

BENJAMIN PITT

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EDUCATION & TRAINING

Institute for Advanced Study in Toulouse, Toulouse, France

Research Fellow 9.23 – present

UC Berkeley, Berkeley, CA

Postdoctoral Fellow in Psychology (with Steven Piantadosi & Alison Gopnik) 10.21 – 9.23

Postdoctoral Researcher in Psychology (with Steven Piantadosi & Edward Gibson, at MIT) 10.18 – 10.21

University of Chicago, Chicago, IL

PhD in Psychology (with Daniel Casasanto) 9.13 – 6.18

M.A. in Psychology 6.18 – 9.15

Cornell University, Ithaca, NY

Visiting PhD student, Department of Human Development 8.17 – 6.18

The New School for Social Research, New York, NY

Psychology graduate student 8.12 – 8.13

Brown University, Providence, RI

BS in Cognitive Neuroscience (with Steven Sloman) 2002 – 06

GRANTS & AWARDS

2023 **Research Fellowship**, Institute for Advanced Study in Toulouse (€137k)

2023 **Research Fellowship**, Smith-Kettlewell Eye Research Institute (\$158k; declined)

2022 **Collaborative research grant**, McDonnell Network on Abstract Combinatorial Thought (\$20k)

2021 **SBE Postdoctoral Research Fellowship**, National Science Foundation (Award #2105434; \$148k)

2019 **Postdoctoral scholarship**, McDonnell Network on Abstract Combinatorial Thought

2017 **Graduate Travel Award**, Annual Meeting of the Psychonomic Society

Graduate Council Travel Award, University of Chicago

2016 **GRAD Global Impact Award**, University of Chicago

Student Travel Award, Robert J. Glushko and Pamela Samuelson Foundation

Graduate Accommodation Award, International Meeting of the Psychonomic Society

2014 **NSF Graduate Research Fellowship Program**, Honorable mention

2013 **Student Travel and Conference Award**, New School for Social Research

2012 **Dean's Fellowship**, New School for Social Research

2006 **Rosenberger Prize** for excellence in honors research and coursework, Brown University

JOURNAL PUBLICATIONS

Pitt, B., Casasanto, D., & Piantadosi, S.T. (2023) No clear evidence for an innate left-to-right mental number line. *Proceedings of the National Academy of Sciences* 120(28). e2306099120

Pitt, B., Carstensen, A., Boni, I., Piantadosi, S., & Gibson, E. (2022). Different reference frames on different axes: Space and language in indigenous Amazonians. *Science Advances*, 8(47). [science.org/doi/10.1126/sciadv.abp9814](https://doi.org/10.1126/sciadv.abp9814)

Pitt, B. & Casasanto, D. (2022) Spatial metaphors and the design of everyday things. *Frontiers in Psychology*, 13. doi.org/10.3389/fpsyg.2022.1019957

Pitt, B., Gibson, E., & Piantadosi, S. (2022) Exact number concepts are limited to the verbal count range. *Psychological Science*, 33(3), 371-381. doi.org/10.1177/09567976211034502

Press: [APS Observer](#), [World Economic Forum](#), [CNET](#), [Science Magazine](#), [Science Daily](#), [MIT News](#), [Berkeley News](#), [Daily Californian](#)

- Pitt, B.** & Casasanto, D. (2022) The order of magnitude: Why SNARC-like tasks (still) cannot support a generalized magnitude system. *Cognitive Science*, 46(2). doi.org/10.1111/cogs.13108
- McDougle, S. D., Tsay, J. S., **Pitt, B.**, King, M., Saban, W., Taylor, J. A., & Ivry, R. B. (2022). Continuous manipulation of mental representations is compromised in cerebellar degeneration. *Brain*, 145(12), 4246-4263.
- Pitt, B.**, Ferrigno, S., Cantlon, J., Casasanto, D., Gibson, E., & Piantadosi, S. (2021) Spatial concepts of number, size, and time in an indigenous culture. *Science Advances*, 7(23). science.org/doi/10.1126/sciadv.abg4141 (cover article)
Press: [ScienceNews.org](https://www.sciencenews.org), [Spektrum.de](https://www.spektrum.de), [FutureZone.de](https://www.futurezone.de), [ntv.de](https://www.ntv.de)
- Pitt, B.** & Casasanto, D. (2020). The correlations in experience principle: How culture shapes concepts of time and number. *Journal of Experimental Psychology: General*. DOI: 10.1037/xge0000696
- Casasanto, D. & **Pitt, B.** (2019). The faulty magnitude detector: Why SNARC-like tasks cannot support a Generalized Magnitude System. *Cognitive Science*, 43. DOI: 10.1111/cogs.12794
- Pitt, B.**, & Casasanto, D. (2018). Spatializing emotion: No evidence for a domain-general magnitude system. *Cognitive Science*, 42(7), 2150–2180.

Manuscripts in progress:

- Jang, H. & **Pitt, B.** (in prep) Systems of spatial language and memory among Bayaka.
- Gijssels, T., **Pitt, B.**, Bottini, R., Battal, C., Collignon, O. & Casasanto, D. (in revision). Space-time asymmetry in vision and audition. (joint first author)
- Casasanto, D. & **Pitt, B.** (in prep) Space and time across languages and cultures. *Nature Reviews Psychology*.
- Bottini, R., Gijssels, T., **Pitt, B.**, Battal, C., Collignon, O. & Casasanto, D. (in prep) Space and time in the minds of the blind.
- Pitt, B.** & Gopnik, A. (in prep). Words as windows, wheels, and wings: The cognitive technologies of language.
- Pitt, B.**, Lieb, E., O’Shaughnessy, D., Gallardo, J., Li, B., Gibson, E., & Piantadosi, S. (in prep). Algorithm induction in children: Evidence from the Amazon.
- Pitt, B.**, Gibson, E., Piantadosi, S.T., & Gopnik, A. (in prep) Flexible spatial thinking in US children and Amazonian adults.

CONFERENCE PAPERS

- Pitt, B.**, Aalaei, S., & Gopnik, A. (2023). Flexible spatial memory in children: Different reference frames on different axes. In M. Goldwater, F. Anggoro, B. Hayes, D. Ong (Eds.), *Proceedings of the 45th Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.
- Pitt, B.**, Carstensen, A., Gibson, E., & Piantadosi, S. (2021) Variation in spatial concepts: Different frames of reference on different axes. In T. Fitch, C. Lamm, H. Leder, & K. Tessmar (Eds.), *Proceedings of the 43rd Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.
- Pitt, B.**, Casasanto, D., Ferrigno, S., Gibson, E., & Piantadosi, S. (2020). Multi-directional mappings in the minds of the Tsimane’: Size, time, and number on three spatial axes. In S. Denison, M. Mack, Y. Xu, B.C. Armstrong (Eds.), *Proceedings of the 42nd Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.
- Pitt, B.**, Scales, K., & Casasanto, D. (2018). Time and numbers on the fingers: Dissociating the mental timeline and mental number line. In C. Kalish, M. Rau, J. Zhu, T. T. Rogers (Eds.), *Proceedings of the 40th Annual Conference of the Cognitive Science Society* (pp. 890-895). Austin, TX: Cognitive Science Society.
- Pitt, B.**, & Casasanto, D. (2016). Reading experience shapes the mental timeline but not the mental number line. In A. Papafragou, D. Grodner, D. Mirman, & J. Trueswell (Eds.), *Proceedings of the 38th Annual Conference of the Cognitive Science Society* (pp. 2753-2758). Austin, TX: Cognitive Science Society.
- Pitt, B.**, & Casasanto, D. (2016). Spatializing emotion: A mapping of valence or magnitude? In A. Papafragou, D. Grodner, D. Mirman, & J. Trueswell (Eds.), *Proceedings of the 38th Annual Conference of the Cognitive Science Society* (pp. 1056-1061). Austin, TX: Cognitive Science Society.
- Pitt, B.**, & Casasanto, D. (2014). Experiential origins of the mental number line. In P. Bello, M. Guarini, M. McShane, & B. Scassellati (Eds.), *Proceedings of the 36th Annual Conference of the Cognitive Science Society* (pp. 1174-1179). Austin, TX: Cognitive Science Society.

CONFERENCE PRESENTATIONS

- Pitt, B.**, Aalaei, S., & Gopnik, A. (2023, July). *Flexible spatial memory in children: Different reference frames on different axes*. Poster to be presented at the 45th Annual Conference of the Cognitive Science Society.
- Pitt, B.**, Carstensen, A., Boni, I., Piantadosi, S.T., Gibson, E., Marghetis, T., Holmes, K., Star-Lack, M., Chacon, S., Huey, H., Jordan, M., Hart, Y., Dillon, M., & Bottini, R. (2022, July). *Dimensions of Diversity in Spatial Cognition: Culture, Context, Age, and Ability*. Symposium presented at the 44th Annual Conference of the Cognitive Science Society, Toronto, Canada.
- Pitt, B.**, Carstensen, A., Boni, I., Gibson, E., & Piantadosi, S.T. (declined) *Individuals Use Different Spatial Reference Frames on Different Axes: Evidence from the Bolivian Amazon*. Poster and flash talk accepted for presentation at the 2022 Annual Convention of the Association for Psychological Science.
- Pitt, B.**, Carstensen, A., Boni, I., Gibson, E., & Piantadosi, S.T. (2022, April) *Different spatial reference frames on different axes: Memory and language among the Tsimané' of Bolivia*. Poster presented at the 2022 Annual Meeting of the Cognitive Neuroscience Society, San Francisco, CA.
- Pitt, B.**, Gibson, E., & Piantadosi, S.T. (2021, June) *Exact Number Concepts Are Limited By Language*. Paper presented at the 47th Annual Meeting of the Society for Philosophy and Psychology, Princeton, NJ.
- Pitt, B.**, Carstensen, A., Gibson, E., & Piantadosi, S.T. (2021, July) *Variation in spatial concepts: Different frames of reference on different axes*. Poster presented at the 43rd Annual Conference of the Cognitive Science Society.
- Pitt, B.**, Gibson, E., & Piantadosi, S.T. (2021, March) *The role of language in exact number concepts: Evidence from the Tsimané'*. Paper presented at the McDonnell workshop on the logical foundations of numerical cognition.
- Pitt, B.**, Casasanto, D., Ferrigno, S., Gibson, E., & Piantadosi, S.T. (2020, July) *Multi-directional mappings in the minds of the Tsimané': Size, time, and number on three spatial axes*. Paper presented at the 42nd Annual Conference of the Cognitive Science Society.
- Pitt, B.**, Gibson, E., & Piantadosi, S.T. (2020, July) *Number concepts depend on language*. Poster presented at the 42nd Annual Conference of the Cognitive Science Society, Austin, TX.
- Pitt, B.**, Schneider, R., Ferrigno, S., Gibson, E., Barner, D., & Piantadosi, S.T. (2020, July) *Procedures and principles of number: Evidence from the Tsimané'*. Poster accepted for presentation at the 42nd Annual Conference of the Cognitive Science Society, Austin, TX (declined).
- Tsay, J., King, M., McDougle, S., **Pitt, B.**, & Ivry, R. (2019, October). *Continuous Representational Transformations: Evidence that the Cerebellum Coordinates Movement on the Mental Number-line*. Poster presented at the 49th Annual Meeting of the Society for Neuroscience, Chicago, IL.
- Cheyette, S.J., **Pitt, B.**, Piantadosi, S.T., Gibson, E. (2019, July). *Math Ability Varies Independently of Number Estimation in the Tsimané'*. Poster presented at the 41st Annual Conference of the Cognitive Science Society, Montréal, Canada.
- Pitt, B.** & Casasanto, D. (2019, July). *Ordinality trumps cardinality: What we spatialize when we spatialize numbers*. Poster presented at the 41st Annual Conference of the Cognitive Science Society, Montréal, Canada.
- Pitt, B.** & Casasanto, D. (2019, May). *Ordinality trumps cardinality: What we spatialize when we spatialize numbers*. Poster presented at the 31st Annual Meeting of the Association for Psychological Science, Washington, DC.
- Casasanto, D. & **Pitt, B.** (2019, May). *How culture shapes abstract concepts: Insights from time and number*. Paper presented at the 31st Annual Convention of the Association for Psychological Science, Washington, DC.
- Pitt, B.** & Casasanto, D. (2018, September). *Spatializing time and number: How culture shapes cognitive universals*. Paper presented at the 7th International Conference on Spatial Cognition, Rome, Italy.
- Gijssels, T., **Pitt, B.**, Bottini, R., Battal, C., Collignon, O. & Casasanto, D. (2018, September). *Modality matters: Space-time mappings differ in vision and audition*. Paper presented at 7th International Conference on Spatial Cognition, Rome, Italy.
- Pitt, B.**, Scales, K., & Casasanto, D. (2018, July). *Time and numbers on the fingers: Dissociating the mental timeline and mental number line*. Paper presented at the 40th Annual Conference of the Cognitive Science Society, Madison, WI.
- Pitt, B.** & Casasanto, D. (2017, November). *Spatializing time and number: How culture shapes cognitive universals*. Poster presented at the 58th Annual Meeting of the Psychonomics Society, Vancouver, BC.
- Pitt, B.** & Casasanto, D. (2017, May). *Distinct experiential origins of the mental timeline & mental number line*. Poster presented at the 29th Annual Meeting of the Association for Psychological Science, Boston, MA.

- Pitt, B.** & Casasanto, D. (2017, April). *Experiential origins of the mental time line and the mental number line*. Paper presented at the 89th Midwestern Psychological Association Annual Meeting, Chicago, IL.
- Pitt, B.,** & Casasanto, D. (2016, July). *Reading experience shapes the mental timeline but not the mental number line*. Paper presented at the 38th Annual Conference of the Cognitive Science Society, Philadelphia, PA.
- Pitt, B.,** & Casasanto, D. (2016, July). *Spatializing emotion: A mapping of valence or magnitude?* Paper presented at the 38th Annual Conference of the Cognitive Science Society, Philadelphia, PA.
- Pitt, B.,** & Casasanto, D. (2016, May). *Experiential origins of the mental time line and the mental number line*. Poster session presented at the 2nd International Meeting of the Psychonomic Society, Granada, Spain.
- Pitt, B.,** & Casasanto, D. (2014, July). *Experiential origins of the mental number line*. Paper presented at the 36th Annual Conference of the Cognitive Science Society, Quebec City, Canada.
- Pitt, B.,** & Casasanto, D. (2014, July). *Experiential origins of the mental number line*. Poster session presented at the Sixth Conference of the International Society for Gesture Studies, San Diego, CA.

INVITED TALKS

2023	University of New Hampshire University of Edinburgh	<i>Psychology department</i> <i>School of Informatics</i>
2022	Basque Center on Cognition, Brain, & Language Stanford University of Trento (CIMEC)	<i>External speaker</i> <i>Hyo Gweon's Social Learning Lab</i> <i>Bottini Lab</i>
2021	New School for Social Research Johns Hopkins UC Berkeley UC Berkeley (Developmental Psych) UC Berkeley (Linguistics) UC Berkeley (Psychology)	<i>Psychology department</i> <i>Barbara Landau's Language and Cognition Lab</i> <i>Cognitive/Cognitive Neuroscience Colloquium</i> <i>Institute of Human Development Colloquium</i> <i>Language, Computation, & Cognition group</i> <i>David Whitney's Lab for Perception and Action</i>
2020	MIT U Wisconsin, Madison UC San Diego UC Berkeley	<i>Ted Gibson's Language Lab</i> <i>Learning from Language workshop</i> <i>David Barner lab</i> <i>Cognitive Colloquium</i>
2019	Stanford Brown UC Berkeley (Developmental Psych) UC Berkeley (Education) UC Berkeley (Linguistics)	<i>Developmental Psychology brownbag</i> <i>Developmental Psychology brownbag</i> <i>Mahesh Srinivasan lab</i> <i>Graduate School of Education</i> <i>Gesture and Multimodality group</i>
2018	MIT NYU University of Pennsylvania Barnard College Columbia University	<i>Ted Gibson's Language Lab</i> <i>Yaacov Trope lab</i> <i>Common Ground seminar</i> <i>Koleen McCrink lab</i> <i>Psychology seminar</i>
2017	Cornell University Indiana University at Bloomington Google NY Northwestern University	<i>Human Development Brown Bag</i> <i>Cognitive lunch series</i> <i>Jigsaw team</i> <i>Dedre Gentner lab</i>
2016	Columbia Teachers College	<i>Barbara Tversky lab</i>
2014	NYU	<i>Interactive Telecommunications Program</i>
2013	Fjord NY	<i>Design Clinic</i>

TEACHING & MENTORSHIP

Teaching interests:

Cognitive Diversity Designing for minds Spatial cognition Numerical cognition Research methods

Teaching experience:

2022 Developmental Proseminar *UC Berkeley (Guest speaker)*
2017 Mind *University of Chicago*
2016 Psychology of Decision Making *University of Chicago*
 Cognitive Psychology *University of Chicago*
2015 The Body in the Mind *University of Chicago*
2013 Relativity of Mind *New School for Social Research (Graduate level)*
2012 Experiential Relativity *New School for Social Research*

Undergraduate student supervision:

Akash Kulgod	Amanda Dobbyn	Amritpal Singh*	Benny Kollek	Courtney Gardner
Kamilah Scales	Melissa Grossbarth	Michelle Kim	Nikolai Maximay	Sumer Vaid*
Vayram Nyadroh	Julian Shea	Alaina Heeren	Sahra Aalaei	April Mariko Salazar
Samuel Gingrich	Kai Hung	Maggie Debark	Erica Luu	

Masters student supervision: Srishti Goel*

PhD student co-mentoring: Isabelle Boni, Samuel Cheyette

* went on to Psychology Ph.D. programs

SERVICE & OUTREACH

Editorial board member: Frontiers in Psychology

Ad hoc reviewer: Cognition | Cognitive Science | Cognitive Science Society | Cognitive Processing | Developmental Psychology | Journal of Experimental Psychology: General | Journal of Memory and Language | Journal of Vision | Language and Cognition | Language, Cognition, and Neuroscience | Open Mind | Psychological Research | Psychological Science | Scientific Reports

Member: New York Academy of Science, Association for Psychological Science | Midwestern Psychological Association | Psychonomic Society | Cognitive Science Society

Organizer: McDonnell workshop on the logical foundations of numerical cognition (2021)

Volunteer: The Think Tank, a mobile neuroscience outreach lab (2015-16) | The Future of the Mind, part of “7 Days of Genius” lecture series (2015)

Committee member: University of California committee to reduce carbon emissions from professional travel (2019-20) | Psychology Graduate Student Professional Development Committee (2015-16)

INDUSTRY EXPERIENCE

Research Fellow, Google, *New York, NY* 7.17 – 10.17
Designed and conducted behavioral experiments using virtual reality

User Experience Consultant, CTRL-labs (formerly Cognescent), *New York, NY* 6.16 – 8.16
Summer internship at technology startup building novel brain-machine interface (ctrl-labs.com)
Supported by GRAD Global Impact Award from UChicago

Interaction Designer, Fjord, *Berlin, Paris, & Madrid* 5.10 – 7.12
Designed user interfaces for products and services at international design firm

Interaction Designer, Ziba Design, *Portland, OR* 6.08 – 11.09
Specialized in information architecture, user experience strategy

Design Researcher, Ziba Design, *Portland, OR* 11.07 – 6.08
Designed and conducted ethnographic user research and usability tests