

ARIEL STARR

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EDUCATION

- 2015 - present University of California at Berkeley
Postdoctoral Scholar in the Helen Wills Neuroscience Institute
Advisor: Dr. Silvia Bunge
- 2015 Duke University
Ph.D., Cognition and Cognitive Neuroscience, Department of Psychology
& Neuroscience
Certificate in Cognitive Neuroscience
Advisor: Elizabeth M. Brannon
Committee: R. Alison Adcock, Tobias Egner, Makeba P. Wilbourn
- 2007 Wesleyan University
B.A., double concentration in Psychology and Neuroscience & Behavior,
with High Honors in Psychology

AWARDS AND FELLOWSHIPS

- 2014 SRCD SECC Dissertation Research Funding Award
- 2013 NIH Math Cognition Conference Invited Participant
- 2013, 2015 Society for Research in Child Development Student Travel Award
- 2012-2015 National Science Foundation Graduate Research Fellowship
- 2007 Walkley Prize for Excellence in Psychology Research, Wesleyan University
- 2006 Hughes Summer Research Fellowship, Wesleyan University

PUBLICATIONS

Starr, A. & Brannon, E.M. (In press). Developmental continuity in the link between sensitivity to numerosity and physical size. *Journal of Numerical Cognition*.

Starr, A. & Brannon, E.M. (2015). Evidence against continuous variables driving numerical discrimination in infancy. *Frontiers in Developmental Psychology*, 6, 923.

Starr, A., & Brannon, E.M. (2014). Developmental and evolutionary continuities in numerical cognition. Geary, D., Berch, D., & Mann-Koepke, K. (Eds.), *Evolutionary origins and early development of number processing*.

Libertus, M.E., **Starr, A.**, & Brannon, E.M. (2014). Number trumps area for 7-month-old infants. *Developmental Psychology*, 50, 108-112.

Starr, A., Libertus, M.E., & Brannon, E.M. (2013). Number sense in infancy predicts math achievement in early childhood. *Proceedings of the National Academy of Sciences*, 110, 18116–18120.

Starr, A., Libertus, M.E., & Brannon, E.M. (2013). Infants show ratio-dependent number discrimination regardless of set size. *Infancy, 18*, 927-941.

Nuñez, S.C., Dapretto, M., Katzir, T., **Starr, A.**, Bramen, J., Kan, E., Bookheimer, S., & Sowell, E.R. (2011). fMRI of syntactic processing in typically developing children: Structural correlates in the inferior frontal gyrus. *Developmental Cognitive Neuroscience, 1*, 313-323.

Barth, H., **Starr, A.**, & Sullivan, J. (2009). Children's mappings of large number words to numerosities. *Cognitive Development, 24*, 248-264.

IN PREPARATION

Starr, A., DeWind, N.K., & Brannon, E.M. (In revision). The role of non-numerical stimulus features in the development of the number sense.

Starr, A. & Brannon, E.M. (in prep). Visuospatial working memory influences the interaction between space and time.

Starr, A., Roberts, R.C., & Brannon, E.M. (in prep). Approximate arithmetic mediates the link between number sense and symbolic math in preschool children.

PRESENTATIONS AND POSTERS

Starr, A., DeWind, N.K., & Brannon, E.M. (2015, March). *The role of non-numerical stimulus features in the development of the number sense*. Oral paper presented at the biennial meeting of the Society for Research in Child Development. Philadelphia, PA.

Starr, A., DeWind, N.K., & Brannon, E.M. (2014, September). *The role of non-numerical stimulus features in the development of the number sense*. Poster presented at the annual meeting of the Flux Congress. Los Angeles, CA.

Starr, A. & Brannon, E.M. (2014, July). *Infants simultaneously encode numerical and temporal information*. Poster presented at the biennial meeting of the International Conference for Infant Studies. Berlin, Germany.

Starr, A. & Brannon E.M. (2013, October). *Shared and separable representations of magnitude in 4-year-old children*. Poster presented at the biennial meeting of the Cognitive Development Society. Memphis, TN.

Starr, A., Libertus, M.E., & Brannon, E.M. (2013, May). *ANS acuity in infancy predicts ANS acuity in early childhood*. Poster presented at the NIH Math Cognition Conference. Bethesda, MD.

Starr, A., Libertus, M.E., & Brannon, E.M. (2013, April). *Infants show ratio-dependent discrimination regardless of set size*. Oral paper presented at the biennial meeting of the Society for Research in Child Development. Seattle, WA.

Starr, A., Libertus, M.E., & Brannon, E.M. (2013, April). *ANS acuity in infancy predicts ANS acuity in early childhood*. Poster presented at the biennial meeting of the Society for Research in Child Development. Seattle, WA.

Starr, A., Libertus, M.E., & Brannon, E.M. (2012, June). *Small number discrimination in infancy: a case for approximate number representations*. Poster presented at the biennial meeting of the International Society for Infant Studies. Minneapolis, MN.

Starr, A., & Brannon, E.M. (2012, June). *Sound-shape congruency in preverbal infants*. Poster presented at the biennial meeting of the International Society for Infant Studies. Minneapolis, MN.

Libertus, M.E., **Starr, A.,** Williamson, T., & Brannon, E.M. (2012, June). *Infants' sensitivity to changes in number versus surface area*. Poster presented at the biennial meeting of the International Society for Infant Studies. Minneapolis, MN.

Houston, S.M., Katzir, T., Rosso, C., Kan, E., **Starr, A.,** Rodriguez, G., Sowell, E.R. (2011, July). *Relationship of rapid letter naming and phonological awareness to brain thickness in typically developing children*. Poster presented at the annual meeting of the Society for the Scientific Studies of Reading. St. Pete Beach, FL.

Nuñez, C., **Starr, A.,** O'Hare, E.D., Bookheimer, S.Y., O'Connor, M.J., Smith, L.M., Sowell, E.R. (2009, October). *Decreased activation associated with verbal working memory maintenance in children prenatally exposed to methamphetamine and/or alcohol*. Poster presented at the annual meeting of the Society for Neuroscience. Chicago, IL.

Vidal, C.N., **Ballinger, A.,** Moussa, M., Allen, J., Baker, L., Zhuang, J., & Damasio, H. (2008, November). *Genetic influence on language cortices: Preliminary results from a volumetric twin study*. Poster presented at the annual meeting of the Society for Neuroscience. Washington, DC.

Vidal, C.N., Fox, G.R., **Ballinger, A.,** Allen, J., Baker, L., Raine, A., Bruss, J., Joshi, A., Leahy, R., Pantazis, D., Shattuck, D.W., Zhuang, J., & Damasio, H. (2007, November). *Genetic influence on language cortices: Methods and preliminary results from a volumetric twin study*. Poster presented at the annual meeting of the Society for Neuroscience. San Diego, CA.

Ballinger, A., & Barth, H. (2007, March). *Counting, estimation, and approximate nonverbal arithmetic in young children*. Poster presented at the biennial meeting of the Society for Research in Child Development. Boston, MA.

Barth, H., **Ballinger, A.**, Carrasco, A., Jacobson, R., & Tsai, J. (2007, March). *Children's assessments of volume and number in 3D object arrays*. Poster session presented at the biennial meeting of the Society for Research in Child Development. Boston, MA.

TEACHING

Teaching Assistant for Introduction to Cognitive Neuroscience	<i>Spring 2014</i>
Teaching Assistant for Math without Symbols BASS Seminar	<i>Fall 2013, Spring 2014</i>
Teaching Assistant for Functional Neuroanatomy	<i>Fall 2012</i>
Teaching Assistant for Developmental Psychology	<i>Spring 2012</i>

SHORT-TERM FELLOWSHIPS

NIH Summer Institute in Cognitive Neuroscience	<i>2015</i>
Latin American School for Cognitive, Neural, and Education Sciences	<i>2015</i>

OTHER RESEARCH EXPERIENCE

Developmental Cognitive Neuroscience Lab, *University of California, Los Angeles*

PI: Elizabeth Sowell

Staff Research Associate *2008–2010*

Dornsife Cognitive Neuroimaging Center, *University of Southern California*

PI: Hanna Damasio

Research Lab Technician in Neuroimaging *2007–2008*

Cognitive Development Laboratory, *Wesleyan University*

PI: Hilary Barth

Research Assistant *2006–2007*

OUTREACH

Vertical Integration Program Mentor	<i>2011, 2013, 2014</i>
Females Excelling More in Math, Engineering and Science volunteer	<i>2014</i>
Duke Brain Awareness Week Curriculum Director	<i>2013</i>
Duke Brain Awareness Week Volunteer Coordinator	<i>2012</i>
Duke Brain Awareness Week Volunteer	<i>2011-2014</i>
Reading to Kids Volunteer	<i>2009-2010</i>