

Justin Phillip Halberda

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<http://www.psy.jhu.edu/~halberda/>

Developmental Psychology Lab:
<http://www.psy.jhu.edu/~labforchilddevelopment/>

Vision and Cognition Lab:
<http://www.psy.jhu.edu/~visionandcognition/>

Academic Appointments

- 2004 - *Assistant Professor.* Department of Psychological and Brain Sciences, Johns Hopkins University, Baltimore, MD
- 2004 - *Joint Appointment.* Department of Cognitive Science, Johns Hopkins University, Baltimore, MD
- 2003 – 2004 *Postdoctoral Fellow.* Laboratoire de Sciences Cognitives et Psycholinguistique, Ecole Normale Supérieure, CNRS. Paris, France
Sponsor: Emmanuel Dupoux
- 2001 – 2003 *Visiting Fellow.* Department of Psychology, Harvard University, Cambridge, MA

Education

- 1997-2001 New York University Ph.D. in Cognitive Psychology
Advisor: Susan Carey
- 1992-1997 College of Charleston Magna cum laude
B.S. Psychology
B.S. Biochemistry
B.A. Philosophy
B.A. Chemistry

Academic Awards and Honors

Certificate of Distinction in Teaching, Harvard University, 2003
Graduate Fellowship, National Science Foundation, 1998-2001
Henry Mitchell MacCracken Graduate Fellowship, New York University, 1997-2001
Presidential Scholarship, College of Charleston, 1995
Lee Harwood Scholarship, College of Charleston, 1993
Sigma Alpha Phi, College of Charleston Honors Society
Phi Kappa Phi, National Honors Society

Grant Support

External Funding

NIH R01, "Development and function of nonverbal number approximation"

\$1,607,363 Total costs

Years: 2009-2014

Role: Co-Principal Investigators: Justin Halberda and Lisa Feigenson

NSF EAGER, "The Psychophysical Assessment of Number Sense Acuity"

\$291,212 Total costs (*pending final approval from DGA*)

Years: 2009-2011

Role: PI

NIH R01-W1, "Summer Research Experience for Students and Science Educators"

\$6700 Total costs

Years: 2009-2010

Role: Co-Principal Investigators: Justin Halberda and Lisa Feigenson

IGERT, "Unifying the Science of Language"

\$3,182,734, Division of Graduate Education

Years: 2007-2012

Role: Associated Faculty

Templeton Foundation, "Evolution, Cognition & Culture"

\$420,000, general funds and speaker series

Years: 2007-2010

Funding breakdown: \$270,000 Metanexus Institute, \$60,000 John T. Templeton Foundation, \$60,000 in matching funds from JHU KSAS.

Role: Associated Faculty & Member of the Advisory Board

Internal Funding

PURA, "Inference versus instruction"

\$3,000 Total costs

Years: 2006

Role: PI (Meredith Brinster, *Provost Undergraduate Research Award*)

PURA, "The Relationship between the Korean Board Game Baduk, and Processing Speed, Executive Function, and Short-Term Memory in Older Adults"

\$3,000 Total costs

Years: 2008

Role: PI (Jill Lasak & Yonnah Chi, *Provost Undergraduate Research Award*)

Sponsored Grants

NSF, "Logical Reasoning In Human Infants"

\$135,000, tuition and stipend costs

NSF 06-592, Graduate Research Fellowship Program

Years: 2006-2009

Role: Sponsor (Co-Sponsor Lisa Feigenson, NSF predoc to Mariko Yamaguchi)

Professional Activities

Organizations and Societies

Association for Psychological Science
Eastern Psychological Association
International Society on Infant Studies
Society for Research on Child Development
Vision Sciences Society

Grant Review Panels

National Science Foundation, April 2005
National Science Foundation (*ad hoc*), June 2009

Reviewing: Journals Ad Hoc

BUCLD Language Conference
Child Development
Cognition
Cognitive Science
Developmental Science
Developmental Psychology
Infancy
Journal of Experimental Child Psychology
Journal of Vision
Language and Cognitive Processes
Perception & Psychophysics
Psychological Review
Psychological Science
Psychonomic Bulletin & Review

Refereed Journal Publications

Pietroski, P., Lidz, J., Hunter, T. & Halberda, J. (2009). The meaning of 'Most': semantics, numerosity, and psychology. *Mind and Language*, in press.

Feigenson, L. & Halberda, J. (2008). Conceptual knowledge increases infants' memory capacity. *Proceedings of the National Academy of Sciences of the United States of America (PNAS)*, 105(29), 9926-9930.

Halberda, J., Mazocco, M. & Feigenson, L. (2008). Individual differences in nonverbal number acuity predict maths achievement. *Nature*, 455, 665-668 (doi:10.1038/nature07246).

Halberda, J. & Feigenson, L. (2008). Developmental change in the acuity of the "Number Sense": The approximate number system in 3-, 4-, 5-, 6-year-olds and adults. *Developmental Psychology*, 44(5), 1457-1465.

- Halberda, J., Taing, L. & Lidz, J. (2008). The development of “most” comprehension and its potential dependence on counting-ability in preschoolers. *Language Learning and Development*, 4(2), 99-121.
- Halberda, J. (2006). Is this a dax which I see before me? Use of the logical argument disjunctive syllogism supports word-learning in children and adults. *Cognitive Psychology*, 53(4), 310-344.
- Halberda, J., Sires, S. & Feigenson, L. (2006). Multiple spatially-overlapping sets can be enumerated in parallel. *Psychological Science*, 17(7), 572-576.
- Kouider, S., Halberda, J., Wood, J. & Carey, S. (2006). Acquisition of English number marking: The singular-plural distinction. *Language Learning and Development*, 2(1), 1-25.
- Feigenson, L. & Halberda, J. (2004). Infants chunk object arrays into sets of individuals. *Cognition*, 91, 173-190.
- Halberda, J. (2003). The development of a word-learning strategy. *Cognition*, 87, B23-B34.
- Halberda, J.P., Muddaugh, L.D., Gard, B.E., Jackson, B.P. (1997). DAD1- and DAD2 like agonist effects on motor activity of C57 mice: Differences compared to rats. *Synapse*, 26 (1), 81-92.
- Bowers, R.L., Halberda, J.P., Mullen, L., May, K. (1997). Captopril alters schedule induced polydipsia, urination and defecation in rats. *Pharmacology, Biochemistry, and Behavior*, 57, 353-359.
- Lidz, J., Pietroski, P., Hunter, T. & Halberda, J. (submitted). Interface transparency and the psychosemantics of ‘most’.
- Halberda, J. (submitted). Developmental change in the strategy that supports the mapping of novel labels to novel objects in children from 17 months to 4 years of age.
- Mazzocco, M.M.M., Feigenson, L. & Halberda, J. (submitted). Impaired acuity of the approximate number system underlies mathematical learning disability.
- Spiegel, C. & Halberda, J. (submitted). Fast-mapping abilities in two-year-olds: referent-selection and referent-retention of multiple novel labels.
- Yamaguchi, M., Feigenson, L. & Halberda, J. (submitted). A one-to-one bias and fast mapping support preschoolers’ learning about faces and voices.
- Halberda, J. & de Marchena, A. (in revision). Preschoolers and adults successfully reason combining disjunctive syllogism and transitivity of equality.

Halberda, J., Simons, D. J. & Whetherhold, J. (in revision). Superfamiliarity affects perceptual grouping but not the capacity of visual working memory.

Halberda, J., Simons, D. J. & Whetherhold, J. (in revision). The flicker paradigm provides converging evidence for a 3-item limit of visual working memory.

Commentaries and Book Chapters

Halberda, J. & Feigenson, L. (2008). Set representations required. [Commentary] *Behavioral and Brain Sciences*, 31, 655-656.

Invited Talks and Colloquia

Number

University of Maryland, Balt. County. *Dept. of Psychology* Winter, 2008

Word Learning and Logical Inference

Duke University	<i>Dept. of Psychology and Neuroscience</i>	Spring, 2007
Johns Hopkins University	<i>Center for Language and Speech Processing</i>	Spring, 2007
University of Delaware	<i>Dept. of Psychology, Cognitive Group</i>	Fall, 2006
University of Maryland, Col. Park	<i>Dept. of Linguistics</i>	Spring, 2006
Universite d'Aix-Marseille	<i>Psychology and Cognitive Sciences</i>	Spring, 2004
University of Wisconsin-Madison	<i>Dept. of Psychology</i>	Spring, 2003
Scuola Internazionale Superiore di Studi Avanzati, Trieste, Italy.	<i>Cognitive Science Group</i>	Fall, 2003
Yale University	<i>Dept. of Psychology, Cognitive Group</i>	Spring, 2002

Vision and Cognition

Scuola Internazionale Superiore di Studi Avanzati, Trieste, Italy.	<i>Cognitive Science Group</i>	Fall, 2003
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Invited Symposia

Halberda, J. (2006). Logical inference, domain generality, and word-learning. *Invited talk presented at the annual meeting of the Eastern Psychological Association*, Baltimore, MD.

Invited participant, *National Academy of Sciences "German-American Frontiers of Science" Conference*, June 2005.

Invited participant, *AHRB Hang Seng Centre "Reflections on Innateness" Conference*, April 2004.

Refereed Conference Talks

Halberda, J. (2009). An interface between vision and numerical cognition. *Talk presented at VSS, the Vision Sciences Society*, May 8-13, Naples Florida.

Lidz, J., Halberda, J., Hunter, T., & Pietroski, P. (2009). Approximate and exact cardinality in the acquisition of most. *Talk presented at SRCD, the Society for Research in Child Development*, April 2-4 Denver, CO.

Halberda, J. (2009). Mutual exclusivity as logical inference: Evidence for domain general disjunctive syllogism in 2-3 year olds. *Talk presented at SRCD, the Society for Research in Child Development*, April 2-4 Denver, CO.

Halberda, J., Lidz, J., Pietroski, P., & Hunter, T. (2009). Set based visual processing in the acquisition of 'most'. *Talk presented at LSA, the Linguistic Society of America*, January 8-11 San Francisco, CA.

- Pietroski, P., Halberda, J., Hunter, T., & Lidz, J. (2009). Beyond truth conditions: The semantics of 'most'. *Talk presented at LSA, the Linguistic Society of America, January 8-11 San Francisco, CA.*
- Halberda, J. (2008). Developmental change in the computations that support the mapping of novel labels to novel objects. *Talk presented at ICIS, the International Conference on Infant Studies, Vancouver BC, Canada.*
- Hunter, T., Halberda, J., Lidz, J. & Pietroski, P. (2008). Beyond truth conditions: The semantics of 'most'. *Talk presented at SALT 18, the 18th conference of Semantics and Linguistic Theory, March 21-23, Amherst Massachusetts.*
- Halberda, J., Hunter, T., Pietroski, P. & Lidz, J. (2008). An interface between language and vision: quantifier words and set-based processing. *Talk presented at VSS, The Vision Sciences Society, May 9-14, Naples Florida.*
- Halberda, J., Lidz, J., Pietroski, P. & Hunter, T. (2007). Language and number: Towards a psychosemantics for natural language quantifiers. *Talk presented at HOWL 4, the 4th Hopkins Workshop on Language: Grammar in Cognition, October 12-14, Baltimore Maryland.*
- Taing, L., Halberda, J. & Feigenson, L. (2006). Counting in deaf and hearing individuals: An interaction of language and thought. *Talk presented at EPA, the annual meeting of the Eastern Psychological Association, Baltimore, MD.*
- Halberda, J. & Feigenson, L. (2005). Counting without individuals: Rapid parallel enumeration implicates preattentive object-files. *Talk presented at VSS, the Vision Sciences Society, Sarasota, FL.*
- Halberda, J. (2005). Logical inference motivates word-learning in two-year-olds. *Talk presented at SRCD, the Society for Research in Child Development, Atlanta, GA.*
- Kouider, S., Feigenson, L., Wood, J., Halberda, J. & Carey, S. (2004). Infant's understanding of the singular-plural distinction. *Talk presented at SPP-ESPP, The First Joint Conference of the Society for Philosophy & Psychology and The European Society for Philosophy & Psychology, Barcelona, SPAIN.*
- Halberda, J.P. (2002). Word-learning as logical inference: The case of mutual exclusivity. *Talk presented at BUCLD, the Boston University Conference on Language Development, Boston MA, USA.*

Refereed Conference Posters

- Ly, R., Im, H. Y. & Halberda, J. (2009). Spatial overlap of collections affects the resolution of ensemble features. *Poster presented at VSS, the Vision Sciences Society, May 8-13, Naples Florida.*
- Spiegel, C., Yamaguchi, M., Heverly-Fitt, S. & Halberda, J. (2009). Children's use of Disjunctive Syllogism in mapping novel voices to novel characters. *Poster presented at SRCD, the Society for Research in Child Development, April 2-4 Denver, CO.*
- Yamaguchi, M., Austin, R., Halberda, J., & Feigenson, L. (2009). Preschoolers' use of mutual exclusivity in a social context. *Poster presented at SRCD, the Society for Research in Child Development, April 2-4 Denver, CO.*
- Spiegel, C., Nishimura, M., Hritz, A., & Halberda, J. (2009). Toddlers learn multiple new words in 3 seconds flat. *Poster presented at SRCD, the Society for Research in Child Development, April 2-4 Denver, CO.*
- Halberda, J., Lidz, J., Hunter, T., Pietroski, P., & Ekman, K. (2009). Development of "most" comprehension in 42-60 month olds. *Poster presented at SRCD, the Society for Research in Child Development, April 2-4 Denver, CO.*
- Mónica López-González, Géraldine Legendre, Justin Halberda (2008). Acquisition of spanish's ser and estar: Experimental evidence for insensitivity to copular semantics. *Poster presented at IASCL08, the International Congress for the Study of Child Language, July 28 – August 1, Edinburgh, SCOTLAND.*

- Zosh, J., Feigenson, L. & Halberda, J. (2008). Parallel enumeration of multiple spatially-overlapping sets in infancy. *Poster presented at ICIS, the International Conference on Infant Studies, Vancouver BC, CANADA.*
- Spiegel, C., Zosh, J. & Halberda, J. (2008). Children use Disjunctive Syllogism and fast-mapping to learn multiple novel labels in a single session. *Poster presented at ICIS, the International Conference on Infant Studies, Vancouver BC, CANADA.*
- Halberda, J. (2007). Subitizing sets and set-based selection: Early visual features determine what counts as an individual for visual processing. *Poster presented at VSS, the Vision Sciences Society, Sarasota, FL.*
- Zosh, J. M., Feigenson, L., & Halberda, J. (2007). Infants' ability to enumerate multiple spatially-overlapping sets in parallel. *Poster presented at VSS, the Vision Sciences Society, Sarasota, FL.*
- Yamaguchi, M., Halberda, J., & Feigenson, L. (2007). Preschoolers' use of mutual exclusivity for mapping individual faces & voices. *Poster presented at SRCD, the Society for Research in Child Development, Boston, MA.*
- Zosh, J., Brinster, M. & Halberda, J. (2007). Inference Is Better Than Instruction. *Poster presented at SRCD, the Society for Research in Child Development, Boston MA, USA.*
- Franconeri, S., Halberda, J., Alvarez, G., & Feigenson, L., (2004). Common fate can define objects in multiple-object tracking. *Poster presented at VSS, the Vision Sciences Society, Sarasota, FL.*
- Halberda, J.P. (2003). Two-year-olds' fast-mapping of novel labels: How fast is fast? *Poster presented at SRCD, the Society for Research in Child Development, Tampa Bay, FL.*
- Feigenson, L. & Halberda, J.P. (2002). Looking at the limits on numerical ability: Infants chunk large sets into smaller sets. *Poster presented at ICIS, the International Conference on Infant Studies, Toronto, CANADA.*
- Sorrentino, C. M. & Halberda, J.P. (2001). Do multiple proper names indicate multiple individuals? Evidence from children and adults. *Poster presented at SRCD, the Society for Research on Child Development, Minneapolis, MN.*
- Halberda, J.P. (2000). The novel label/novel object strategy: A case of developmental discontinuity? *Poster presented at ICIS, the International Conference on Infant Studies, Brighton, ENGLAND.*
- Halberda, J.P. (1999). Do novel labels go with novel objects? Evidence from a new word learning paradigm. *Poster presented at SRCD, the Society for Research on Child Development, Albuquerque, NM.*
- Rayls, K., Waid L. R., & Halberda, J. P. (1998). Correlates of attention deficit disorder in adults: Differential diagnosis. *Poster presented at APA, the Meeting of the American Psychological Association, San Francisco, CA.*
- Middaugh, L.D., Halberda, J.P., Gard, B.E. (1996). The DAD2-like agonist quinpirole produces monotonic reductions in motor activity of C57 mice. *Poster presented at Neuroscience, Society for Neuroscience Abstracts, 22.*

Graduate Advising (Primary)

- Director of Ph.D. dissertation committee. Chad Spiegel. Johns Hopkins University (Ph.D. expected 2011)
- Director of Ph.D. dissertation committee. Hee Yeon Im. Johns Hopkins University (Ph.D. expected 2013)
- Director of M.A. thesis committee. Len Taing. "Counting in deaf and hearing individuals: An interaction of language and thought" Johns Hopkins University (2006)

Graduate Advising (Secondary)

Member of Ph.D. dissertation committee. Mariko Yamaguchi. Johns Hopkins University (Ph.D. expected 2011)

Member of Ph.D. dissertation committee. Jennifer Zosh. "Beyond 'what' and 'how many': An investigation of working memory for objects in infancy" Johns Hopkins University (2008)

Graduate and Undergraduate Advising (Other)

External examiner for Ph.D. dissertation. Christopher J. Metcalf. "Essays on the economics of innovation and technology" Johns Hopkins University (2007)

External examiner for Ph.D. dissertation. Adam Buchwald. "Sound structure representation, repair and well-formedness: Grammar in spoken language production" Johns Hopkins University (2006)

Member of B.A. thesis committee. Arin Tuerk. Johns Hopkins University (2008)

Director of B.A. thesis committee. Meredith Brinster. Johns Hopkins University (2007)

Director of B.A. thesis committee. Turner Cobden. Johns Hopkins University (2007)

Member of B.A. thesis committee. Jared Saletin. Johns Hopkins University (2007)

Member of B.A. thesis committee. Dylan Selterman. Johns Hopkins University (2006)

Courses Taught

Student evaluations available upon request

Mental Models, Mental Logic

Undergraduate Upper-level Seminar, ≈ 15 students per semester
Johns Hopkins University, 2004-05, 2005-06

Foundations of Mind, (w/ Lisa Feigenson)

Undergraduate Intro-level Lecture & Lab, ≈ 50 students per semester
Johns Hopkins University, 2004-05, 2005-06, 2006-07, 2007-08, 2008-09

Advanced Seminar in Cognitive Psychology, (w/ related faculty)

Graduate Survey Seminar, ≈ 12 students per semester
Johns Hopkins University, 2004-05, 2006-07, 2008-09

Advanced Seminar in Cognitive Development, (w/ Barbara Landau)

Graduate Seminar, ≈ 10 students per semester
Johns Hopkins University, 2007-08

Graduate Seminar in Semantics and Language Acquisition, (w/ Jeff Lidz, Paul Pietroski)

Graduate Seminar, ≈ 12 students per semester
University of Maryland, Linguistics, 2006-07

Careers in Psychology

Undergraduate Intro-level Survey & Talk Series, ≈ 250 students per semester
Johns Hopkins University, 2008-09

Advanced Practicum in Teaching, (w/ Amy Shelton)

Graduate Seminar, ≈ 3 students per semester
Johns Hopkins University, 2008-09

Advanced Seminar in Cognitive Development, (w/ Lisa Feigenson)

Graduate Seminar, ≈ 12 students per semester
Department d'Etudes Cognitives, ENS, Paris, 2004

Origins of Knowledge.

Undergraduate Intro-level Lecture & Lab, ≈ 20 students per semester
Teaching Fellow, Harvard University, 2003

Cognitive Psychology.

Undergraduate Intro-level Lecture & Section, ≈ 20 students per semester
Teaching Fellow, Harvard University, 2001

Evolutionary Psychology.

Undergraduate Intro-level Lecture & Section, ≈ 25 students per semester
Teaching assistant, New York University, 2000

Introductory Logic I & II.

Undergraduate One-on-One Tutoring, ≈ 10 students per semester
Teaching assistant, College of Charleston, 1997

Physiological Psychology Lab.

Undergraduate Rodent Lab Course, ≈ 20 students per semester
Teaching assistant, College of Charleston, 1996

Recent Examples of University and Departmental Service

Director of Undergraduate Studies, Psychological and Brain Sciences. 2006-07, 2007-08, 2008-09

Director of Undergraduate Steering Committee in Psychology. 2006-07, 2007-08, 2008-09

Search Committee for University Social Sciences Research Librarian. 2005-06, 2006-07

Faculty Advisor to Psi Chi, National Honors Society in Psychology. 2006-07, 2007-08, 2008-09

Departmental Liaison for Research Library Services. 2005-06, 2006-07, 2007-08, 2008-09

Review of Academic Assessment for Psychology, regional and federal accreditation. 2008-09

References

Available upon request