

Heidi A. Baumgartner, Ph.D.

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Research

- 2021— Stanford University — Center for the Study of Language and Information
Research Scholar; ManyBabies Executive Director
- 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

Singh, L., Barokova, M., **Baumgartner, H.A.**, ..., & Frank, M.C. (2023). *A unified approach to demographic data collection for research with young children across diverse cultures*. PsyArXiv. <https://doi.org/10.31234/osf.io/agt3d>

Kosie, J.E., Zettersten, M., Abu-Zhaya, R., Amso, D.A., Babineau, M., **Baumgartner, H.A.**, ..., & Lew-Williams, C. (2023). *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). *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/gq4rt>

Publications

Baumgartner, H.A., Alessandrini, 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*, in press. <https://psyarxiv.com/j7mt4/>

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

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 Conference 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 Conference 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 Conference 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 Conference 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

2023 June NIH Brain Initiative – U19 Consortium Annual Meeting: *Scientific Contribution Recognition and Reward*

2023 Apr International Network for the Science of Team Science (INSciTS) – Panel discussion: *Linking SciTS and big team science to advance complex collaborations*

- 2022 Nov Stanford University – Symbolic Systems Forum: *ManyBabies: A global consortium working on large-scale replications and best practices in developmental science*
- 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

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

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

Statistics: SPSS, R

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

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

Organization/Communication: Mendeley, Google Workspace, Microsoft Teams, Slack, Evernote, GitHub

Memberships & Service

Professional memberships: Cognitive Development Society, International Congress on Infant Studies, Society for Research in Child Development, Flux: The Society for Developmental Cognitive Neuroscience

Ad hoc reviewer: NSF, Behavioral Neuroscience, Cognitive Development, Infancy

Psychology Representative, Graduate Student Association, University of California, Davis

Volunteer, Second Harvest Food Bank of Silicon Valley