastive AI reveals the structure of individual variation in Autism Spectrum Disorder. *Science*, 376(6597), 1070-1074.
- **Hartshorne**, **Joshua K.** (2022). When do children lose the language instinct? A critical review of the critical periods literature. *Annual Review of Linguistics*, 8, 143-51.
- \*Li, Wei, Laura T. Germine, Samuel Mehr, Mahesh Srinivasan, & **Joshua K. Hartshorne**. (2022). Developmental psychologists should adopt citizen science to improve generalization and reproducibility. *Infant and Child Development*. doi.org/10.1002/icd.2348
- Hartshorne, Joshua K. Politics is not a spectator sport: On the role of psycholinguists in a global crisis. Editor's introduction to special issue. (2022). East European Journal of Psycholinguistics, 9(2).
- \*Chan, Jocelyn & **Joshua K. Hartshorne**. (2022). Is it easier for children to learn English if their native language is similar to English? *Proceedings of the Boston University Conference on Language Development*.
- \*Liu, Zoey, \*Tiwa Eisape, Emily Prud'hommeaux, and **Joshua K. Hartshorne**. (2022) Data-driven crosslinguistic syntactic transfer in second language learning. *Proceedings of the Annual Meeting of the Cognitive Science Society*.
- Erb, Christopher D., Laura T. Germine, and **Joshua K. Hartshorne**. (2022). Revisting the inverted-U: Congruency tasks reveal divergent developmental trajectories. *Proceedings of the Annual Meeting of the Cognitive Science Society*.
- \*Ricketts, Wesley and **Joshua K. Hartshorne**. (2022). Evaluating unsupervised word segmentation in adults: a meta-analysis. *Proceedings of the Annual Meeting of the Cognitive Science Society*.
- \*Chen, Tianhu & **Joshua K. Hartshorne**. (2021). More evidence from over 1.1 million subjects that the critical period for syntax closes in late adolescence. *Cognition*. 214, 104706.
  - Hartshorne, Joshua K., Yi Ting Huang, Pablo Martín Lucio Paredes Aulestia, Kathleen Oppenheimer, \*Parker T. Robbins, & María Daniela Velasco Molina. (2021). Screen time as an index of family distress. *Current Research in the Behavioral Sciences*, 2, 100023.
  - Almaatouq, Abdullah, Joshua A Becker, Michael S Bernstein, Robert Botto, Eric Bradlow, Ekaterina Damer, Angela L Duckworth, Tom Griffiths, **Joshua K Hartshorne**, David Lazer, Edith Law, Min Liu, J. N Matias, David G Rand, Matthew J Salganik, Emma Satlof-Bedrick, Maurice Schweitzer, Hirokazu Shirado, Jordan W Suchow, Siddharth Suri, Milena Tsvetkova, Duncan J Watts, Mark E Whiting, and Ming Yin. (2021). Scaling up experimental social, behavioral, and economic science. *OSF Preprint*. https://doi.org/10.17605/OSF.IO/KNVJS
- Niemi, Laura, **Joshua Hartshorne**, Tobias Gerstenberg, Matthew Stanley, & Liane Young. (2020). Moral values reveal the causality implicit in verb meaning. *Cognitive Science*, 44(6), e12838.
  - Hartshorne, Joshua K. (2020). How massive online studies (MOEs) can illuminate critical and sensitive periods in development. *Current Opinion in Behavioral Sciences*, 36, 135-143.
  - Hartshorne, Joshua K. (2020). The many blessings of abstraction: A commentary on Ambridge (2020). First Language, 40, 581-584.
  - Ebersole, C. R., Mathur, M. B., Baranski, E., Bart-Plange, D.-J., Buttrick, N. R., Chartier, C. R., Corker, K. S., Corley. M., **Hartshorne**, **J. K.**, Ijzerman, H., Lazarevic, L. B., Rabagliati, H., Ropvik, I., et al. (2020). Many Labs 5: Testing pre-data collection peer review as an intervention to increase replicability, *Advances in Methods and Practices in Psychological Science*, September, 3, 309-331.
  - \*Skorb, L., Aczel, B., Bakos, B., \*Feinberg, L., Hałasa, E., Kauff, M., Kovacs, M., Krasuska, K., Kuchno, K., Manfredi, D., Montealegre, A., Pękala, E., Pieńkosz, D., \*Ravid, J., Rentzsch, K., Szaszi, B., Schulz-Hardt, S., Sioma, B., Szecsi, P., Szuts, A., Szöke, O., Christ, O., Fedor, A., Jiménez-Leal, W., Muda, R., Nave, G., Salamon, J., Schultze, T., & Hartshorne, J. K. (2020). Many Labs 5: Replication Report for Van Dijk, Van Kleef, Steinel, & Van Beest (2008). A social functional approach to emotions in bargaining: When communicating anger pays and when it backfires. Journal of Personality and Social Psychology, 94(4), 600-614. Advances in Methods and Practices in Psychological Science, 3, 418-428.
- 2019 **Hartshorne, Joshua K.** & Tal Makovski (2019). The effect of working memory on long-term memory acquisition and its relationship to vocabulary acquisition. *Memory and Cognition*, 47(4), 749-763.

- Feiman, Roman, **Joshua K. Hartshorne**, & David Barner (2019). Contrast and entailment: Abstract logical relations constrain how 2- and 3-year-old children interpret known numbers. *Cognition*, 183, 192-207.
- Mehr, S. A., Singh, M., Knox, D., Ketter, D. M., Pickens-Jones, D., Atwood, S., Lucas, C., Egner, A., Jacoby, N., Hopkins, E. J., Howard, R. M., **Hartshorne**, **J. K.**, \*Jennings, M. V., Simson, J., Bainbridge, C. M., Pinker, S., O'Donnell, T. J., Krasnow, M. M., & Glowacki, L. (2019). A natural history of song. *Science*, 366(6468), eaax0868, DOI: 10.1126/science.aax0868.
- **Hartshorne, Joshua K.**, Joshua de Leeuw, Noah Goodman, \*Mariela Jennings, & Timothy J. O'Donnell. (2019). A thousand studies for the price of one: Accelerating psychological science with Pushkin. *Behavior Research Methods*, 51(4), 1782—1803.
- Hartshorne, Joshua K., \*Lauren Skorb, \*Sven L. Dietz, \*Caitlin R. Garcia, \*Gina L. Iozzo, \*Katie E. Lamirato, \*James R. Ledoux, \*Jesse Mu, \*Kara N. Murdock, \*Jon Ravid, \*Alyssa A. Savery, \*James E. Spizzirro, \*Kelsey A. Trimm, \*Kendall D. van Horne, & \*Juliani Vidal. (2019). The meta-science of adult statistical word segmentation: Part 1. *Collabra: Psychology*, 5(1), 1. DOI: http://doi.org/10.1525/collabra.181
- 2018 Hartshorne, Joshua K., Joshua B. Tenenbaum, & Steven Pinker. (2018). A critical period for second language acquisition: Evidence from 2/3 million English speakers. *Cognition*, 117, 263-277.
  - **Hartshorne, Joshua K.** & Eva Wittenberg. (2018). Review of Radvansky & Zacks (2014). Event Cognition. *Language and Cognition*, 10(2), 382-389.
- 2017 \*Mu, Jesse, **Joshua K. Hartshorne**, & Timothy O'Donnell. (2017). Evaluating hierarchies of verb argument structure with hierarchical clustering. *Proceedings of Empirical Methods in Natural Language Processing*, Copenhagen, Denmark.
- 2016 **Hartshorne, Joshua K.**, Timothy J. O'Donnell, Yasutada Sudo, \*Miki Uruwashi, Miseon Lee, & Jesse Snedeker (2016). Psych verbs, the linking problem, and the acquisition of language. *Cognition*, 157, 268-288.
  - Hartshorne, Joshua K. (2016). Comment: Acquiring metaphors. Emotion Review, 8(3), 280-282.
  - Anderson, C. J., Bahnik. S., Barnett-Cowan, M., Bosco, F. A., Chandler, J., Chartier, C. R., Cheung, F., Christopherson, C. D., Cordes, A., Cremata, E. J., Penna, N. D., Estel, V., Fedor, A., Fitneva, S. A., Frank, M. C., Grange, J. A., **Hartshorne, J. K.**, Hasselman, F., Henninger, F., van der Hulst, M., Jonas, K. J., Lai, C. K., Levitan, C. A., Miller, J. K., Moore, K. S., Meixner, J. M., Munafo, M. R., Neijenhuijs, K. I., Nilsonne, G., Nosek, B. A., Plessow, F., Prenoveau, J. M., Ricker, A. A., Schmidt, K., Spies, J. R., Stieger, S., Strohminger, N., Sullivan, G. B., van Aert, R. C. M., van Assen, M. A. L. M., Vanpaemel, W., Vianello, M., Voracek, M., Zuni, K. (2016). Response to comment on "Estimating the reproducibility of psychological science." *Science*, 351(6277), p. 1037.
  - Niemi, Laura, **Joshua Hartshorne**, Tobias Gerstenberg, & Liane Young. (2016). Implicit measurement of motivated causal attribution. *Proceedings of the Thirty-Sixth Annual Conference of the Cognitive Science Society*.
- 2015 Hartshorne, Joshua K., \*Amanda Pogue, and Jesse Snedeker (2015). Love is hard to understand: The relationship between transitivity and caused events in the acquisition of emotion verbs. *Journal of Child Language*, 42, 467-504.
  - Hartshorne, Joshua K., Rebecca Nappa, & Jesse Snedeker. (2015). Development of the first-mention bias. *Journal of Child Language*, 42(2), 423-446.
  - **Hartshorne, Joshua K.**, Timothy J. O'Donnell, & Joshua B. Tenenbaum. (2015). The causes and consequences explicit in verbs. *Language*, *Cognition*, & *Neuroscience*, 30(6), 716-734.
  - Hartshorne, Joshua K., Jesse Snedeker, \*Stephanie Yun-Mun Liem Azar, and Albert Kim. (2015). The neural computation of scalar implicature. *Language, Cognition, & Neuroscience*, 30(5), 620-634.
  - **Hartshorne, Joshua K.**, & Laura T. Germine. (2015). When does cognitive functioning peak? The asynchronous rise and fall of different cognitive abilities across the lifespan. *Psychological Science*, 26(4), 433-443.
  - Open Science Collaboration. (2015). Estimating the reproducibility of psychological science. *Science*, 349(6251), 943.

2014 Hartshorne, Joshua K. (2014). What is Implicit Causality? Language, Cognition, and Neuroscience, 29(7), 804-824.

Hartshorne, Joshua K., Claire Bonial, & Martha Palmer. (2014). The VerbCorner Project: Findings from Phase 1 of crowd-sourcing a semantic decomposition of verbs. *Proceedings of the Association of Computational Linquistics (ACL)*.

Open Science Collaboration (2014). The Reproducibility Project: A model of large-scale collaboration for empirical research on reproducibility. In V. Stodden, F. Leisch, & R. Peng (Eds.), *Implementing Reproducible Computational Research* (A Volume in the R Series). New York, NY: Taylor & Francis.

2013 Hartshorne, Joshua K., Yasutada Sudo & \*Miki Uruwashi (2013). Are implicit causality pronoun resolution biases consistent across languages and cultures? *Experimental Psychology*, 60(3), 179-196.

Hartshorne, Joshua K. & Jesse Snedeker (2013). Verb argument structure predicts implicit causality: The advantages of finer-grained semantics. Language and Cognitive Processes, 28(10), 1474-1508.

**Hartshorne**, **Joshua K.**, Claire Bonial, & Martha Palmer. (2013). The VerbCorner Project: Toward an empirically-based semantic decomposition of verbs. *Proceedings of Empirical Methods in Natural Language Processing (EMNLP)*.

Hartshorne, Joshua K., Jesse Snedeker, & Albert Kim. (2013). The neural computation of scalar implicature. In *Proceedings of the Thirty-Fifth Annual Conference of the Cognitive Science Society*.

2012 & Hartshorne, Joshua K. & Adena Schachner (2012). Tracking replicability as a earlier method of post-publication open evaluation. Frontiers in Computational Neuroscience, 6:8. Doi:10.3389/fncom.2012.00008

Hartshorne, Joshua K. & Adena Schachner. (2012). Where's the data? The Psychologist, 25(5), 355.

Open Science Collaboration (2012). An open, large-scale, collaborative effort to estimate the reproducibility of psychological science. *Perspectives in Psychological Science*, 7, 657-660.

Hartshorne, Joshua K., Nancy Salem-Hartshorne, & Timothy S. Hartshorne (2009). Birth order and group self-organization. *Journal of Individual Psychology*, 65(2).

**Hartshorne**, **Joshua K.** (2008) Working memory capacity and proactive interference. *PLoS ONE* 3(7): e2716.

**Hartshorne**, **Joshua K.**, and Michael T. Ullman. (2006) Why girls say 'holded' more than boys. *Developmental Science*, 9, 21-32.

Salem-Hartshorne, Nancy, Blake, Kim, & **Hartshorne**, **Joshua K**. (2010) Changes during the life cycle: Teenage. In Hartshorne, T. S., Hefner, M. A., Davenport, S. L. H. & Thelin, J. W. (Eds.). *CHARGE Syndrome*. Plural Publishing, San Diego, CA., pp. 223-249.

**Hartshorne, Joshua K.**, Rebecca Nappa & Jesse Snedeker (2011). Ambiguous pronoun processing development: Probably not U-Shaped. *Proceedings of the Boston University Conference on Language Development* 35.

Hartshorne, Joshua K., Timothy J. O'Donnell, Yasutada Sudo, Miki Uruwashi & Jesse Snedeker (2010). Linking meaning to language: Linguistic universals and variation. In *Proceedings of the Thirty-Second Annual Conference of the Cognitive Science Society*.

#### **Textbook**

2016–2024 Goodman, Noah D., Joshua B. Tenenbaum, & The ProbMods Contributors (2016). Probabilistic Models of Cognition (2nd ed.). https://probmods.org

#### Presentations

#### Invited talks

planned Computational Cognitive Science Seminar

Linguistic Creativity in Communication Seminar, Collaborative Research Center, Universität Bielefeld Guest speaker for "Teaching Language & Literacy to English Language Learners", MGH IHP

2025 Emergentism, Ecosystem, & Expertise Talk Series

Language & Cognition Seminar, Harvard University

Physical Reasoning Group, MIT

Guest speaker for "Plasticity, Variability and Age in Second Language Acquisition", UT-Austin

2024 Highlights in the Language Sciences Conference, Nijmegen

American Psychological Society

Cognitive Development Society

Workshop on AI and Indigenous Languages, Taipei, Taiwan

Institute of Linguistics, Academia Sinica, Taipei, Taiwan

2023 Psychology Colloquium, University of Southern California

Laboratory for Developmental Studies Colloquium, Harvard University

Computational Linguistics, Brandeis University

Developmental Psychology Brown Bag, UCSD

Language Development Department, Max Planck Institute for Psycholinguistics

War in Words, PROLang, University College London

Rutgers Center for Cognitive Science Colloquium, Rutgers University

Cognitive Colloquium, University of Delaware

Institute of Linguistics, Academia Sinica, Taipei, Taiwan

Department of English, National Taiwan Normal University, Taipei, Taiwan

Language & Cognition Lab, University of Pennsylvania

Language Group, Princeton University

Language & Cognition Lab, Stanford University

Bilingualism and Mind Brainlab, UC-Irvine

Language & Mind Lab, Northeastern University

Cognitive & Neural Computation Lab, Yale University

Computational Cognitive Science Lab, Massachusetts Institute of Technology

2022 Reading/Tromso joint bilingualism meeting

Language & Brain, University of Florida

Brain & Language Lab, Georgetown University

Research Lightening Talks, COVID Information Commons

Institute of Linguistics, National Taiwan University (1/2)

Institute of Linguistics, National Taiwan University (2/2)

Institute of Linguistics, Academia Sinica, Taiwan

Institute of Linguistics, National Tsing Hua University, Taiwan

Taiwan Institute of Language Research & Teaching, National Tsing Hua University, Taiwan

Institute of Linguistics, National Chengchi University, Taiwan

2021 Simons Center for the Social Brain Colloquium, MIT

Bilingualism and Mind Brainlab, UC-Irvine

Invited Symposium, Eastern Psychological Association

Guest speaker for "Developmental Psychology in Practice", UNC-Greensboro

Guest speaker for "Plasticity, Variability and Age in Second Language Acquisition", UT-Austin

Language and Cognition Seminar, Harvard University

UCLA Developmental Psychology Forum, UCLA

2020 Guest lecture, Evolution and Origins of Cognition course, Harvard University

Current Works, Department of Psychology, Yale University

Experimental Psychology Society

2019 Speech, Language, and Hearing Sciences Spring 2019 Seminar Series, Boston University

Rutgers University Undergraduate Linguistics Club, Rutgers University (New Brunswick)

Language & Cognition Seminar, Harvard University

Language Group, Princeton University

Guest speaker for "Plasticity, Variability and Age in Second Language Acquisition", UT-Austin

CompLang, Massachusetts Institute of Technology

Cognition, Brain, & Behavior series, Harvard University

LingLangLunch seminar, Brown University

Learning and the Brain conference, Boston, MA

- 2018 Universals Seminar, Harvard University
- 2017 Discourse Expectations: Theoretical, Experimental, and Computational Perspectives (DETEC)

MIT Critical Data Course, MIT

2016 The VerbCorner Workshop, Boston College

MIT Critical Data Course, MIT

Developmental Colloquium, University of Massachusetts-Amherst

2015 Oxford Global Languages Symposium, Oxford University Science on the Screen, Coolidge Corner Theater, Boston, MA The Kavli science journalism workshop.

- 2014 Laboratory for Brain & Language, Georgetown University
- 2013 Concepts Seminar, Harvard University

National Chiao Tung University, Taiwan

National Chiao Tung University, Taiwan

National Taiwan University, Taiwan

Linguistics Lunch, Brown University

Language & Cognition Seminar, Harvard University

2012 Psychology Department, Oberlin College

Math Lunch, Oberlin College

Laboratory for Developmental Studies Seminar, Harvard University

- 2011 Stanford Psychology of Language Tea (SPLaT), Stanford University
- 2010 The Role of Social Cognition in Language Processing Summer Workshop, Harvard University Scalar Implicature Summer Workshop, Harvard University

#### Juried Podium Talks & Posters (For presentations based on proceedings papers, see "Papers")

2025 Hartshorne, J.K., Negrón Reichard, E., Allossonniere-Tang, M., Aglinskas, A., Anzellotti, S., Arnon, I., Blasi, D., Culbertson, J., Deen, K., Di Garbo, F., Hammerly, C., Kanampiu, P., Lee, M., Le Ferrand, É., Li, T., Salem, E., Verkerk, A., Wittenberg, E., Zasyekin, S. (2025). Is there a semantic core to noun agreement classes? Data from 15 languages spanning 6 families. Crosslinguistic Perspectives on Processing and Learning (X-PPL).

\*Tall, Omar, Éric Le Ferrand, **Hartshorne**, **Joshua K**, & Emily Prud'hommeaux. (2025). Reclaiming archival texts with user-friendly OCR, *Poster presented at the International Conference on Language Documentation & Conservation (ICLDC9)*.

\*Li, W., Zhao, A., de Wynter, A., Chen, S.-Q., Karimov, P., & Hartshorne, J. K. (2025). Does using LLMs in daily life help or hinder learning a second language? Poster presented at the Annual Meeting of the Cognitive Science Society, San Francisco, CA, USA.

Hartshorne, J. K. (2025). Does using LLMs in daily life help or hinder learning a second language? Poster presented at the Annual Meeting of the Cognitive Science Society, San Francisco, CA, USA.

2024 Hartshorne, Joshua K. (2024). Natural constraints on natural language: What computational constraints tell us about alien languages, *Xenolinguistics: Next Steps (Xeno2025)*.

**Joshua K. Hartshorne**, Emily Prud'hommeaux, Li-May Sung, \*Eric Le Ferrand. (2024). Rapidly building the missing infrastructure for language science: A case study with Formosan languages. *Poster presented at Crosslinguistic Perspectives on Processing and Learning (X-PPL)* 

- \*Varvella Vicente, Thomas, \*Ethan Amato, & **Joshua K. Hartshorne** (2024). Do noun classes have a semantic basis? A multilingual analysis with machine learning. *Poster presented at Architectures and Mechanisms in Language Processing (AMLaP)*.
- **Hartshorne, Joshua K.**, \*Eric Le Ferrand, Li-May Sung, & Emily Prud'hommeaux. (2024). FormosanBank and why you should use it. *Poster presented at Architectures and Mechanisms in Language Processing (AMLaP)*.
- \*Li, Wei, \*Wenshuo Qin, Zoey Liu, & **Joshua K. Hartshorne**. (2024). What can machine learning tell us about second language acquisition? *Poster presented at Architectures and Mechanisms in Language Processing (AMLaP)*.
- \*Li, Tianyi, \*Mengguo Jing, \*Zakir Makhani, Iris Oved, Nikhil Krishnaswamy, James Pustejovsky & **Joshua K. Hartshorne** (2024). Modeling the development of intuitive mechanics. *Poster presented at the Annual Meeting of the Cognitive Science Society*, Rotterdam, Netherlands.
- \*Li, Wei & Joshua K. Hartshorne (2024). Latent Structure of Intuitive Physics. Poster presented at the Annual Meeting of the Cognitive Science Society, Rotterdam, Netherlands.
- \*Li, Wei, \*Yun, Heesu, & **Joshua K. Hartshorne** (2024). Why do older children learn second languages faster than younger children? Poster presented at the Cognitive Development Society, Pasadena.
- **Joshua K. Hartshorne** (2024). Robust heterogeneity in cognitive development: A large-scale investigation. Poster presented at the Cognitive Development Society, Pasadena.
- 2023 Liu, Zoey, Emily Prud'hommeaux, & **Joshua K. Hartshorne** (2023). Uncovering cross-linguistic morphosyntactic transfer in second language learning. Boston University Conference on Language Development, Boston.
  - \*Yun, Heesu, \*Wei Li, & **Joshua K. Hartshorne**. (2023). Why do older children learn second languages faster than younger children? Poster presented at the Boston University Conference on Language Development, Boston.
  - \*Li, Wei, \*Aidas Aglinskas, & **Joshua K. Hartshorne**. (2023). Contrastive neural networks reveal the structure of neuroanatomical variation within bilingualism. Poster presented at the Boston University Conference on Language Development, Boston.
  - Liu, Zoey, Emily Prud'hommeaux, & **Joshua K. Hartshorne** (2023). Uncovering cross-linguistic morphosyntactic transfer in second language learning. Many Paths to Language, Nijmegen, Netherlands.
  - \*Yun, Heesu, \*Wei Li, & **Joshua K. Hartshorne**. (2023). Why do older children learn second languages faster than younger children? Many Paths to Language, Neijmegen, Netherlands.
  - \*Li, Wei, \*Aidas Aglinskas, & **Joshua K. Hartshorne**. (2023). Contrastive neural networks reveal the structure of neuroanatomical variation within bilingualism. Poster presented at Many Paths to Language, Nijmegen, Netherlands.
  - \*Yun, Heesu, \*Wei Li, & **Joshua K. Hartshorne**. (2023). Cross-linguistic transfer between native language and English as a second language. Poster presented at Architectures and Mechanisms in Language Processing, San Sebastian, Spain.
  - \*Li, Wei, \*Aidas Aglinskas, & **Joshua K. Hartshorne**. (2023). Contrastive neural network reveals the structure of neuroanatomical variation within bilingualism. Poster presented at Architectures and Mechanisms in Language Processing, San Sebastian, Spain.
  - Oved, Iris, Carlos Montemayor, Nikhil Krishnaswamy, James Pustejovsky, & **Joshua K. Hartshorne**. (2023). The view from outside the Matrix: Doing philosophy of mind and cognitive science with virtual worlds. The Science of Consciousness Conference.
  - Krishnaswamy, Nikhil, Iris Oved, **Joshua K. Hartshorne**, & James Pustejovsky. (2023). Meaning to mean: A precondition for sentience and understanding in large language models. The Science of Consciousness Conference.
  - \*Li, Wei, \*Aidas Aglinskas, & **Joshua K. Hartshorne**. (2023). Contrastive neural network reveales the structure of neuroanatomical variation within bilingualism. *Poster presented at the Annual Meeting of the Cognitive Science Society*, Sydney, Australia.

- James, Ariel, Rachel A. Ryskin, **Joshua K. Hartshorne**, Haylee Backs, Nandeeta Bala, Laila Barcenas-Meade, Samata Bhattarai, Tessa Charles, Gerasimos Copoulos, Claire Coss, Alexander Eisert, Elena Furuhashi, Keara Ginel, Anna Guttman-McCabe, Chaz Harrison, Laura Hoba, William Hwang, Claire Iannetta, Kristen Koenig, Chauncey Lo, Victoria Palone, Gina Pepitone, Margaret Ritzau, Yi Hua Sung, Orcun Tasdemir, Lauren Thompson, Joshua R. de Leeuw. (2022). What paradigms can webcam eye-tracking be used for? Attempted replications of 5 "classic" cognitive science experiments. Cognitive Development Society, Madison, WI.
  - Özge, Duygu, Ebru Evcen and **Joshua K. Hartshorne** (2022). Implicit causality biases in Turkish psychological state events. 3rd International Conference 'Prominence in Language', Cologne, Germany.
  - **Hartshorne, Joshua K.** & \*Wesley Ricketts. (2022). Evaluating unsupervised word segmentation in adults: A meta-analysis. Poster presented at Interdisciplinary advances in statistical learning, San Sebastian, Spain, June 1-3.
  - Liu, Zoey, \*Tiwa Eisape, Emily Prud'hommeaux, and **Joshua K. Hartshorne**. (2022). Uncovering crosslinguistic morphosyntactic transfer in second language learning. Poster presented at Architectures & Mechanisms in Language Processing (AMLaP), York, UK.
  - Levari, Tanya, Stefano Anzellotti, \*Aidas Aglinskas, Albert Kim, Emily Prud'hommeaux, & **Joshua K. Hartshorne**. (2022). Developmental continuity in neural semantic representations, Poster presented at Architectures & Mechanisms in Language Processing (AMLaP), York, UK.
  - Kim, Albert, Tanya Levari, Stefano Anzellotti, & **Joshua K. Hartshorne**. (2022). Developmental continuity in neural semantic representations, Poster presented at Society for the Neurobiology of Language (SNL), Philadelphia, PA.
- \*Li, Wei & **Joshua K. Hartshorne**. (2021). Even simultaneous bilinguals do not quite reach monlingual levels of proficiency in syntax. Asia-Pacific Babylab Constellation (ABC) Conference, Hong Kong.
  - \*Hua, Yining & **Joshua K. Hartshorne**. (2021). Quantifying the bilingual (dis)advantage in vocabulary acquisition. Asia-Pacific Babylab Constellation (ABC) Conference, Hong Kong.
  - \*Huang, Yujing & Hartshorne, J. K. (2021). Limitations of linking rules: Why are some verbs learned earlier than others? Asia-Pacific Babylab Constellation (ABC) Conference, Hong Kong.
  - **Hartshorne**, J. K. & J. R. de Leeuw. (2021). Experiments subjects want. Workshop on Using Games to Understand Intelligence. CogSci 2021.
  - \*Chen, Tianhu, Timothy J. O'Donnell, & **Joshua Hartshorne**. (2021). Verb-argument structure and semantics in contextual word embeddings. DUCOG: Annual meeting of the Central European Cognitive Science Association, Dubrovnik.
  - \*Li, Wei & **Joshua K. Hartshorne**. (2021). Even simultaneous bilinguals do not quite reach monolingual levels of proficiency in syntax. Poster presented at Boston University Conference on Language Development.
  - \*Aglinskas, Aidas, **Joshua K. Hartshorne**, & Stefano Anzellotti. (2021). Contrastive AI reveals the structure of individual variation in Autism Spectrum Disorder. Poster presented at Society for Neuroscience, Chicago, IL, Nov. 13-16.
- \*Robbins, P. T., Huang, Y. T., Lucio Paredes Aulestia, P. M., Oppenheimer, K., Velasco Molina, M. D., & Hartshorne, J. K. (2020, October 29–30). Metrics and causes of family distress during the COVID-19 pandemic [Conference presentation]. University of Southern California Center for Economic and Social Research COVID-19 Work in Progress Conference, Los Angeles, CA.
  - \*Eisape, Tiwalayo, \*William Merrill, \*Sven Dietz, & **Joshua K. Hartshorne**. (2020). Computationally investigating L1 influence on L2 production. Poster presented at CUNY Conference on Human Sentence Processing, Amherst, MA.
  - Özge, Duygu, Ebru Evcen and **Joshua K. Hartshorne** (2020). Referential form, word order, and emotional valence in Turkish pronoun resolution. Poster presented at CUNY Conference on Human Sentence Processing, Amherst, MA.
- 2019 Hartshorne, Joshua K. (2019). Automaticity of reading continues to develop into adulthood. Cognitive Development Society, Louisville, KY.

- Hartshorne, Joshua K. (2019). Teaching science by doing science. Workshop on using replication studies to teach research methods in cognitive science, Annual Meeting of the Cognitive Science Society, Montreal, CA.
- \*Chen, Tianhu & **Joshua K. Hartshorne**. (2019). Revisiting a critical period for syntax in a second language: New analyses provide the same results. CUNY Conference on Human Sentence Processing, Boulder, CO.
- \*Chen, Tianhu and **Joshua K. Hartshorne** (2019). More evidence that the critical period for syntax ends at 17. Poster presented at Boston University Conference on Language Development, Boston, MA.
- Hartshorne, Joshua K. (2019). Birth-order effects on vocabulary persist throughout the lifespan. Poster presented at Boston University Conference on Language Development, Boston, MA.
- **Hartshorne**, **Joshua K.** (2019). Birth-order effects on vocabulary persist throughout the lifespan. Poster presented at Cognitive Development Society, Louisville, KY.
- **Hartshorne, Joshua K.**, \*Mariela Jennings, Tobias Gerstenberg, & Joshua B. Tenenbaum. (2019). When circumstances change, update your pronouns. Poster presented at Cognitive Science Society, Montreal, CA.
- **Hartshorne**, **Joshua K.**, \*Mariela Jennings, Tobias Gerstenberg, & Joshua B. Tenenbaum. (2019). When circumstances change, update your pronouns. Poster presented at CUNY Conference on Human Sentence Processing, Boulder, CO.
- \*Jennings, Mariela, Martha Palmer, & **Joshua K. Hartshorne**. (2019). How much does verb semantics determine verb syntax? Poster presented at CUNY Conference on Human Sentence Processing, Boulder, CO.
- 2018 \*Jennings, Mariela, Martha Palmer, & **Joshua K. Hartshorne**. (2018). How much does verb semantics determine verb syntax? Poster presented at Architectures and Mechanisms in Language Processing, Berlin, Germany.
  - \*Jennings, Mariela & **Joshua K. Hartshorne**. (2018). Pushkin: An open-source engine for social science at scale. Poster presented at Architectures and Mechanisms in Language Processing, Berlin, Germany.
  - \*Eisape, Tiwalayo, \*Merrill, Will, **Hartshorne, Joshua K.**, and \*Dietz, Sven (2018). Grammatical accents: Using Machine Learning to Understand Transfer from First Language to Second Language. Poster presented at Fortieth Annual Conference of the Cognitive Science Society, Madison, WI.
  - \*Mu, J., **Hartshorne**, **J. K.**, & O'Donnell, T. J. (2018). Learning and evaluating hierarchies of verb argument structure. Poster presented at the Learning Language in Humans and Machines 2018 Conference, Paris, France, July 5-6.
  - \*Skorb, Lauren and **Joshua K. Hartshorne**. (2018). The Meta-Science of Adults Statistical Word Segmentation: Part 1. Poster presented at Annual Meeting of the CUNY Conference on Human Sentence Processing, Davis, CA
- Özge, Duygu, **Joshua K. Hartshorne**, & Jesse Snedeker. (2017). Salience of experiencer versus stimulus in Turkish psych verbs: A pronoun resolution study. Poster presented at 30th Annual Meeting of the CUNY Conference on Human Sentence Processing, Cambridge, MA.
- Niemi, L., **Hartshorne**, J. K., Gerstenberg, T., & Young, L. (2016). The moral dimension of implicit verb causality. CUNY Conference on Human Sentence Processing, Gainsville, FL.
  - Hartshorne, Joshua K., Joshua Tenenbaum, & Steven Pinker. (2016). A critical period for acquisition of second language syntax: Evidence from 669,498 English speakers. Poster presented at Boston University Conference on Language Development, Boston, MA.
  - Hartshorne, Joshua K., \*Jesse Mu, Timothy J. O'Donnell, & Martha Palmer. (2016). The relationship between semantics and verb argument structure is highly regular: A large-scale, crowd-sourced investigation. Poster presented at Architectures and Mechanisms in Language Processing, Bilbao, Spain.
  - \*Mu, Jesse, Timothy J. O'Donnell, & **Joshua K. Hartshorne**. (2016). Unsupervised learning of VerbNet argument structure. Poster presented at Annual Meeting of the Cognitive Science Society.

- Hartshorne, Joshua K., & Palmer, Martha. (2016). VerbCorner: Testing theories of argument structure through crowdsourcing. Poster presented at Workshop on Events in Language, Gainesville, FL.
- Niemi, L., **Hartshorne**, J., Gerstenberg, T., & Young, L. (2015). Implicit causality and moral inference. Workshop on expressive language: Semantics, pragmatics, and origins, Mansfield, CT.
  - Hartshorne, Joshua K. (2015). Achieving human-level performance on (some) Winograd Schema via a model of common sense. Language & Common Sense Workshop, Annual Meeting of the Cognitive Science Society.
- 2014 Hartshorne, Joshua K., Tobias Gerstenberg, Timothy J. O'Donnell, & Joshua B. Tenenbaum. (2014). Language understanding & common sense reasoning. Architectures and Mechanisms in Language Processing (AMLaP), Edinburgh, UK.

**Hartshorne**, **Joshua K.** (2014). Implicit causality and novel verbs. International Association for the Study of Child Language, Amsterdam, Netherlands.

Hartshorne, Joshua K. & Jesse Snedeker. (2014). Learning non-causal transitive verbs. International Association for the Study of Child Language, Amsterdam, Netherlands.

**Hartshorne**, **Joshua K.** (2014). Project in action: Achievements, advice, & asks (panel). Games & Crowds, Washington, DC.

**Hartshorne**, **Joshua K.** (2014). Crowdsourcing actionable data with games (panel). Games & Crowds, Washington, DC.

Hartshorne, Joshua K. (2014). Taking research out into the wild (panel). SXSWedu, Austin, TX.

Hartshorne, Joshua K., Gerstenberg, T., O'Donnell, T. J., & Tenenbaum, J. B. (2014). Language understanding & common sense reasoning. Poster presented at Psychonomic Society, Long Beach, CA.

Shetreet E., **Hartshorne Joshua K.**, & Kuperberg G. (2014). Fearing and loving: verb category matters in processing implicit causality. Poster presented at 6th Society for Neurobiology of Language Conference, Amsterdam, The Netherlands.

- 2013 Hartshorne, Joshua K. & Jesse Snedeker. (2013). Emotion verbs and the problem of overgeneralization. BUCLD 38, Boston, MA \*Lunchtime plenary symposium, with Ben Ambridge, Adele Goldberg, and Steven Pinker
  - Hartshorne, Joshua K. (2013). Three myths about re-mention biases. Discourse Expectations: Theoretical, Experimental & Computational Perspectives, Tubingen, Germany.

Hartshorne, Joshua K. (2013). Three puzzles about quantifiers & their acquisition. Society for Research in Child Development, Seattle, WA

Germine, L., **Hartshorne**, J., Wilmer, J., Chabris, C., Chatterjee, G., & Nakayama, K. (2013). Heterogeneity in cognitive maturation and aging: Why there is no such thing as an adult control. Vision Sciences Society, Naples, Florida.

**Hartshorne, Joshua K.** & Steven Pinker. (2013). Evidence for common mechanisms in pragmatics and social cognition. Poster presented at Architectures and Mechanisms in Language Processing, Marseille, France.

Hartshorne, Joshua K. (2013). Not all pronouns are resolved rapidly. Poster presented at Discourse Expectations: Theoretical, Experimental & Computational Perspectives, Tubingen, Germany.

2012 Hartshorne, Joshua K., Timothy O'Donnell, Yasutada Sudo, \*Miki Uruwashi & Jesse Snedeker. (2012). Linking event structure to language: Linguistic universals and variation. Maryland's First Annual Interdisciplinary Research Symposium on //Events//.

Wilmer, Jeremy B., Laura Germine, Ryan Ly, **Joshua K. Hartshorne**, Holum Kwok, Mark A. Williams & Justin Halberda. (2012). The heritability and specificity of change detection ability. Vision Sciences Society, Naples, Florida.

Hartshorne, Joshua K., Jesse Snedeker & Albert Kim. (2012). The neural computation of scalar implicature. Poster presented at Architectures and Mechanisms in Language Processing (AMLaP), Riva del Garda, Italy.

2011 Hartshorne, Joshua K. & David Barner. (2011). How do children interpret number words before learning their exact meanings? BUCLD 36, Boston, MA

\*Winner of the Jean Berko Gleason Award for top-ranked student presentation.

**Hartshorne**, **Joshua K.** (2011). Implicit causality and pronouns: Lexically-encoded meaning, not world knowledge. 24th Annual Meeting of the CUNY Conference on Human Sentence Processing, Palo Alto, CA.

Hartshorne, Joshua K. & Jesse Snedeker (2011). Cues to pronoun resolution. International Association for the Study of Child Language, Montreal, Canada.

Nappa, Rebecca, **Joshua K. Hartshorne** & Jesse Snedeker (2011). Him or him: Pronoun comprehension in ASD. International Association for the Study of Child Language, Montreal, Canada.

Hartshorne, Joshua K., Rebecca Nappa & Jesse Snedeker. (2011). Steady — not u-shaped — development in ambiguous pronoun processing. 2Poster presented at 4th Annual Meeting of the CUNY Conference on Human Sentence Processing, Palo Alto, CA.

**Hartshorne**, **Joshua K.** & Jesse Snedeker. (2011). Not all pronouns are resolved rapidly online. Poster presented at 24th Annual Meeting of the CUNY Conference on Human Sentence Processing, Palo Alto, CA.

Nappa, Rebecca, **Joshua K. Hartshorne** & Jesse Snedeker. (2011). She and her: Online and offline pronoun comprehension in children with ASD. Poster presented at BUCLD 36, Boston, MA

2010 & Hartshorne, Joshua K., Manizeh Khan & Jesse Snedeker (2010). Predictability in the visual world. earlier Architectures and Mechanisms in Language Processing (AMLaP) conference, York, UK.

**Hartshorne, Joshua K.** & Jesse Snedeker. (2010). Pronoun resolution, cue frequency, and cue reliability. Poster presented at Architectures and Mechanisms in Language Processing (AMLaP) conference, York, UK.

Hartshorne, Joshua K. and Jesse Snedeker. (2009). Integration of discourse and semantic structure in children's resolution of ambiguous pronouns. BUCLD 34, Boston, MA.

Hartshorne, Joshua K. and Jesse Snedeker. (2009). Grammatical context affects online scalar implicature computation. Architectures and mechanisms in Language Processing (AMLaP) conference, Barcelona, Spain.

Khan, Manizeh, **Joshua Hartshorne** & Jesse Snedeker. (2009). Can listeners modulate rapid pragmatic inferences based on knowledge about the speaker? Poster presented at Architectures and Mechanisms in Language Processing (AMLaP) conference, Barcelona, Spain.

Hartshorne, Joshua, Manizeh Khan and Jesse Snedeker. (2009). Do listeners model speakers in on-line sentence comprehension? Poster presented at Architectures and Mechanisms in Language Processing (AMLaP) conference, Barcelona, Spain.

**Hartshorne, Joshua K.**, \*Pogue, Amanda, & Snedeker, Jesse. (2009). Fear and loathing in discourse coherence: children use argument structure in pronoun interpretation. Poster presented at Poster presented at Experimental Pragmatics, Lyon, France.

\*Pogue, Amanda, **Hartshorne**, **Joshua K.**, & Snedeker, Jesse. (2009). Evidence for a distinction between canonical and non-canonical syntax-semantics mappings. Poster presented at the Annual Meeting of the Cognitive Science Society, Amsterdam.

**Hartshorne**, **Joshua K.** & Snedeker, Jesse. (2009). Grammatical context affects online scalar implicature computation. Poster presented at the 22nd Annual Meeting of the CUNY Conference on Human Sentence Processing, Davis, CA.

**Hartshorne**, **Joshua K.** & Snedeker, J. (2009). Rapid online effects of verb argument structure on pronoun resolution. Poster presented at the 22nd Annual Meeting of the CUNY Conference on Human Sentence Processing, Davis, CA.

**Hartshorne, Joshua K.**, \*Pogue, Amanda, & Snedeker, Jesse. (2009). Who is she and why is she so scary? Psych verbs and the mapping from semantics to syntax. Poster presented at the Society for Research Development Biennial Meeting, Denver, CO.

Vickery, Timothy J., **Joshua K. Hartshorne** & Yuhong V. Jiang. (2007) Learning to form new perceptual groups. Paper presented at the 15th Annual Object Perception, Attention & Memory meeting.

Salem-Hartshorne, Nancy, & Hartshorne, Joshua K. (2007) Development in CHARGE Syndrome: Results of a longitudinal study. Poster presented at the 8th International CHARGE Syndrome Foundation Conference for Families, Anaheim, CA.

Hartshorne, Joshua, Timothy Vickery & Yuhong Jiang. (2007) Word superiority in visual search for multiple possible targets. Poster presented at the Vision Sciences Society Annual Meeting, Sarasota, FL.

Hartshorne, Joshua K., Claudia J. Bonin & Michael T. Ullman. (2007) The procedural deficit hypothesis of dyslexia. Poster presented at the 14th annual meeting of the Cognitive Neuroscience Society, New York.

Hartshorne, Joshua K., Nancy Salem-Hartshorne & Timothy S. Hartshorne. (2007) Birth order effects in group self-organization. Poster presented at the 55th annual meeting of the North American Society of Adlerian Psychology, Vancouver.

Bonin, Claudia J., **Joshua K. Hartshorne** & Michael T. Ullman. (2006) The procedural deficit hypothesis of dyslexia. Poster presented at the 25th Rodin Remediation Academy Conference, Washington, D.C.

Hartshorne, Joshua K., Mathew Walenski, & Michael T. Ullman. (2003) An investigation of the role of the declarative and procedural memory systems in language using a dual-task paradigm. Poster presented at the 10th annual meeting of the Cognitive Neuroscience Society, New York.

Ullman, Michael, Ivy V. Estabrooke, Karsten Steinhauer, Matthew Walenski, Claudia Brovetto, Roumyana Pancheva, Kaori Ozawa, **Joshua K. Hartshorne**, Kristen Mordecai, & Pauline Maki. (March 30 – April 1, 2003) Sex differences and the role of estrogen in the neurocognition of language. Poster presented at the 10th annual meeting of the Cognitive Neuroscience Society, New York.

Monahan, John S., and **Joshua K. Hartshorne**. (April 9, 1998) Search task, not field size, affects popout search speed. Paper presented at the 90th Annual Meeting of the Southern Society for Philosophy and Psychology, New Orleans.

### Workshops Organized

July, 26, 2023 Towards broader adoption of massive online experiments (CogSci 2023)

Speakers: Joshua K. Hartshorne, Bill Thompson, Nigini Oliveira, Raja Marjieh, Nori Jacoby, Courtney B.

June, 26-28, 2023 Advanced Pushkin Hackathon (Boston College)

Nov. 18, 2021 Virtual Workshop on Virtual Eyetracking (Virtual)

Speakers: Josh Hartshorne, Josh de Leeuw, Rachel Ryskin, Ariel James, Ian Krajbich, Anthony Yacovone, Mieke Slim, Shari Liu, Maggie Kandel

Summer, 2020 Moving Research Online (Virtual)

Co-Organizer: Joshua R. de Leeuw

Speakers: Joshua K. Hartshorne, Joshua R. de Leeuw, Rebecca Gilbert

July 29, 2020 Workshop on Scaling Cognitive Science (CogSci 2020)

Co-Organizers: Thomas L. Griffiths, Jordan Suchow

Speakers: Thomas L. Griffiths, Joshua K. Hartshorne, Mayank Agrawal, Andrea Simenstead, Jordan Suchow, Todd Gureckis, Lauren Rutter, James Houghton

Dec. 16-18, 2019 Scaling Cognitive Science (Princeton University)

Co-Organizers: Thomas L. Griffiths, Jordan Suchow

Invited Speakers: Lucy Fortson, Yoav Bar-Anon, Sam Mehr, Todd Gureckis, Alex Paxton, Mayank Agrawal, Mike Frank, Mark Steyvers, Ben Stenhaug, Grant Buckles, Josh de Leeuw, Abdullah Almaatouq, Grant Miller, Bri Cho, Diana Tamir, Jason Radford, Sam Blazek, Steve Cambria

July 25, 2018 Massive Online Experiments in Cognitive Science (CogSci 2018)

Co-Organizers & Presenters: Joshua De Leeuw, Joshua Hartshorne, Laura Germine, Katharina Reinecke, Mariela V. Jennings

The Pushkin Developers' Workshop. Boston College / Chestnut Hill, MA Dec. 19-20, 2017 Presenters: Joshua De Leeuw, Joshua Hartshorne, Mariela Jennings Oct. 19-20, 2016 The VerbCorner Workshop. Boston College / Chestnut Hill, MA Invited Speakers: Beth Levin, Ben Ambridge, Martha Palmer, Tim O'Donnell, Joshua Hartshorne Learning to talk about events: Grounding language acquisition in Aug. 10, 2016 intuitive theories and event cognition (CogSci 2016). Co-organized with Melissa Kline & Eva Wittenberg Invited Speakers: Dare Baldwin, Gergely Csibra, Cynthia Fisher, Noah Goodman, Joshua Hartshorne, Melissa Kline, Beth Levin, Josh Tenenbaum, Barbara Tversky, Eva Wittenberg, Jeffrey Zacks Mar. 2, 2016 Events in Language and Cognition (CUNY 2016 pre-conference workshop) Co-organized with Melissa Kline and Eva Wittenberg. Invited Speakers: Jesse Snedeker, Elsi Kaiser July 22, 2015 Language and Common Sense (CogSci 2015) Co-organizer: Joshua Tenenbaum Invited Speakers: Joshua Hartshorne, Joshua Tenenbaum, Jeffrey Siskind, Noah Goodman, Andrew Kehler, Percy Liang, Nancy Chang, Charles Ortiz, Jr., Tobias Gerstenberg, Elsi Kaiser July 13, 2010 The Role of Social Cognition in Language Processing Summer Workshop Harvard University / Cambridge, MA Invited Speakers: Joshua Hartshorne, Rebecca Nappa, Jill De Villiers, Peter De Villiers, Lisa Edelson, Evalina Fedorenko, Manizeh Khan, Adrianna Jenkins, James Lee, Kyle Thomas, Kate harrigan June 17, 2010 Scalar Implicature Summer Workshop Harvard University / Cambridge, MA Invited Speakers: Joshua Hartshorne, Danny Fox, Noah Goodman, Gina Kuperberg, Manizeh Khan, Hazel Pearson, Gennaro Chierchia, Jacopo Romoli, Jesse Snedeker

#### $\operatorname{TEACHING}$

#### Students Supervised

Post-Doctoral Fellows Amanda Rose Yuile (2025-current), Jesse Storbeck (2023-2025), Aidas Aglinskas (2019— 2022), Mengguo Jing (2021—2022), Yuting Huang (2020—2021), Sven Dietz (2017),

Tianyi Li (2023-current), Wei Li (2020-current), Amir Soltani (2022-2023), Mariela Jen-Graduate Students

nings (2019—2020)

Lab Managers/Techs Jon Ravid, Lauren Skorb, Mariela Jennings, Miguel Mejia, Wesley Ricketts, Parker Robbins, Wael Mohammed, Samantha Gutierrez.

McNair Scholars Tiwalayo Eisape, Juliani Vidal

Gabelli Scholars Duv-Tan Dao

Thesis Committees Hamed Kerdabadi (Ph.D., BC), Sophie Savelkouls (Master's, BC), Alicia Bergeron (undergraduate, BC), Juliana Pijar (undergraduate, BC), Jia Yan (undergraduate, BC).

Coop Students Zakir Makhani, Myles Bandel, Jeremiah Isaac, Megan Rest, Alex Ichimura, Anna Petti, Jianxu Wang, Rui Han, Eric Gu, Zeen Naeem, Hayley Greenough, Parker Robbins.

Master's RAs Alejandra Tejo, Juliani Vidal, Mington Li, Justin Feng, Ning Hua, Hao Zeng, Allie Janineh Undergraduate Theses

Jesse Mu (undergraduate, BC), Lily Feinberg (undergraduate, BC), Juliani Vidal (undergraduate, BC), Tiwalayo Eisape (undergraduate, BC), Tony Chen (undergraduate, BC), Wenshuo Qin (undergraduate, BC), William Pyle (undergraduate, BC), Jocelyn Hui Yan Chan (undergraduate, BC), Ethan Amato (undergraduate, BC), Heesu Yun (undergraduate, BC), Thomas

Varvella Vicente (undergraduate, BC).

Undergraduate RAs

Abigail Choi, Adam Yang, Alejandra Sanchez, Ning Duan, Affy Wu, Alexa Dudley, Alexa Rivas, Alice Lim, Allison Song, Allison Kozol, Amanda Pogue, Amelia Fineberg, Andrew Chough, Annabel Lee, Annie Liu, Anushka Fernandes, Arthi Vezhavendan, Asher Kang, Audrey Veator, Avery Gu, Brandon Benson, Briana Chen, Briana Ruiz, Caitlin Garcia, Callie Sae Her, Camila Cruz, Camille Phaneuf, Caroline Kowalski, Casey Nicastri, Chris Mitchell, Christian Ramirez, Claire Huang (with Manizeh Khan), Claudia Reino, Clinton Tak, Chen Chen, Christopher Delgado, Cora Ives, Daniel Tassone, David Batuner, David Kocen, Deena Mohamed, Dorothy Peters, Duncan Wang, Elena Negrón Reichard, Elie Salem, Eric Echeandia, Eric Seferian, Ernesto Gutiérrez, Ethan Amato, Everett Kim, Ezekiel (Zeke) Coleman, Gabriel Frattallone, Gabriel Hege, Halit Ozgur, Han Choong, Hannah Yoon, Hayley Song, Heesu Yun, Heidi Trinh, Heleni Singer, Hunter Scheppat, Imaan Salimi, Inés Martinez Velasco, Irene Yi, Jacob Bennett, Jesse Mu, Jocelyn Chan, Joel Iglesias Lopez, Jose Velarde, Joy Johnson, Judeline Joseph, Juliani Vidal, Julie Hong, JungHo Lee, Kareem Itani, Kate Sindt (née Roberts), Katherine Karafotas, Katherine Montas, Kayley Okst, Kristen Jorgenson, Kyle Liu, Lauren Bush, Lauren Grenzig, Le You, Liana Llado, Lilia McGee-Harris, Lily Feinberg, Lindsay Peterman, Madeleine McCann, Maria Blokh, Maria Jose Valdivia Cox, Marissa Russell, Mark Chudnovsky, Mark Nasef Ragheb (with Manizeh Khan), Maryanna Valencia, Meera Kanabar, Meghan Sheridan, Michelle Namkoong, Mika Braginsky, Miki Uruwashi, Moeka Koyama, Nchinda Nchinda, Nicola Roux, Nuria Lopez, Olivia Eastwood, Oluwaseun (Seun) Eisape, Phúc (Philip) Huynh Lê, Rachel Duquette, Rebecca Levitan, Rebecca Podell, Regina Herrero Ampudia, Rudmila Rashid, Ruoshan Zhou, Samantha Kao, Samuel Thacker, Sara Bufi, Sarah Al-Mayahi, Sarah Goodloe, Sebastian (Alex) Clendenning-Jimenez, Seung Kim, Shaan Bijwadia, Shikun (Jason) Wang, Siva Zhou, Stephanie Liem, Steve Faulkner, Sruthi Narayan, Stephanie McHugh, Sunny Yeo, Tanya Ivonchyk, Taylor Martinez, Thomas Dickson, Thomas Varvella Vicente, Tianhu (Tony) Chen, Tinuade McClish, Tiwalayo Eisape, Varun Nambikrishnan, Wasa Magari Ball, Wendy Uelk, Wenshuo Qin, Will Ades, William (Jaq) Pyle, William Merrill, Yelyzaveta Ryabkina, Yining Hua, Yunqian Wang, Zach Barker, Ziyue (Suzie) Su.

High School RAs

Laasya Allam, Yena Kim, Mark Seong Hun Yu, Akash Kumar, Zoe Elizee, Jay Garg, Heather Krasner, Praharshitha Allam, Riya Shukla, Ivy Wang, Salma Hazimeh, Seth Lockwood, Kira (Fangze) Tian, Mark Seong Hun Yu

McNair Exploratory Scholars Wenshuo Qin, Shemar Joseph, Kyra Trimm, Anh Nguyen, Bilal Wahid

#### Courses Taught

- 2024 "Documenting and Preserving Indigenous Languages with Data Science," Boston College "BabyTalk," Boston College
- 2023 "Computational Models of Cognition," Boston College "How Extraterrestrials Think," Boston College
- 2022 "BabyTalk," Boston College "How Extraterrestrials Think," Boston College
- 2021 "BabyTalk," Boston College
  "How Extraterrestrials Think," Boston College
- 2019 "How Extraterrestrials Think," Boston College
- 2018 "Language Acquisition and Development," Boston College "Computational Models of Cognition," Boston College "Language Acquisition and Development," Boston College "Computational Models of Cognition," Boston College
- 2017 "Language Acquisition and Development," Boston College

I often organize reading groups  $\mathcal{E}$  seminars that draw trainees and faculty from surrounding institutions as well as my home institution.

2022	Bootstrapping Language Reading Group. Boston College / Chestnut Hill, MA Twice-monthly intensive summer reading group
2021	Concepts Reading Group. Boston College / Chestnut Hill, MA Weekly summer reading group
2016-2017	Monday Methods Meetings. Boston College / Chestnut Hill, MA Monthly methods discussion group for students, post-docs, and faculty
2016	Argument Structure. Massachusetts Institute of Technology / Cambridge, MA Weekly reading/research meeting
2015	Events Reading Group. Massachusetts Institute of Technology / Cambridge, MA Weekly meeting
2013-2014	Computational Psycholinguistics. Massachusetts Institute of Technology / Cambridge, MA Research assistant meeting & discussion group
2013	An Introduction to Language: Syntax, Semantics, & Pragmatics.  Massachusetts Institute of Technology / Cambridge, MA  Weekly summer seminar on psycholinguistics
2011-2012	Verbs & Events. Massachusetts Institute of Technology / Cambridge, MA Weekly working & discussion group
2012	Language Acquisition Seminar. Massachusetts Institute of Technology / Cambridge, MA Weekly summer seminar on language acquisition
2007-2011	Language & Cognition. Harvard University / Cambridge, MA Weekly talk series. Co-founded by me and continues to present day. Co-organizers: Jacopo Romoli (2007-2009), Timothy O'Donnell (2008-2009), and Manizeh Khan (2009-2011). Funding: Harvard University Graduate School of Arts and Sciences1 Research Workshops.
2009	Social Cognition & Language. Harvard University / Cambridge, MA

Research assistant meeting & discussion group. Co-organizer: Rebecca Nappa

# Media Coverage & Appearances (selected)

Boston Globe	Stressed about your kids' screen time? Don't be, $12/18/20$
	Older and wiser? Some brain functions improve as we age, $3/6/15$
Daily Mail	Want to be fluent in a language? $5/1/18$
	Growing old can actually BOOST your brainpower, $3/11/15$
Daily Beast	AI reveals how the brain's anatomy changes with Autism. $6/2/22$
El País	La música sigue patrones universales, $11/21/19$
New York Times	Do you live in a 'tight' state or a 'loose' one? Turns out it matters quite a bit, $3/29/23$
	In quarantine, kids pick up parents' mother tongues, $9/10/20$
	Why it's so hard to learn French in middle age, $4/30/19$
	Many psychology findings not as strong as claimed, study says, $8/17/15$
	Older really can mean wiser, $3/16/15$
	How many memories fit in your brain, $6/22/07$
Seattle Times	Seattle-area parents want rules about screen time, but experts say off-screen interactions matter more, $10/13/20$
Sydney Morning Herald	Knowing your place, $2/3/14$

The Telegraph Want to learn a foreign language fluently? Start before 10, study finds, 5/1/18

Wall Street Journal Here's when we hit our physical and mental peaks, 7/4/23

Science can explain why some songs are universal, 11/21/19

It's never too late to start a brilliant career, 5/3/19

How intelligence shifts with age, 6/29/15

Washington Post Many scientific studies can't be replicated. That's a problem, 8/27/15

Public Radio Forum (KQED/NPR), Parlez-vouz Duolingo? 8/2/23

BBC Mundo, ¿A qué edad alcanzamos el punto máximo de inteligencia? 3/16/19

NPR's Innovation Hub, When It Comes to Learning Language, Age Isn't Just A #, 1/4/19

Living Lab (NPR), The language learning window, 5/14/18

BBC Newshour, Why language fluency depends on starting to learn in childhood, 5/1/18 BBC World Service, Why language fluency depends on starting to learn in childhood, 5/1/18

NPR Morning Edition, Scientific Findings Often Fail To Be Replicated, 8/28/15

 $WBUR\ Radio\ Boston,\ MIT,\ MGH\ research\ says\ not\ all\ cognitive\ abilities\ decline\ as\ you\ age,$ 

3/9/15

The Atlantic The smartest age, 5/17/15

Business Insider The ages you're the smartest at everything throughout your life, 7/31/17

Social intelligence peaks in your 40s, 8/5/15

Several types of intelligence peak at age 50, 3/31/15

Incredible chart shows how intelligence changes as we age, 3/17/15

The Economist Heart attacks, strokes, dementia – can Biden and Trump beat the odds?, 1/9/24

To master a language, start learning it early, 5/10/18

Try again, 8/27/15Serious games, 6/19/14

Forbes New study shows that your brain's powers change as you age – Some Peaking In Your 70s,

3/23/15

Newsweek Scientists confirm music is universal, and it is used in 'strikingly similar ways' across the

globe, 11/21/19

Scientists pinpoint best age to learn a second language. Newsweek, 5/1/18

New York Magazine How easily distracted are you? Here, distract yourself with this game to find out, 2/2/16

New York Post This the exact age when your brain power peaks, 8/1/17

National Geographic Why it's never too late to learn a language as an adult, 6/21/24.

Politico Is Donald Trump too old to be president? 2/28/16

Scientific American What makes a song? It's the same recipe in every culture, 11/21/19

When does intelligence peak? 2/28/19

At what age does our ability to learn a new language like a native speaker disappear? 5/4/18 Massive International Project Raises Questions about the Validity of Psychology Research,

8/27/15

Get Involved in Citizen Science of the Mind, 1/1/14

Citizen scientists decode meaning, memory and laughter, 9/23/13

Slate That Amazeballs Scientific Study You Just Shared on Facebook Is Probably Wrong, Study

Says. 8/27/15

Time Why it's so hard to learn another language after childhood, 5/2/18

IFLScience This is the best age to learn a second language, 5/2/18

#### SERVICE

Action Editor Language Development Research, 2025-2029
Editorial Boards Language Development Research (2020-2024)

Eastern European Journal of Psycholinguistcs (Ukrainian journal) (2023-)

Editing Special issue on "Language & War", East European Journal of Psycholinguistics

Grant Reviewing (Panel) National Defense Science and Engineering Graduate Fellowship (2013-2014)

National Science Foundation Graduate Research Fellowship Program (2015) EHR Core Research (ECR) program, National Science Foundation (2022)

Grant Reviewing (ad hoc) German-Israeli Foundation for Scientific Research and Development (1),

U.S.-Israel Binational Science Foundation (1)

National Science Foundation (6)

Max Planck Institute (1)

Journal Reviewing (ad hoc) see Publons

Conference Reviewing Architectures and Mechanisms in Language Processing, Boston University Confer-

ence on Language Development, Cognitive Science Society , CUNY Human Sentence Processing, Discourse Expectations: Theoretical, Experimental, & and Computational

tional Perspectives, Society for Philosophy and Psychology

Institutional Technological and Methodological Training Committee, Psych Dep., BC (2016—

2024; chair 2016-2018)

Outreach Committee, Psych Dep., BC (2021—2024)

Diversity and Inclusion Committee, Psych Dep., BC (2018—2024)

Faculty Search Committee, Psych Dep., BC (2018),

Future Directions Committee, Psych Dep., BC (2016—2018), Study Pool Committee, Harvard University (2008—2009)