

Heidi A. Baumgartner, Ph.D.

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Research & Employment

- 2021 — Stanford University — Center for the Study of Language and Information
Research Scholar; ManyBabies Executive Director
Supervisor: Michael C. Frank
- 2023 — MIT Press — *Open Encyclopedia of Cognitive Science*
Managing Editor
- 2014 — 2017 Brown University — Cognitive, Linguistic, & Psychological Sciences
Postdoctoral Research Associate
Primary Investigator: Dima Amso
- 2008 — 2014 University of California, Davis — Center for Mind and Brain/Psychology
Graduate Student Researcher
Primary Investigator: Lisa M. Oakes
- 2006 — 2008 Stanford University School of Medicine — Psychiatry & Behavioral Sciences
Research Assistant/Senior Research Asst./Asst. Lab Manager
Primary Investigator: Allan L. Reiss
- 2003 — 2005 Stanford University — Department of Psychology
Research Assistant/Asst. Lab Manager
Primary Investigator: Anne Fernald

Education

- 2014 University of California, Davis
Ph.D. in Psychology
Dissertation: “Understanding the Role of Non-Contrastive Variability in Word Learning and Visual Attention in Infancy”
Advisor: Lisa M. Oakes
Committee members: Steven J. Luck, Katie Graf Estes
- 2010 University of California, Davis
M.A. in Psychology
- 2005 Stanford University
B.A. in Psychology, with Honors
Thesis advisor: Anne Fernald

Preprints

CONNECT partnership. (2025, Nov 7). *A network of networks: The next frontier for Big Team Science*.
PsyArXiv. https://doi.org/10.31234/osf.io/jkm6p_v1

Kosie, J.E., Zettersten, M., Abu-Zhaya, R., Amso, D.A., Babineau, M., **Baumgartner, H.A.**, ..., & Lew-Williams, C. (2023, Sep 17). *ManyBabies 5: A large-scale investigation of the proposed shift from familiarity preference to novelty preference in infant looking time*. PsyArXiv. <https://doi.org/10.31234/osf.io/ck3vd>

Visser, I., Geambasu, A., **Baumgartner, H.A.**, Bergmann, C., ..., Soderstrom, M., & Levelt, C.C. (2022, Sep 12). *ManyBabies 3: A multi-lab study of algebraic rule learning*. PsyArXiv. <https://doi.org/10.31234/osf.io/aex7v>

Amso, D., Govindarajan, L., Gupta, P., Placido, D., **Baumgartner, H.A.**, Lynn, A., Gunther, K., Sharma, T., Veerabadran, V., Thakkar, K., Kim, S.C., & Serre., T. (2021). *Using computational analysis of behavior to discover developmental change in memory-guided attention mechanisms in childhood*. <https://doi.org/10.31234/osf.io/gg4rt>

Publications

Frank, M. C., **Baumgartner, H. A.**, Braginsky, M., Kachergis, G., Lightbody, A. A., Sparks, R. Z., Zhu, R., Carlson, S. M., Graham, S., Lipina, S. J., Newcombe, N. S., Odgers, C. L., Pianta, R. C., Siegler, R. S., Snowling, M., Yoshikawa, H., Cubillo, A., & Dodge, K. A. (2025). Learning Variability Network Exchange (LEVANTE): A global framework for measuring children’s learning variability through collaborative data sharing. *Child Development*, 96(6), 1867-1884. <https://doi.org/10.1111/cdev.70011>

Lucca, K., Yuen, F., Wang, Y., Alessandroni, N., Allison, O., Alvarez, M., Axelsson, E. L., Baumer, J., **Baumgartner, H. A.**, Bertels, J., Bhavsar, M., Byers-Heinlein, K., Capelier-Mourguy, A., Chijiwa, H., Chin, C. S.-S., Christner, N., Cirelli, L. K., Corbit, J., Daum, M. M., ... Hamlin, J. K. (2025). Infants’ Social Evaluation of Helpers and Hinderers: A Large-Scale, Multi-Lab, Coordinated Replication Study. *Developmental Science*, 28(1), e13581. <https://doi.org/10.1111/desc.13581>

Alessandroni, N., Altschul, D., **Baumgartner, H. A.**, Bazhydai, M., Brosnan, S., Byers-Heinlein, K., Call, J., Chittka, L., Elsherif, M., Espinosa, J., Freeman, M. S., GJoneska, B., Güntürkün, O., Huber, L., Krasheninnikova, A., Mazza, V., Miller, R., Moreau, D., Nawroth, C., ... Prétôt, L. (2024). Challenges and Promises of Big Team Comparative Cognition. *Nature Human Behaviour*, 9, 240-242. <https://doi.org/10.31234/osf.io/5nykg>

Singh, L., Barokova, M., Bazhydai, M., **Baumgartner, H. A.**, Franchin, L., Kosie, J. E., ... Frank, M. C. (2024). Tools of the Trade: A Guide to Sociodemographic Reporting for Researchers, Reviewers, and Editors. *Journal of Cognition and Development*. 26(3), 354–373. <https://doi.org/10.1080/15248372.2024.2431106>

Singh, L., Barokova, M., **Baumgartner, H.A.**, ... Frank, M.C. (2024). A unified approach to demographic data collection for research with young children across diverse cultures. *Developmental Psychology*, 60(2), 211-227. <https://doi.org/10.1037/dev0001623>

Baumgartner, H.A., Alessandroni, N., Byers-Heinlein, K., Frank, M.C., Hamlin, J.K., Soderstrom, M., Voelkel, J.G., Willer, R., Yuen, F., & Coles, N.A. (2023). How to build up big team science: A practical guide for large-scale collaborations. *Royal Society Open Science*. 10(6), 230235. <https://doi.org/10.1098/rsos.230235>

Coles, N.A., DeBruine, L.M., Azevedo, F., **Baumgartner, H.A.**, & Frank, M.C. (2023). ‘Big team’ science challenges us to reconsider authorship. *Nature Human Behaviour*, 7, 665-667. <https://doi.org/10.1038/s41562-023-01572-2>

- Werchan, D.M., **Baumgartner, H.A.**, Lewkowicz, D.J., & Amso, D. (2018). The origins of cortical multisensory dynamics: Evidence from human infants. *Developmental Cognitive Neuroscience*, 34, 75-81. <https://doi.org/10.1016/j.dcn.2018.07.002>
- Oakes, L.M., **Baumgartner, H.A.**, Kanjlia, S., & Luck, S.J. (2017). An eye tracking investigation of color-location binding in infants' visual short-term memory. *Infancy*, 22, 584-607. <https://doi.org/10.1111/infa.12184>
- Baumgartner, H.A.** & Oakes, L.M. (2013). Investigating the relation between infants' manual activity with objects and their perception of dynamic events. *Infancy*, 18, 983-1006. <https://doi.org/10.1111/infa.12009>
- Oakes, L.M., **Baumgartner, H.A.**, Barrett, F.S., Messenger, I.M., & Luck, S.J. (2013). Developmental changes in visual short-term memory in infancy: Evidence from eye-tracking. *Frontiers in Psychology: Developmental Psychology*, 4. <https://doi.org/10.3389/fpsyg.2013.00697>
- Owen, E.R., **Baumgartner, H.A.**, & Rivera, S.M. (2013). Using infrared eye-tracking to explore ordinal numerical processing in toddlers with Fragile X Syndrome. *Journal of Neurodevelopmental Disorders*, 5(1):1. <https://doi.org/10.1186/1866-1955-5-1>
- Oakes, L.M. & **Baumgartner, H.A.** (2012). Manual object exploration and learning about object features in human infants. *Proceedings of the 2012 IEEE International Conference on Development and Learning and Epigenetic Robotics*, 1-6. <https://doi.org/10.1109/DevLrn.2012.6400819>
- Baumgartner, H.A.** & Oakes, L.M. (2011). Infants' developing sensitivity to object function: Attention to features and feature correlations. *Journal of Cognition and Development*, 12, 275-298. <https://doi.org/10.1080/15248372.2010.542217>
- Aye, T., Reiss, A.L., Kesler, S., Hoang, S., Drobny, J., Park, Y., Schleifer, K., **Baumgartner, H.**, Wilson, D.M., & Buckingham, B.A. (2011). The feasibility of detecting neuropsychologic and neuroanatomic effects of Type 1 Diabetes in young children. *Diabetes Care*, 34, 1458-1462. <https://doi.org/10.2337/dc10-2164>
- Ment, L., Kesler, S., Vohr, B., Katz, K.H., **Baumgartner, H.**, Schneider, K.C., Delancy, S., Silbereis, J., Duncan, C.C., Constable, R.T., Makuch, R.W., & Reiss, A.L. (2009). Longitudinal brain volume changes in preterm and term control subjects during late childhood and adolescence. *Pediatrics*, 123, 503-511. <https://doi.org/10.1542/peds.2008-0025>
- Thorpe, K., **Baumgartner, H.**, & Fernald, A. (2006). Children's developing ability to interpret adjective-noun combinations. In *Proceedings of the 30th Annual Boston University Conference on Language Development*, 30, 631-642.

Conference Presentations

- Baumgartner, H.A.** (Oct, 2025). *ManyBabies 2, 3, and 4: Results and lessons learned*. Symposium held at the Big Team Science Conference, virtual.
- Baumgartner, H.A.** (Oct, 2024). *Closing Remarks*. Big Team Science Conference, virtual.
- Baumgartner, H.A.**, Gervain, J., Kosie, J. E., Leung, T., Tsuji, S., Yuen, F., Zettersten, M., & Frank, M.C. (July, 2024). *Insights from global collaboration: ManyBabies updates and new initiatives*. Pre-conference workshop at the International Congress on Infant Studies, Glasgow, UK.
- Baumgartner, H.A.** (Oct, 2023). *Closing Remarks*. Big Team Science Conference, virtual.

Baumgartner, H.A., Coles, N.C. & Yuen, F. (July, 2023). *Challenges of Implementing Big Team Science*. Panel held at the INSciTS 2023 Annual Conference, Bethesda, MD.

DiazGranados, D., Banava, S., **Baumgartner, H.A.**, Delgado Arias, S., & Fehr, C. (July, 2023). *Diversity, Equity, and Inclusion in Science Teams*. Panel held at the INSciTS 2023 Annual Conference, Bethesda, MD.

Baumgartner, H.A., Hamlin, J. K., Kline Struhl, M., & Lew-Williams, C. (June 2023). *How to REALLY make Big Team Science more diverse?* Unconference held at the Society for the Improvement of Psychological Science annual meeting, virtual.

Alessandroni, N., Altschul, D., **Baumgartner, H.A.**, Espinosa, J.H., Miller, R., Petkov, C., Prétôt, L., & Visser, I. (Oct, 2022). *ManyManys Hackathon: Developing opportunities for cross-network collaboration*. Hackathon held at the Big Team Science Conference, virtual.

Hall, K.L., Salazar Campo, M., Contractor, N., Vogel, A.L., & **Baumgartner, H.A.** (Aug, 2022). *Team Science 101*. Workshop at the International Network of the Science of Team Science annual meeting, virtual.

Baumgartner, H.A. & Zhou, G., on behalf of the ManyBabies Consortium. (July, 2022). *ManyBabies: How we got here and where we're going*. Poster presented at the International Congress on Infant Studies biennial meeting, Ottawa, ONT.

Baumgartner, H.A., Kline Struhl, M., Byers-Heinlein, K., Chuey, A., Coles, N.A., Dillon, M., Gilmore, R., Lew-Williams, C., Sheskin, M., Soska, K., & Frank, M.C. (April, 2022). *Big Team Science for Studying Small People*. Pre-conference workshop at the Cognitive Development Society biennial meeting, Madison, WI.

Werchan, D.M., **Baumgartner, H.A.**, Martino, R., Lewkowicz, D. & Amso, D. (April, 2017). *Unisensory and Multisensory Processing in Cortex*. Poster presented at the Society for Research in Child Development biennial meeting, Austin, TX.

Baumgartner, H.A., Werchan, D., Lewkowicz, D.J., & Amso, D. (September, 2016). *Cortical plasticity and specialization in response to multimodal events in infancy*. Poster presented at the 4th Annual Flux Congress, St. Louis, MO.

Baumgartner, H.A. & Amso, D. (May, 2016). *Interactions between visual attention and memory in infancy*. Poster presented at the International Congress on Infant Studies biennial meeting, New Orleans, LA.

Baumgartner, H.A., Haas, S., Ackerman, L., Kirkham, N., & Amso, D. (May, 2016). *The development of object-based attention in infancy*. Poster presented at the International Conference on Infant Studies biennial meeting, New Orleans, LA.

Baumgartner, H.A. & Oakes, L.M. (March, 2015). *Examining the relation between word learning and visual attention in 12-month-old infants*. Poster presented at the Society for Research in Child Development biennial meeting, Philadelphia, PA.

Harrison, M.H., **Baumgartner, H.A.**, Luck, S.J., & Oakes, L.M. (March, 2015). *Individuation cues enhance visual-short-term memory at 6 months of age*. Poster presented at the Society for Research in Child Development biennial meeting, Philadelphia, PA.

Baumgartner, H.A. & Oakes, L.M. (October, 2013). *The effect of task-irrelevant variability on visual search in infancy*. Poster presented at the Cognitive Development Society biennial meeting, Memphis, TN.

- Baumgartner, H.A.** & Oakes, L.M. (April, 2013). *Infants' attention to relations between features in dynamic events*. Poster presented at the Society for Research in Child Development biennial meeting, Seattle, WA.
- Kanjlia, S., **Baumgartner, H.A.**, Luck, S.J., & Oakes, L.M. (April, 2013). *Feature binding in infants' visual short-term memory*. Poster presented at the Society for Research in Child Development biennial meeting, Seattle, WA.
- Baumgartner, H.A.**, Barrett, F.S., Luck, S.J., & Oakes, L.M. (August, 2012). *Color-location binding in infants' visual short-term memory*. Talk presented at the Bay Area Memory Meeting, Davis, CA.
- Baumgartner, H.A.**, Luck, S.J., & Oakes, L.M. (June, 2012). *Color-location binding in infants' visual short-term memory*. Poster presented at the International Congress on Infant Studies biennial meeting, Minneapolis, MN.
- Baumgartner, H.A.** (May, 2011). *Infants' learning of action-label associations: The role of variability*. Talk presented at the UC Davis Psychology Conference, Davis, CA.
- Baumgartner, H.A.**, Millhoff, C., Graf Estes, K., & Oakes, L.M. (April, 2011). *Infants' learning of action-label associations: The role of variability*. Poster presented at the Society for Research in Child Development biennial meeting, Montreal, Canada.
- Baumgartner, H.A.**, Millhoff, C., Graf Estes, K., & Oakes, L.M. (August, 2010). *Variability facilitates learning of relations between words and actions*. Poster presented at the International Conference on Development and Learning, Ann Arbor, MI.
- Baumgartner, H.A.**, Karapetyan, A., Ellis, A.E., & Oakes, L.M. (March, 2010). *Infants' visual short-term memory for faces*. Poster presented at the International Congress on Infant Studies biennial meeting, Baltimore, MD.
- Hurley, K.B., **Baumgartner, H.A.**, & Oakes, L.M. (October, 2009). *Studies of infant cognition using the continuous novelty preference task*. Poster presented at the Cognitive Development Society biennial meeting, San Antonio, TX.

Invited Talks

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| 2025 Oct | Stanford University – Graduate Methods in Psychology |
| 2024 Nov | Johns Hopkins University – Developmental Psychology |
| 2024 May | Bay Area Open Science Group |
| 2024 May | Stanford Maternal & Child Health Research Institute – Seminar |
| 2024 Apr | Stanford University – ReproducibiliTea meeting |
| 2024 Feb | NIH/NINDS Office of Neural Exposome and Toxicology – Team Science Workshop |
| 2023 Oct | Catalyzing Open Science: Charting the path forward at Concordia University |
| 2023 June | NIH Brain Initiative – U19 Consortium Annual Meeting |
| 2023 Apr | International Network for the Science of Team Science (INSciTS) – Panel |
| 2022 Nov | Stanford University – Symbolic Systems Forum |
| 2014 May | Brown University – Cognition Seminar, Department of Cognitive, Linguistic, & Psychological Sciences |
| 2014 Jan | Indiana University – Developmental Seminar, Department of Psychology |

Honors and Awards

- 2013—2014 Provost's Dissertation Year Fellowship in the Arts, Humanities, and Social Sciences, UC Davis
- 2013—2014 UCD & Humanities Graduate Research Award, UC Davis
- 2013 Dukes Travel Award, UC Davis
- 2012 Paper of Excellence award, IEEE Conference on Development and Learning and Epigenetic Robotics
- 2012 Psychology Department Research Fellowship, UC Davis
- 2011 Outstanding Presentation Award, UC Davis Psychology Conference
- 2005 Psychology Departmental Honors, Stanford University
- 2004—2005 Major Research Grant recipient, Stanford University
- 2004 Summer Research College funding recipient, Stanford University

Teaching Training

- 2016 Sheridan Center for Teaching and Learning workshops
Teaching for the First Time, Teaching Portfolios
- 2016 Fall Teaching at Teaching-Intensive Institutions workshop, UMass Boston
- 2016 Fall Orientation to Teaching at Brown
- 2014 Winter The Teaching of Psychology, UC Davis
Seminar devoted to course design and lecture development

Teaching Experience

Brown University

- 2016 Fall Teaching Fellow, Lab in Developmental Psychology

University of California, Davis

- 2014 Spring Co-Instructor, Introduction to Psychology
- 2013 Summer Guest Lecturer, Infant Development
- 2012 Fall Teaching Assistant and Guest Lecturer, Introduction to Psychology
- 2011 Spring Teaching Assistant, Language and Cognition
- 2009 Spring Teaching Assistant, Developmental Psychology

Additional Qualifications

Methodological experience

Behavioral: eye tracking, preferential looking & habituation, face-to-face, observational

Neuroscience: sMRI & fMRI, fNIRS

Relevant software proficiency

Design/Presentation: Adobe Creative Cloud (Illustrator, Photoshop, Premiere), PowerPoint, Keynote, Google Slides, Wix (website design and management), GitHub Pages

Organization/Communication: Airtable, Google Workspace, Microsoft Teams, Slack, GitHub

Data organization/cleaning/analysis: R/RStudio, Matlab, Python, SQL

Stimulus Presentation: E-Prime, Habit, Matlab, SMI Experiment Center & BeGaze

Behavioral Coding: Datavyu, Noldus Observer, iCoder (assisted with development and testing at Stanford's Center for Infant Studies)

Memberships & Service

Professional memberships: *Cognitive Development Society (CDS), International Congress on Infant Studies (ICIS)*

Ad hoc reviewer: *NSF, Behavioral Neuroscience, Cognitive Development, Infancy, PCI, Nature Human Behaviour, Nature Communication, Royal Society Open Science*

Committees: *HELIOS Open, Center for Open Science Ambassador*

Organizer: *Big Team Science Conference (2022–2025)*

Volunteer, *Second Harvest Food Bank of Silicon Valley*